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Health Care

Health coverage of California workers most at risk of job loss due to COVID-19

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» Data Brief

Laurel Lucia, Kevin Lee, Ken Jacobs and Gerald F. Kominski

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Many California workers are at risk of losing their job-based health coverage when they lose their jobs due to the COVID-19 pandemic. In this data brief, we examine which types of health insurance, if any, the workers most at risk of job loss had prior to this crisis. We use this analysis to inform our estimate that for every 100,000 California workers losing their jobs due to the pandemic, up to 67,000 workers, spouses, and children are at risk of losing job-based coverage.

Throughout this brief, we focus on workers in the industries at highest risk of job losses due to the economic fallout related to the coronavirus pandemic and, within those industries, front-line occupations that are likely to be the first to experience job loss. Using analysis by Sarah Thomason, Annette Bernhardt, and Nari Rhee of the UC Berkeley Labor Center,[1] the industries we include are: restaurants and bars; select retail industries; hotels and other lodging; amusement, gambling, and recreation; performing arts, sports, and museums; landscaping and building services; select other services; employment services; air transportation; and select private passenger transportation. Our analysis excludes independent contractors because they are not offered health coverage through their own jobs. The workers on which this brief focuses comprised approximately 16 percent of the California workforce in 2018.[2]

Not all workers in these industries will lose their jobs, nor will all job losses occur solely in these industries. Furthermore, the focus on these industries is not intended to be used to estimate the total number of job losses that are likely to occur. Instead, the focus on these industries allows us to make reasonable estimates about the type of health coverage workers most at risk of job loss had prior to this crisis and the distribution of their household incomes.

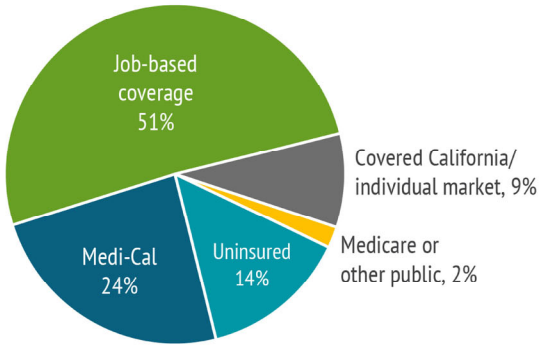
This brief focuses on the health coverage implications for those who lose jobs, but California workers who have reductions in work hours may also lose job-based coverage if their work hours fall below the benefits eligibility threshold set by their employer. However, it is more difficult to assess the impact of hours reduction on loss of

job-based coverage because of the interplay of various individual factors, such as each worker's scheduled work hours prior to the crisis, the change in work hours, and the employer's health insurance eligibility policy.

Half of workers in the industries most at risk of job loss had job-based coverage and one-quarter had Medi-Cal

Half (51 percent) of California workers, ages 19 to 64 workers who are employees and not independent contractors, in industries at highest risk of job losses had job-based coverage in 2018 (Exhibit 1). This is lower than the 65 percent of all California workers in this age range having job-based coverage in 2018 (Exhibit A1), which is not surprising given that jobs in these industries are more likely to be low-wage,[3] and workers with low-wage jobs are less likely to have job-based coverage.[4] Among workers who have health coverage through their *own* job (as opposed to through a spouse or parent), job loss would likely result in loss of coverage for both the worker and their dependents, as discussed in the next section of this brief.

Exhibit 1: Health coverage status/type in 2018 for California workers ages 19-64 in industries most at direct risk of job losses due to COVID-19



Notes: Analysis excludes independent contractors. Californians reporting multiple sources of coverage were sorted into a single category using the following hierarchy: Medi-Cal, Medicare or other public, job-based coverage, Covered California/ individual market.

Source: Authors' analysis of IPUMS American Community Survey data, 2018.

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Nearly one-quarter of workers (24 percent) in these industries had Medi-Cal coverage in 2018. Many of these workers are likely eligible for Medi-Cal under the Affordable Care Act (ACA) expansion, which expanded eligibility to low-income adults without children living at home and to certain parents who were not already eligible. Workers in these industries rely on Medi-Cal at a higher rate than all California workers (14 percent on Medi-Cal, Exhibit A1). These workers and their families will generally face no change in their health coverage during the crisis, particularly in the near-term due to Governor Newsom's Executive Order to suspend Medi-Cal eligibility redeterminations for 90 days starting in mid-March 2020.[5]

Nearly one in ten workers (9 percent) in these industries had coverage through Covered California or purchased insurance directly from an insurer in 2018, the same as the percentage of all workers with this type of insurance (Exhibit A1). Some of these workers may become newly eligible for Medi-Cal if they lose their job. Others may be eligible for greater financial assistance with premiums and out-of-pocket costs through Covered California due to a reduction in income. Income eligibility for programs is briefly noted in Exhibit 3.

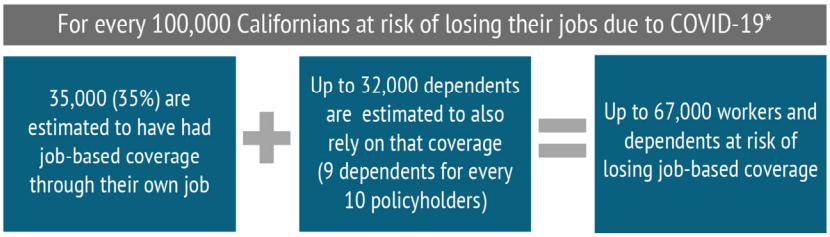
Fourteen percent of workers in these industries were already uninsured before the crisis, higher than the 9 percent of all California workers who were uninsured (Exhibit A1). Uninsured individuals who are eligible for Medi-Cal based on income can enroll at any time of year, and, due to a special enrollment period in response to the pandemic, those eligible for Covered California can enroll through June 30, 2020, regardless of whether they experience a change in life circumstances as is typically required for mid-year enrollment. [6] Uninsured Californians can also enroll in a new Medi-Cal program that covers COVID-19 related testing, testing-related services, and treatment, regardless of immigration status, income, or resources.[7]

Industry-specific estimates of the coverage type distribution for workers in the industries at highest risk of job losses are shown in Exhibit A1 in the Appendix.

Up to 67,000 California workers and dependents could lose job-based coverage for every 100,000 Californians who lose their job

We estimate that for every 100,000 California workers who lose their job, up to 67,000 workers, spouses, and children could lose job-based coverage (Exhibit 2). Again, this estimate is not applicable to independent contractors who are not eligible for health coverage through their own job.

Exhibit 2: Estimated loss of job-based coverage per 100,000 Californians losing their jobs due to the COVID-19 pandemic



* Note: Analysis excludes independent contractors.
Source: Authors' analysis of IPUMS American Community Survey and IPUMS Current Population Survey data, 2018.

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This ratio is estimated starting with the 51 percent of California workers in these industries who had job-based coverage in 2018, which is adjusted down to 35 percent to exclude those who have coverage through a spouse or parent's job.[8] (If the spouse or parent works in an industry at high risk of job loss, the household would already be counted in this ratio.) For every 10 workers that lose their job-based coverage, up to 9 spouses and children of these workers could also lose coverage, based on the ratio of policyholders to dependents with job-based coverage in California in 2018. [9]

Our estimated ratio is an upper-bound estimate for several reasons. First, some of these newly unemployed workers may enroll in job-based coverage available through a spouse or parent who maintains their job. Second, some employers are continuing to pay for job-based coverage when workers are furloughed, though the extent to which this practice is occurring is unknown. Finally, some workers who lose job-based coverage may decide to enroll in COBRA coverage, though paying the full premium for insurance is likely unaffordable for most unemployed workers unless the federal government provides substantial premium subsidies as some members of Congress have proposed.[10] If COBRA premium subsidies were provided, our estimated ratio would require adjustment.

The number of Californians who will lose jobs as a result of the economic fallout from the pandemic, and the timeframe for job loss and eventual recovery, are highly uncertain. As further information becomes available about the economic impacts of this crisis, our estimated ratio is intended to be used in combination with the best available estimate of job losses at any given time.

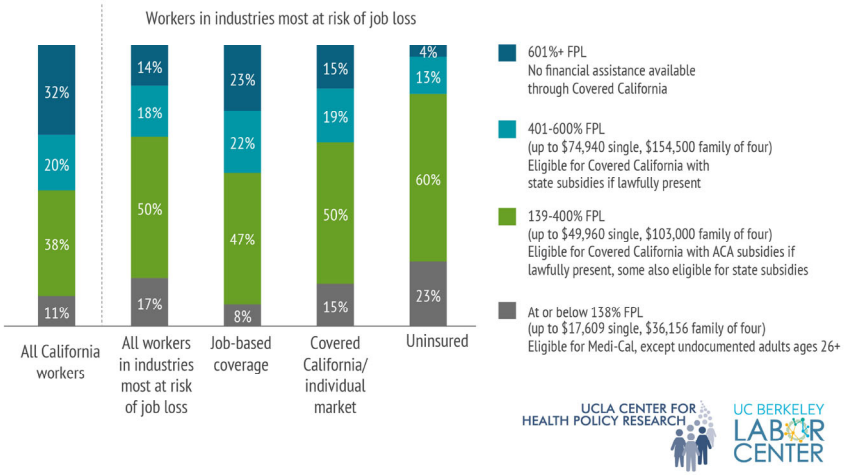
At this time, the 3.9 million initial unemployment insurance claims filed in California between March 12 and May 1, 2020[11] is probably the best indicator we currently have of how many jobs have already been lost, either temporarily or permanently, due to COVID-19. However, it is an imperfect measure. On the one hand, it can overstate job loss because it includes claims filed for partial unemployment due to reduction in work hours. On the other hand, it can understate job loss for other reasons including but not limited to workers' ineligibility for unemployment insurance due to immigration status or having recently entered the workforce. Additional Californians who have lost jobs may not yet have been able to successfully file claims.[12]

Using the ratio in Exhibit 2, 3.9 million lost jobs equates to up to 2.6 million California workers and dependents at risk of losing job-based coverage, not including any loss of coverage due to work hour reductions. If more or fewer jobs are lost, the projected loss of job-based coverage would be proportionally higher or lower. *(See Appendix B for a summary of estimates from other researchers on how many Californians have lost or may lose job-based coverage due to COVID-19.)*

Most Californians losing job-based coverage will be eligible for Medi-Cal or subsidized insurance through Covered California

The 2018 income distribution of California workers in the industries at highest risk of job losses (Exhibit 3) suggests that most Californians who are at risk of losing job-based coverage will likely be income eligible for Medi-Cal or insurance through Covered California with ACA or state financial assistance based on their income. Among California workers in industries most at risk of job losses, over three-quarters of those with job-based coverage (77 percent, Exhibit 3) had income at or below 600 percent of the Federal Poverty Level, the upper income limit for state financial assistance through Covered California, in 2018. Estimating how household income and health insurance eligibility will change due to job loss requires further analysis and research, but some factors for consideration are discussed in this section.

Exhibit 3: Household income for California workers age 19-64, 2018, for workers in all industries and for workers in industries most at risk of job loss due to COVID-19



Pandemic Unemployment Compensation under the federal Coronavirus Aid, Relief, and Economic Security Act (CARES Act) provides unemployment insurance recipients $600 per week in addition to regular unemployment benefits. As a result of these additional payments, most unemployment insurance recipients in California with income in the Medi-Cal or Covered California subsidy-eligible range are anticipated to receive unemployment insurance payments that fully replace or more than replace their usual wages, according to analysis by the Public Policy Institute of California.[13] However, after Pandemic Unemployment Compensation expires on July 31, 2020, assuming there is no extension, unemployment insurance recipients will receive less than their usual wages.

Further complicating projections of how income will change for purposes of health insurance eligibility, Pandemic Unemployment Compensation will not be counted as income for Medi-Cal eligibility under the CARES Act, but it will be counted as income for eligibility for subsidies through Covered California. All other forms of unemployment insurance count as income for Medi-Cal and Covered California eligibility purposes. Recovery Rebates, the one-time cash payments provided under the CARES Act, are not counted as income. *(See the Labor Center's summary of Modified Adjusted Gross Income under the Affordable Care Act for more details.[14])*

The immigration status of workers losing their jobs is another important consideration in estimating how many Californians losing job-based coverage will be newly eligible for Medi-Cal or Covered California. Low-income undocumented Californians are eligible for Medi-Cal through age 25 under state policy, but all other undocumented Californians are ineligible. Under federal policy, subsidies through Covered California are available to citizens and lawfully present immigrants, which excludes undocumented Californians and those approved for Deferred Action for Childhood Arrivals (DACA).[15] According to estimates from the California Budget and Policy Center, undocumented workers were employed in industries likely to be highly impacted by the COVID-19 response at a higher rate (34 percent worked in these industries)[16] than all California workers (24 percent).[17]

Not all individuals who are eligible for Medi-Cal or subsidized insurance through Covered California will enroll in those programs. Some may not realize they are eligible for these coverage programs or that financial assistance is available, while others may not be able to afford premiums even with financial assistance. California is already undertaking special efforts to maximize enrollment in these programs during the pandemic. For example, Covered California re-opened enrollment due to the pandemic through June 30, 2020, and Covered California and the Department of Health Care Services are working with the Employment Development Department to inform unemployed Californians of their health coverage options.

Policy implications

While it has always been true, the COVID-19 pandemic has made it even more clear that the health of all Californians depends on all Californians having affordable access to care.

This pandemic has further highlighted a major weakness in our current fragmented health care system in which health insurance for most Californians under the age of 65 is tied to employment.[18] At a time when access to health care is particularly needed, many Californians are losing their job-based coverage. While some Californians will switch to other types of coverage, others are likely to lose insurance completely because they may not be aware of their eligibility for coverage programs or they may face difficulties enrolling, in spite of strong efforts in California to conduct outreach and streamline enrollment processes and open up enrollment opportunities. Others may have difficulties affording premiums for insurance through Covered California even if they are eligible for ACA or state subsidies. Those who are not eligible for ACA or state subsidies may find coverage purchased directly from an insurer unaffordable. Among Californians who switch insurance plans or type of insurance, some may face disruptions in care when they experience a change in provider networks. Other will have their health care spending under a deductible restart to zero when they switch plans, increasing their exposure to out-of-pocket expenditures for the year and potentially hindering access to care.

Other high-income countries organize their health systems in a variety of ways to achieve near-universal access to health care, but the large role of U.S. employers in directly providing primary health insurance is relatively rare from an international perspective.[19] A system that provides universal access to health care for all Californians without regard to employment status would reduce the need for workers to worry about affording and accessing health care when they lose or change their job. The Healthy California For All Commission will be exploring options for establishing a unified financing approach to providing health care to all Californians, including but not limited to a single payer system.

In our current health care system, having health insurance matters in good times and bad. Research has repeatedly shown that people without health insurance have worse access to care and are less likely to receive preventive care and treatment for major health conditions. Uninsured people are also more likely to face financial hardship related to paying medical bills.[20]

To maximize the number of Californians with insurance, the federal government and California can take steps to expand eligibility for coverage and improve affordability of coverage. For those who are eligible for coverage programs, well-targeted outreach and enrollment efforts continue to be as critical as ever in maximizing enrollment. Given that undocumented Californians make up the largest group of uninsured in the state,[21] continuing the state's progress towards expanding Medi-Cal to all low-income Californians regardless of immigration status will be an essential component to moving towards universal coverage. In addition, federal and state policies to improve Covered California premium and out-of-pocket affordability would help to increase enrollment among the second largest group of uninsured in the state – those who are eligible for Covered California but not enrolled, most commonly due to affordability concerns.[22] And finally, policies that improve affordability of premiums and care for people with job-based coverage are urgently needed.

Appendix A: Health Coverage by Industry

Exhibit A1: Health coverage status/ type for California workers ages 19-64, 2018, by industry for industries most at direct risk of job loss due to COVID-19, and for all industries

	Medi-Cal	Job-based coverage	Covered California/ individual market	Medicare and other public	Uninsured
Air transportation	6%	81%	4%	4%	4%
Amusement, gambling, and recreation	16%	63%	8%	4%	8%
Child day care services	22%	60%	9%	3%	6%
Employment services	33%	41%	6%	2%	17%
Hotels and other lodging	20%	60%	7%	2%	11%
Landscaping and building services	26%	40%	7%	2%	25%
Other services	25%	49%	12%	3%	12%
Passenger transportation	24%	51%	6%	3%	16%
Performing arts, sports, and museums	13%	63%	12%	3%	9%
Restaurants and bars	29%	41%	10%	2%	19%
Retail (excl. food, gas, hardware and online)	20%	61%	8%	2%	9%
Workers in industries at high risk of job loss	24%	51%	9%	2%	14%
All workers in all industries	14%	65%	9%	3%	9%

Notes: Analysis excluded independent contractors. Californians reporting multiple sources of coverage were sorted into a single category using the following hierarchy: Medi-Cal, Medicare or other public, job-based coverage, Covered California/ individual market.

Source: Authors' analysis of IPUMS American Community Survey data, 2018.

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Appendix B: Other Estimates of Job-Based Coverage Loss in California under COVID-19

Other researchers have also estimated how many Californians may lose job-based coverage due to COVID-19. The Economic Policy Institute estimated that, not including dependents, 1.65 million California workers were at risk of having already lost job-based coverage as of April 2020, based in part on 3.68 million unemployment insurance claims filed in the state between March 15 and April 25, 2020.[23] The State Health Access Data Assistance Center (SHADAC) at the University of Minnesota estimated that as many as 2.16 million California workers and dependents are at risk of losing job-based coverage, based in part on unemployment insurance claims filed in the four weeks leading up to April 11, 2020.[24] The Urban Institute analyzed coverage shifts under three unemployment rate scenarios (15 percent, 20 percent, and 25 percent unemployment rates) and projected the number of California workers and dependent losing job-based coverage under each scenario (2.11 million, 3.07 million, and 4.02 million respectively).[25] Health Management Associates analyzed coverage shifts under three unemployment rate scenarios (10 percent, 17.5 percent, and 25 percent unemployment rates) and projected the number of California workers and dependent losing job-based coverage under each scenario (1.30 million, 2.56 million, and 3.84 million respectively).[26]

Endnotes

[1] Sarah Thomason, Annette Bernhardt, and Nari Rhee, "Industries at Direct Risk of Job Loss from COVID-19 in California: A Profile of Front-Line Job and Worker Characteristics," UC Berkeley Labor Center (blog), April 10, 2020, http://laborcenter.berkeley.edu/industries-at-direct-risk-of-job-loss-from-covid-19-in-california/.

[2] Authors' analysis of IPUMS Current Population Survey data, 2018.

[3] Sarah Thomason, Annette Bernhardt, and Nari Rhee, "Industries at Direct Risk of Job Loss from COVID-19 in California: A Profile of Front-Line Job and Worker Characteristics," UC Berkeley Labor Center (blog), April 10, 2020, http://laborcenter.berkeley.edu/industries-at-direct-risk-of-job-loss-from-covid-19-in-california/.

[4] Kevin Lee, Laurel Lucia, Dave Graham-Squire, and Miranda Dietz, "Job-based coverage is less common among workers who are black or Latino, low-wage, immigrants, and young adults," UC Berkeley Labor Center (blog), November 22, 2019, http://laborcenter.berkeley.edu/job-based-coverage-is-less-common-among-workers-who-are-black-or-latino-low-wage-immigrants-and-young-adults/.

[5] State of California Executive Office, "Executive Order N-29-20," March 17, 2020, https://www.gov.ca.gov/wp-content/uploads/2020/03/3.17.20-N-29-20-EO.pdf.

[6] Covered California, "News Release: California Responds to COVID-19 Emergency by Providing Path to Coverage for Millions of Californians," March 20, 2020, https://www.coveredca.com/newsroom/news-releases/2020/03/20/california-responds-to-covid-19-emergency-by-providing-path-to-coverage-for-millions-of-californians/.

[7] California Department of Health Care Services, "COVID-19 Presumptive Eligibility Program," accessed April 30, 2020, https://www.dhcs.ca.gov/services/medi-cal/eligibility/Pages/COVID-19-Presumptive-Eligibility-Program.aspx.

[8] Among California workers ages 19-64 in the select industries with job-based coverage, 69 percent have coverage through their own job, and the remainder have coverage through a family member's job. Authors' analysis of IPUMS Current Population Survey data, 2018.

[9] Authors' analysis of IPUMS Current Population Survey data, 2018. This estimate reflects the policyholder to dependent ratio for all Californians with job-based coverage. We also analyzed this ratio by household income level and found that households with income at or below 266 percent FPL had a higher number of dependents enrolled in job-based coverage per policyholder, on average, even though some of these households may have children enrolled in Medi-Cal instead of job-based coverage. Therefore, to the extent that workers who lose their jobs are low-income, the number of dependents who lose coverage may be even higher than estimated here.

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Affordable Care Act
airports CalSIM employer mandates employment impacts food service health care affordability high road Hinkley IHSS jacobs job-based health coverage labor law Medi-Cal minimum wage organizing outsourcing part-time employment pensions public cost of low-wage work public employees retail safety net state health care reform teachers unemployment uninsurance union difference Walmart workforce development young workers

State Data and Policy Actions to Address Coronavirus

Published: May 18, 2020

Maps and Data

In late 2019, a new strain of coronavirus emerged in China. With the number of cases of COVID-19, the disease caused by this coronavirus, growing rapidly in the United States and around the world, the World Health Organization declared it a pandemic on March 11, 2020. Controlling the spread of the virus requires aggressive action from states and the federal government to ensure access to testing for those who need it and treatment for those who contract the disease.

To date, states have taken a number of actions to mitigate the spread of the virus and reduce barriers to testing and treatment for those affected. This data tool provides state-level information on:

- Social distancing measures
- Health policy actions to reduce barriers to COVID-19 testing and treatment
- Additional state-level data related to COVID-19, including testing and provider capacity

These data will be updated regularly, and new information will be added in response to the evolving situation.

[*Visit our* Medicaid Emergency Authority Tracker (https://www.kff.org/medicaid/issue-brief/medicaid-emergency-authority-tracker-approved-state-actions-to-address-covid-19/) *for information on approved state Medicaid emergency authorities to address the coronavirus crisis, and our special coronavirus topic page (https://www.kff.org/coronavirus-covid-19/) for all our resources.*]

State Social Distancing Actions

On March 13, 2020, President Trump declared a state of emergency over the coronavirus in an effort to enhance the federal government's response to the pandemic. At that time, a number of states had already declared some type of emergency, and by March 16, 2020, every state had made an emergency declaration, with most taking the form of a State of Emergency or a Public Health Emergency. Such emergency declarations allow governors to exercise emergency powers that may include activating state emergency personnel and funds, supporting the needs of local governments, protecting consumers against price gouging, and adjusting regulations to maximize access to health care. States, especially those hardest hit by the outbreak, took additional actions to slow the spread of the virus. These social distancing measures included mandatory stay at home orders, closures of non-essential businesses, bans on large gatherings, school closures, and limits on bars and restaurants and other public places. With regard to the actions included in this resource, with the exception of school closures, the map and table include only mandates ordered by a state's executive branch (not state legislature). The authority of governors to issue such mandates may vary by state.

After having social distancing requirements in place for several weeks, states have begun to roll back some of these measures by allowing some or all non-essential businesses to reopen, rescinding stay at home orders, easing restrictions on in-person dining at restaurants, and/or easing large gathering bans. **These actions to roll back social distancing requirements will appear in the map and table when they take effect, which may occur several days after they are announced.**

State Social Distancing Actions

Sources (https://www.kff.org/report-section/state-data-and-policy-actions-to-address-coronavirus-sources/)

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State COVID-19 Health Policy Actions

With enactment of the Families First Coronavirus Response Act on March 18, 2020, the federal government took action to ensure access to COVID-19 testing. The legislation requires Medicare, Medicaid, all group health plans, and individual health insurance policies to cover testing and associated visits related to the diagnosis of COVID-19 with no cost sharing and prohibits plans from imposing

prior authorization requirements on these services during the federally-declared emergency period. In addition, the new law gives states the option to provide Medicaid coverage of COVID-19 testing for uninsured residents with 100% federal financing.

Many states have also implemented policies to increase access to COVID-19 testing and treatment, as well as continued management of other health conditions. Some states have already indicated that they are requiring insurers to cover a COVID-19 vaccination with no cost-sharing if and when one becomes available, while others are requiring state-certified insurance carriers to waive patient cost-sharing for COVID-19 treatment, as well as treatment for other related conditions, including pneumonia and the flu. States have also announced other actions, including extending special enrollment periods in state-based health insurance marketplaces, facilitating early prescription drug refills, and relaxing prior authorization and utilization review processes. A number of states have responded to the pandemic by expanding access to telehealth services as well, with detailed actions captured in the telehealth-specific table below. In addition, states are requesting approval for Section 1135 waivers that permit them to waive or modify certain Medicare, Medicaid, CHIP, and HIPAA requirements during a national emergency.

Finally, while the new federal law creates a federal emergency paid sick leave program through December 2020, a number of states have enacted mandatory sick leave policies that will fill in gaps in the new federal emergency leave, while others are proposing to adopt these policies in the wake of the coronavirus outbreak.

With regard to the actions included in this resource, the map and table include only mandates (not recommendations or guidance) ordered by a state's executive branch (not state legislature). The authority of governors to issue such mandates may vary by state. The actions pertain only to state-regulated private plans and do not include self-insured employer plans or public plans such as Medicare and Medicaid.

State COVID-19 Health Policy Actions

Sources (https://www.kff.org/report-section/state-data-and-policy-actions-to-address-coronavirus-sources/)

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State Actions on Telehealth

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Additional State-level Data

State Reports of Long-Term Care Facility Cases and Deaths Related to COVID-19 (as of May 14, 2020)

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Guidance for Long-Term Care Facilities Related to COVID-19 (as of May 7, 2020)

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Adults at Higher Risk of Serious Illness if Infected with Coronavirus

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Medicaid Expansion Status and Health Insurance Coverage

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Private Insurance Deductibles and Self-Insured Plans

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Health Care Provider Capacity

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Influenza and Pneumonia Deaths and Vaccinations

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This tool was developed by Jennifer Tolbert, Cornelia Hall, Kendal Orgera, Natalie Singer, Salem Mengistu, and Marina Tian.

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(https://www.healthy.arkansas.gov/images/uploads/pdf/Hot_spot_travel_directive-05-14-2_jd_edits.pdf)

Easing Social Distancing Requirements:

5/11 Bar/Restaurant Limits (announced 4/29):

https://www.healthy.arkansas.gov/images/uploads/pdf/Resume_Restaurant_Dine_In_May
(https://www.healthy.arkansas.gov/images/uploads/pdf/Resume_Restaurant_Dine_In_May_11_directive_FIN

CALIFORNIA

3/11 Emergency Declaration: https://www.gov.ca.gov/wp-content/uploads/2020/03/3.4.20-Coronavirus-SOE-Proclamation.pdf (https://www.gov.ca.gov/wp-content/uploads/2020/03/3.4.20-Coronavirus-SOE-Proclamation.pdf)

3/20 Marketplace SEP: https://www.coveredca.com/individuals-and-families/getting-covered/special-enrollment/ (https://www.coveredca.com/individuals-and-families/getting-covered/special-enrollment/)

3/12 Executive Order mandating compliance with state guidance: https://www.gov.ca.gov/wp-content/uploads/2020/03/3.12.20-EO-N-25-20-COVID-19.pdf (https://www.gov.ca.gov/wp-content/uploads/2020/03/3.12.20-EO-N-25-20-COVID-19.pdf)

3/16 Large Gatherings Ban: https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/COVID-19/cdph-guidance-gatherings-covid19-transmission-prevention-03-16-2020.pdf (https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/COVID-19/cdph-guidance-gatherings-covid19-transmission-prevention-03-16-2020.pdf)

3/16 Bar/Restaurant Limits: https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/COVID-19/Coronavirus%20Disease%202019%20and%20Food%20Beverage%20Other%20Services%20-%20AOL.pdf (https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/COVID-19/Coronavirus%20Disease%202019%20and%20Food%20Beverage%20Other%20Services%20-%20AOL.pdf)

3/18 Early Rx refill: http://www.insurance.ca.gov/0250-insurers/0300-insurers/0200-bulletins/bulletin-notices-commiss-opinion/upload/CDI-Emergency-Notification-Filing-Requirements-COVID-19-3-18-2020.pdf (http://www.insurance.ca.gov/0250-insurers/0300-insurers/0200-bulletins/bulletin-notices-commiss-opinion/upload/CDI-Emergency-Notification-Filing-Requirements-COVID-19-3-18-2020.pdf)

3/19 Stay At Home Order, Non-Essential Business Closures: https://covid19.ca.gov/img/Executive-Order-N-33-20.pdf (https://covid19.ca.gov/img/Executive-Order-N-33-20.pdf)

3/23 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54030 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54030)

4/1 School Closures: https://www.cde.ca.gov/nr/ne/yr20/yr20rel16.asp (https://www.cde.ca.gov/nr/ne/yr20/yr20rel16.asp)

Easing Social Distancing Requirements:

5/8 Non-Essential Business Closure (announced 5/4):

https://www.gov.ca.gov/2020/05/04/governor-newsom-provides-update-on-californias-progress-toward-stage-2-reopening/ (https://www.gov.ca.gov/2020/05/04/governor-newsom-provides-update-on-californias-progress-toward-stage-2-reopening/); https://covid19.ca.gov/roadmap/ (https://covid19.ca.gov/roadmap/)

COLORADO

3/9 Early Rx Refill: https://drive.google.com/file/d/1_9Z6CVhzAxNNxUWBKeAfVHgfr3mXQB_T/view (https://drive.google.com/file/d/1_9Z6CVhzAxNNxUWBKeAfVHgfr3mXQB_T/view)

3/10, 4/8 Emergency Declaration: https://www.colorado.gov/governor/news/gov-polis-provides-update-states-response-covid-19 (https://www.colorado.gov/governor/news/gov-polis-provides-update-states-response-covid-19);

https://www.colorado.gov/governor/sites/default/files/inline-files/D%202020%20032%20Extending%20D%202020%20003.pdf (https://www.colorado.gov/governor/sites/default/files/inline-files/D%202020%20032%20Extending%20D%202020%20003.pdf)

Paid Sick Leave: Colorado Department of Labor and Employment, 7 CCR 1103-10 (2020), Colorado Health Emergency Leave with Pay ("Colorado HELP") Rules. (https://aboutblaw.com/Psz)

3/16, 3/19 Bar/Restaurant Limits: https://www.colorado.gov/pacific/sites/default/files/atoms/files/Bars%20Restaurants%20PH%20order.pdf (https://www.colorado.gov/pacific/sites/default/files/atoms/files/Bars%20Restaurants%20PH%20order.pdf); https://assets.documentcloud.org/documents/6815440/Updated-Bars-Restaurants-PH-Order-31920.pdf (https://assets.documentcloud.org/documents/6815440/Updated-Bars-Restaurants-PH-Order-31920.pdf)

3/18, 4/1, 4/20 School Closures: https://www.colorado.gov/governor/sites/default/files/inline-files/D%202020%20041%20P-12%20Closure%20Extension%20End%20of%20Year.pdf (https://www.colorado.gov/governor/sites/default/files/inline-files/D%202020%20041%20P-12%20Closure%20Extension%20End%20of%20Year.pdf)

3/19 Marketplace SEP: https://connectforhealthco.com/get-started/covid-19-support/ (https://connectforhealthco.com/get-started/covid-19-support/); https://connectforhealthco.com/connect-for-health-colorado-extends-emergency-special-enrollment-period-until-april-30-in-response-to-covid-19-outbreak/ (https://connectforhealthco.com/connect-for-health-colorado-extends-emergency-special-enrollment-period-until-april-30-in-response-to-covid-19-outbreak/)

3/26 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54063 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54063)

3/26, 4/6, 4/26 Stay At Home Order, Non-Essential Business Closure, Large Gatherings Ban: https://covid19.colorado.gov/sites/covid19/files/Updated%20Public%20Health%20Order%20-%20Authorized%20Business.32620.pdf (https://covid19.colorado.gov/sites/covid19/files/Updated%20Public%20Health%20Order%20-%20Authorized%20Business.32620.pdf); https://drive.google.com/file/d/1O1EDCY6-A6QBKxzDImCSF8bBBdOOI3Km/view (https://drive.google.com/file/d/1O1EDCY6-A6QBKxzDImCSF8bBBdOOI3Km/view); https://drive.google.com/file/d/1UHbu2_DTdTvSlPcpsd_vDLtnaslmISuo/view (https://drive.google.com/file/d/1UHbu2_DTdTvSlPcpsd_vDLtnaslmISuo/view); https://www.colorado.gov/governor/sites/default/files/inline-files/D%202020%20044%20Safer%20at%20Home.pdf (https://www.colorado.gov/governor/sites/default/files/inline-files/D%202020%20044%20Safer%20at%20Home.pdf)

Easing Social Distancing Requirements:

4/27 Stay at Home Order, Non-Essential Business Closure, Large Gatherings Ban (announced 4/26): https://www.colorado.gov/governor/sites/default/files/inline-files/D%202020%20044%20Safer%20at%20Home.pdf (https://www.colorado.gov/governor/sites/default/files/inline-files/D%202020%20044%20Safer%20at%20Home.pdf)

CONNECTICUT

3/10 Civil Preparedness Emergency / Public Health Emergency: https://portal.ct.gov/-/media/Office-of-the-Governor/News/20200310-declaration-of-civil-preparedness-and-public-health-emergency.pdf?la=en (https://portal.ct.gov/-/media/Office-of-the-Governor/News/20200310-declaration-of-civil-preparedness-and-public-health-emergency.pdf?la=en); https://portal.ct.gov/Office-of-the-Governor/News/Press-Releases/2020/03-2020/Governor-Lamont-Coronavirus-Update-March-10-2020-3PM (https://portal.ct.gov/Office-of-the-Governor/News/Press-Releases/2020/03-2020/Governor-Lamont-Coronavirus-Update-March-10-2020-3PM)

3/11, 3/15, 3/23, 4/10, 5/5 School Closures: https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7II.pdf?la=en (https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7II.pdf?la=en)

3/16, 3/26 Bar/Restaurant Limits, Large Gatherings Ban https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7D.pdf?la=en (https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7D.pdf?la=en); https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7N.pdf?la=en (https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7N.pdf?la=en)

3/17 Marketplace SEP: https://learn.accesshealthct.com/; https://agency.accesshealthct.com/access-health-ct-extends-new-special-enrollment-period-for-the-uninsured (https://learn.accesshealthct.com/)

3/19, 4/17 Primary Election Postponement: https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7BB.pdf?la=en (https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7BB.pdf?la=en)

3/20 Non-Essential Business Closures: https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7H.pdf?la=en (https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7H.pdf?la=en)

3/27 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54075 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54075)

4/1 Premium Grace Period: https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7S.pdf?la=en (https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7S.pdf?la=en)

4/10 Extension of Bar/Restaurant Limits, Large Gatherings Ban, Non-Essential Business Closures: https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7X.pdf?la=en (https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-7X.pdf?la=en)

DELAWARE

3/9 Early Rx Refill: https://news.delaware.gov/files/2020/03/Domestic-and-Foreign-Insurers-Bulletin-No.-115-Coverage-for-COVID-19-Coronavirus.pdf (https://news.delaware.gov/files/2020/03/Domestic-and-Foreign-Insurers-Bulletin-No.-115-Coverage-for-COVID-19-Coronavirus.pdf)

3/12, 3/23, 4/10, 5/8 Emergency Declarations: https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/State-of-Emergency_03122020.pdf (https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/State-of-Emergency_03122020.pdf), https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Public-Health-Emergency-Order-03.23.20.pdf (https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Public-Health-Emergency-Order-03.23.20.pdf); https://governor.delaware.gov/health-soe/extension-state-of-emergency/ (https://governor.delaware.gov/health-soe/extension-state-of-emergency/); https://governor.delaware.gov/health-soe/second-extension-declaration-of-a-state-of-emergency/ (https://governor.delaware.gov/health-soe/second-extension-declaration-of-a-state-of-emergency/)

3/13, 3/23, 4/24 School Closures: https://news.delaware.gov/2020/04/24/delaware-schools-closed-through-academic-year/ (https://news.delaware.gov/2020/04/24/delaware-schools-closed-through-academic-year/)

3/16, 3/18, 4/1 Large Gatherings Ban, Bar/Restaurant Limits: https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Second-Modification-to-the-State-of-Emergency.pdf (https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Second-Modification-to-the-State-of-Emergency.pdf);

https://governor.delaware.gov/wp-content/uploads/sites/24/2020/04/Ninth-Modification-to-State-of-Emergency-04012020-1.pdf (https://governor.delaware.gov/wp-content/uploads/sites/24/2020/04/Ninth-Modification-to-State-of-Emergency-04012020-1.pdf)

3/22 Stay At Home Order: https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Fifth-Modification-to-State-of-Emergency-03222020.pdf (https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Fifth-Modification-to-State-of-Emergency-03222020.pdf); https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Seventh-Modification-to-State-of-Emergency-03292020.pdf (https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Seventh-Modification-to-State-of-Emergency-03292020.pdf)

3/22, 4/6 Non-Essential Business Closures: https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Fourth-Modification-to-State-of-Emergency-03222020.pdf (https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Fourth-Modification-to-State-of-Emergency-03222020.pdf); https://governor.delaware.gov/wp-content/uploads/sites/24/2020/04/Tenth-Modification-to-State-of-Emergency-04062020.pdf (https://governor.delaware.gov/wp-content/uploads/sites/24/2020/04/Tenth-Modification-to-State-of-Emergency-04062020.pdf)

3/23 Waive Prior Auth: https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Public-Health-Emergency-Order-03.23.20.pdf (https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Public-Health-Emergency-Order-03.23.20.pdf)

3/24, 5/7 Primary Election Postponement: https://governor.delaware.gov/health-soe/fifteenth-state-of-emergency/ (https://governor.delaware.gov/health-soe/fifteenth-state-of-emergency/)

3/27 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54072 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54072)

3/29 Mandatory Quarantine for Travelers: https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Seventh-Modification-to-State-of-Emergency-03292020.pdf (https://governor.delaware.gov/wp-content/uploads/sites/24/2020/03/Seventh-Modification-to-State-of-Emergency-03292020.pdf)

4/1 Premium Grace Period: https://governor.delaware.gov/wp-content/uploads/sites/24/2020/04/Ninth-Modification-to-State-of-Emergency-04012020-1.pdf (https://governor.delaware.gov/wp-content/uploads/sites/24/2020/04/Ninth-Modification-to-State-of-Emergency-04012020-1.pdf)

Easing Social Distancing Requirements:

5/8 Non-Essential Business Closure (announced 5/7):
https://governor.delaware.gov/health-soe/fifteenth-state-of-emergency/
(https://governor.delaware.gov/health-soe/fifteenth-state-of-emergency/)

DISTRICT OF COLUMBIA

3/11 Emergency Declaration / Public Health Emergency:
https://mayor.dc.gov/sites/default/files/dc/sites/mayormb/release_content/attachments/
(https://mayor.dc.gov/sites/default/files/dc/sites/mayormb/release_content/attachments/MO.Declarationof
https://mayor.dc.gov/sites/default/files/dc/sites/mayormb/release_content/attachments/
(https://mayor.dc.gov/sites/default/files/dc/sites/mayormb/release_content/attachments/MO.Declarationof

3/12: Cost-Sharing Waiver (Treatment), Free Vaccine, Waive Prior Auth, Early Rx Refill: https://disb.dc.gov/sites/default/files/u65602/Order-re-Emergency-Response-to-COVID-19-03.20.2020-sec.pdf
(https://disb.dc.gov/sites/default/files/u65602/Order-re-Emergency-Response-to-COVID-19-03.20.2020-sec.pdf)

Marketplace SEP: https://dchealthlink.com/individuals/life-changes
(https://dchealthlink.com/individuals/life-changes)

3/20, 4/17 School Closures:
https://twitter.com/MayorBowser/status/1251180565916782592
(https://twitter.com/MayorBowser/status/1251180565916782592)

3/20 Large Gatherings Ban, Bar/Restaurant Limits:
https://mayor.dc.gov/sites/default/files/u23/Mayor%60s%20Order%202020-51.pdf
(https://mayor.dc.gov/sites/default/files/u23/Mayor%60s%20Order%202020-51.pdf)

3/24 Non-Essential Business Closures, Large Gatherings Ban:
https://mayor.dc.gov/sites/default/files/dc/sites/mayormb/release_content/attachments/
27s%20Order%202020-053%20Closure%20of%20Non-Essential%20Businesses%
20and%20Prohibiti....pdf

(https://mayor.dc.gov/sites/default/files/dc/sites/mayormb/release_content/attachments/Mayor%27s%20Order%202020-053%20Closure%20of%20Non-Essential%20Businesses%20and%20Prohibiti....pdf)

3/30 Stay At Home Order: https://mayor.dc.gov/release/mayor-bowser-issues-stay-home-order (https://mayor.dc.gov/release/mayor-bowser-issues-stay-home-order)

4/3 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/89261 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/89261)

4/15, 5/13 Extensions of Emergency Declarations, Bar/Restaurant Limits, Non-Essential Business Closures, Large Gatherings Ban, Stay At Home Order: https://coronavirus.dc.gov/sites/default/files/dc/sites/coronavirus/publication/attachmen (https://coronavirus.dc.gov/sites/default/files/dc/sites/coronavirus/publication/attachments/MayorsOrder2 https://coronavirus.dc.gov/sites/default/files/dc/sites/coronavirus/page_content/attachm Order-2020-066-Extensions-of-Public-Emergency-and-Public-Health.pdf (https://coronavirus.dc.gov/sites/default/files/dc/sites/coronavirus/page_content/attachments/Mayors-Order-2020-066-Extensions-of-Public-Emergency-and-Public-Health.pdf)

FLORIDA

3/1 Public Health Emergency: https://www.flgov.com/wp-content/uploads/orders/2020/EO_20-51.pdf (https://www.flgov.com/wp-content/uploads/orders/2020/EO_20-51.pdf); http://www.floridahealth.gov/diseases-and-conditions/COVID-19/_documents/declaration-of-public-health-emergency-covid-19-3.1.20.pdf (http://www.floridahealth.gov/diseases-and-conditions/COVID-19/_documents/declaration-of-public-health-emergency-covid-19-3.1.20.pdf)

3/9, 5/8 Emergency Declaration: https://www.flgov.com/wp-content/uploads/2020/03/EO-20-52.pdf (https://www.flgov.com/wp-content/uploads/2020/03/EO-20-52.pdf); https://s33330.pcdn.co/wp-content/uploads/2020/05/DOH-Emergency-Order-Number-20-007_20200511-1013.pdf (https://s33330.pcdn.co/wp-content/uploads/2020/05/DOH-Emergency-Order-Number-20-007_20200511-1013.pdf)

3/10 Early Rx Refill: https://www.floir.com/siteDocuments/OIR-20-02M.pdf (https://www.floir.com/siteDocuments/OIR-20-02M.pdf)

3/16 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/downloads/fl-section-1135-appvl.pdf (https://www.medicaid.gov/state-resource-center/downloads/fl-section-1135-appvl.pdf)

3/17, 4/18 School Closures: http://www.fldoe.org/newsroom/latest-news/florida-extends-distance-learning-through-remainder-of-academic-year.stml (http://www.fldoe.org/newsroom/latest-news/florida-extends-distance-learning-through-remainder-of-academic-year.stml)

3/17, 3/20 Bar/Restaurant Limits: https://s33330.pcdn.co/wp-content/uploads/2020/03/EO-20-68.pdf (https://s33330.pcdn.co/wp-content/uploads/2020/03/EO-20-68.pdf); https://www.flgov.com/wp-content/uploads/orders/2020/EO_20-71.pdf (https://www.flgov.com/wp-content/uploads/orders/2020/EO_20-71.pdf)

3/24, 3/27, 4/29 Mandatory Quarantine for Travelers: https://s33330.pcdn.co/wp-content/uploads/2020/03/20-82.pdf (https://s33330.pcdn.co/wp-content/uploads/2020/03/20-82.pdf); https://s33330.pcdn.co/wp-content/uploads/2020/03/eo_20_86.pdf (https://s33330.pcdn.co/wp-content/uploads/2020/03/eo_20_86.pdf); https://www.flgov.com/wp-content/uploads/2020/04/EO-20-112.pdf (https://www.flgov.com/wp-content/uploads/2020/04/EO-20-112.pdf)

4/1, 4/29 Stay At Home Order, Non-Essential Business Closures, Large Gatherings Ban: https://s33330.pcdn.co/wp-content/uploads/2020/04/EO-20-91.pdf (https://s33330.pcdn.co/wp-content/uploads/2020/04/EO-20-91.pdf); https://www.flgov.com/wp-content/uploads/2020/04/EO-20-111.pdf (https://www.flgov.com/wp-content/uploads/2020/04/EO-20-111.pdf); https://www.flgov.com/wp-content/uploads/2020/04/EO-20-112.pdf (https://www.flgov.com/wp-content/uploads/2020/04/EO-20-112.pdf)

Easing Social Distancing Requirements:

5/4, 5/11 Stay at Home Order, Non-Essential Business Closures, Bar/Restaurant Limits (announced 4/29, 5/9): https://www.flgov.com/wp-content/uploads/2020/04/EO-20-112.pdf (https://www.flgov.com/wp-content/uploads/2020/04/EO-20-112.pdf); https://www.flgov.com/wp-content/uploads/orders/2020/EO_20-120.pdf (https://www.flgov.com/wp-content/uploads/orders/2020/EO_20-120.pdf)

GEORGIA

3/14 Public Health Emergency: https://gov.georgia.gov/executive-action/executive-orders-0/2020-executive-orders (https://gov.georgia.gov/executive-action/executive-orders-0/2020-executive-orders)

3/14 Primary Election Postponement: https://sos.ga.gov/index.php/elections/secretary_of_state_raffensperger_postpones_the_ (https://sos.ga.gov/index.php/elections/secretary_of_state_raffensperger_postpones_the_presidential_prefe

3/16, 3/26, 4/1 School Closures: [04.01.20.01]; 3/20 Early Rx Refill: [03.20.20.02] https://gov.georgia.gov/executive-action/executive-orders/2020-executive-orders (https://gov.georgia.gov/executive-action/executive-orders/2020-executive-orders)

3/20 Premium Grace Period: https://www.oci.ga.gov/ExternalResources/Announcements/Directive-3202020-1057.pdf (https://www.oci.ga.gov/ExternalResources/Announcements/Directive-3202020-1057.pdf)

3/23, 4/2, 4/8 Stay At Home Order, Bar/Restaurant Limits, Large Gatherings Ban: [03.23.20.01, 04.02.20.01, 04.08.20.02, 04.23.20.02, 04.30.20.01, 05.12.20.02] https://gov.georgia.gov/executive-action/executive-orders/2020-executive-orders (https://gov.georgia.gov/executive-action/executive-orders/2020-executive-orders)

4/1 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/88951 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/88951)

Easing Social Distancing Requirements:

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(https://www2.illinois.gov/Pages/Executive-Orders/ExecutiveOrder2020-18.aspx);
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https://khap2.kdhe.state.ks.us/NewsRelease/PDFs/3-23-2020%20Updates.pdf (https://khap2.kdhe.state.ks.us/NewsRelease/PDFs/3-23-2020%20Updates.pdf)
https://governor.kansas.gov/wp-content/uploads/2020/03/EO20-16.pdf (https://governor.kansas.gov/wp-content/uploads/2020/03/EO20-16.pdf);
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LOUISIANA

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3/17 Free Vaccine, Waive Prior Auth, Early Rx Refill: https://www.ldi.la.gov/docs/default-source/documents/legaldocs/rules/rule36-cur-patientprotections?utm_source=Consumer+Press+Release&utm_medium=newsletter&utm_campaign=3-18-20+Emergency+Rule+36 (https://www.ldi.la.gov/docs/default-

source/documents/legaldocs/rules/rule36-cur-patientprotections?utm_source=Consumer+Press+Release&utm_medium=newsletter&utm_campaign=3-18-20+Emergency+Rule+36)

3/22, 4/27 Large Gatherings Ban, Stay At Home Order, Non-Essential Business Closures: https://gov.louisiana.gov/assets/Proclamations/2020/JBE-33-2020.pdf (https://gov.louisiana.gov/assets/Proclamations/2020/JBE-33-2020.pdf); https://gov.louisiana.gov/assets/Proclamations/2020/41-JBE-2020-Stay-At-Home-Extended.pdf (https://gov.louisiana.gov/assets/Proclamations/2020/41-JBE-2020-Stay-At-Home-Extended.pdf); https://gov.louisiana.gov/home-order-extended-may15/ (https://gov.louisiana.gov/home-order-extended-may15/)

3/23 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54038 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54038)

3/26 Premium Grace Period: https://ldi.la.gov/docs/default-source/documents/legaldocs/rules/rule40-cur-moratoriumonpolicy (https://ldi.la.gov/docs/default-source/documents/legaldocs/rules/rule40-cur-moratoriumonpolicy)

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5/15 Stay At Home Order, Non-Essential Business Closures: https://gov.louisiana.gov/index.cfm/newsroom/detail/2488 (https://gov.louisiana.gov/index.cfm/newsroom/detail/2488)

MAINE

3/12 Free Vaccine, Waive Prior Auth, Early Rx Refill: https://www.maine.gov/pfr/insurance/legal/bulletins/pdf/442.pdf (https://www.maine.gov/pfr/insurance/legal/bulletins/pdf/442.pdf)

3/15, 4/14 Proclamation of Civil Emergency: https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/Proclamation%20of%20State%20of%20Civil%20Emergency%20To%20Further%20Protect%20Public%20Health.pdf (https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/Proclamation%20of%20State%20of%20Civil%20Emergency%20To%20Further%20Protect%20Public%20Health.pdf);

https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/Proclamation%20to%20Renew%20the%20State%20of%20Civil%20Emergency.pdf (https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/Proclamation%20to%20Renew%20the%20State%20of%20Civil%20Emergency.pdf); https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/Proclamation%20to%20Renew%20the%20State%20of%20Civil%20Emergency%20%28Signed%20May%2013%2C%202020%29.pdf (https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/Proclamation%20to%20Renew%20the%20State%20of%20Civil%20Emergency%20%28Signed%20May%2013%2C%202020%29.pdf)

3/18, 3/31 Large Gatherings Ban, Bar/Restaurant Limits: https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/Executive%20Order%20to%20Protect%20Public%20Health%20.pdf (https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/Executive%20Order%20to%20Protect%20Public%20Health%20.pdf); https://www.mainepublic.org/sites/mpbn/files/202003/an_order_regarding_further_restri (https://www.mainepublic.org/sites/mpbn/files/202003/an_order_regarding_further_restrictions_on_public https://www.mainepublic.org/sites/mpbn/files/202003/an_order_regarding_further_restri (https://www.mainepublic.org/sites/mpbn/files/202003/an_order_regarding_further_restrictions_on_public

3/24, 3/31 Non-Essential Business Closure: https://www.maine.gov/governor/mills/news/governor-mills-orders-further-steps-protect-public-health-2020-03-24 (https://www.maine.gov/governor/mills/news/governor-mills-orders-further-steps-protect-public-health-2020-03-24); https://www.mainepublic.org/sites/mpbn/files/202003/an_order_regarding_further_restri (https://www.mainepublic.org/sites/mpbn/files/202003/an_order_regarding_further_restrictions_on_public

3/31, 4/7, 4/29 Stay At Home Order, School Closures: https://www.mainepublic.org/sites/mpbn/files/202003/an_order_regarding_further_restri (https://www.mainepublic.org/sites/mpbn/files/202003/an_order_regarding_further_restrictions_on_public https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/An%20Order%20to%20Stay%20Safer%20at%20Home.pdf (https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/An%20Order%20to%20Stay%20Safer%20at%20Home.pdf)

4/7 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/90996 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/90996)

4/10 Primary Election Postponement:
https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/An%20Order%20Modyifying%20the%20Primary%20Election%20to%20Reduce%20Exposure%20to%20COVID-19.pdf (https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/An%20Order%20Modyifying%20the%20Primary%20Election%20to%20Reduce%20Exposure%20to%20COVID-19.pdf)

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4/30 Non-Essential Business Closures:
https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/An%20Order%20to%20Stay%20Safer%20at%20Home.pdf (https://www.maine.gov/governor/mills/sites/maine.gov.governor.mills/files/inline-files/An%20Order%20to%20Stay%20Safer%20at%20Home.pdf);
https://www.maine.gov/governor/mills/news/governor-mills-introduces-rural-reopening-plan-2020-05-08 (https://www.maine.gov/governor/mills/news/governor-mills-introduces-rural-reopening-plan-2020-05-08)

MARYLAND

3/5 Emergency Declaration; Catastrophic Health Emergency:
https://governor.maryland.gov/wp-content/uploads/2020/03/Proclamation-COVID-19.pdf (https://governor.maryland.gov/wp-content/uploads/2020/03/Proclamation-COVID-19.pdf)

3/6, 3/10 Free Vaccine, Early Rx Refill:
https://insurance.maryland.gov/Insurer/Documents/bulletins/Bulletin-20-05-Covid-19.pdf (https://insurance.maryland.gov/Insurer/Documents/bulletins/Bulletin-20-05-Covid-19.pdf);
https://insurance.maryland.gov/Insurer/Documents/bulletins/20-06-Covid-19-FollowUp.pdf (https://insurance.maryland.gov/Insurer/Documents/bulletins/20-06-Covid-19-FollowUp.pdf)

3/13 Marketplace SEP: https://www.marylandhbe.com/wp-content/uploads/2020/03/Coronavirus-Press-Release.pdf (https://www.marylandhbe.com/wp-content/uploads/2020/03/Coronavirus-Press-Release.pdf);
https://www.marylandhealthconnection.gov/coronavirus-sep/ (https://www.marylandhealthconnection.gov/coronavirus-sep/)

3/16 Large Gatherings: https://governor.maryland.gov/wp-content/uploads/2020/03/Amending-Gatherings.pdf (https://governor.maryland.gov/wp-content/uploads/2020/03/Amending-Gatherings.pdf)

3/16, 4/17, 5/6 School Closures: https://news.maryland.gov/msde/state-superintendent-salmon-announces-temporary-closure-of-maryland-public-schools/ (https://news.maryland.gov/msde/state-superintendent-salmon-announces-temporary-closure-of-maryland-public-schools/); http://marylandpublicschools.org/newsroom/Pages/COVID-19/Superintendent.aspx (http://marylandpublicschools.org/newsroom/Pages/COVID-19/Superintendent.aspx); http://marylandpublicschools.org/Pages/default.aspx (http://marylandpublicschools.org/Pages/default.aspx)

3/16 Bar/Restaurant Limits: https://governor.maryland.gov/wp-content/uploads/2020/03/Executive-Order-Amending-Large-Gatherings.pdf (https://governor.maryland.gov/wp-content/uploads/2020/03/Executive-Order-Amending-Large-Gatherings.pdf)

3/17 Primary Election Postponement: https://governor.maryland.gov/2020/03/17/governor-hogan-issues-proclamation-to-postpone-april-28-primary-implement-vote-by-mail-system-to-fill-7th-congressional-district-seat/ (https://governor.maryland.gov/2020/03/17/governor-hogan-issues-proclamation-to-postpone-april-28-primary-implement-vote-by-mail-system-to-fill-7th-congressional-district-seat/)

3/23 Non-Essential Business Closure: https://governor.maryland.gov/wp-content/uploads/2020/03/Gatherings-THIRD-AMENDED-3.23.20.pdf (https://governor.maryland.gov/wp-content/uploads/2020/03/Gatherings-THIRD-AMENDED-3.23.20.pdf); https://governor.maryland.gov/wp-content/uploads/2020/05/Gatherings-FIFTH-AMENDED-5.6.20.pdf (https://governor.maryland.gov/wp-content/uploads/2020/05/Gatherings-FIFTH-AMENDED-5.6.20.pdf)

3/26 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54062 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54062)

3/30 Stay At Home Order: https://governor.maryland.gov/wp-content/uploads/2020/03/Gatherings-FOURTH-AMENDED-3.30.20.pdf (https://governor.maryland.gov/wp-content/uploads/2020/03/Gatherings-FOURTH-AMENDED-3.30.20.pdf)

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5/15 Stay At Home Order, Non-Essential Business Closures: https://governor.maryland.gov/wp-content/uploads/2020/05/Gatherings-SIXTH-AMENDED-5.13.20.pdf (https://governor.maryland.gov/wp-content/uploads/2020/05/Gatherings-SIXTH-AMENDED-5.13.20.pdf)

MASSACHUSETTS

3/6, 3/30, 4/9 Cost-Sharing Waiver (Treatment), Free Vaccine, Waive Prior Auth: https://www.mass.gov/doc/bulletin-2020-02-addressing-covid-19-coronavirus-testing-and-treatment-issued-362020/download (https://www.mass.gov/doc/bulletin-2020-02-addressing-covid-19-coronavirus-testing-and-treatment-issued-362020/download); https://www.mass.gov/doc/bulletin-2020-10-credentialing-and-prior-authorization-during-covid-19-coronavirus-health/download (https://www.mass.gov/doc/bulletin-2020-10-credentialing-and-prior-authorization-during-covid-19-coronavirus-health/download); https://www.mass.gov/doc/bulletin-2020-13-coverage-for-covid-19-treatment-and-out-of-network-emergency-and-inpatient/download (https://www.mass.gov/doc/bulletin-2020-13-coverage-for-covid-19-treatment-and-out-of-network-emergency-and-inpatient/download)

3/10 Emergency Declaration: https://www.mass.gov/executive-orders/no-591-declaration-of-a-state-of-emergency-to-respond-to-covid-19 (https://www.mass.gov/executive-orders/no-591-declaration-of-a-state-of-emergency-to-respond-to-covid-19)

3/11, 3/30 Marketplace SEP: https://www.mass.gov/doc/bulletin-2020-09-special-open-enrollment-period-effective-immediately-until-may-25-issued/download (https://www.mass.gov/doc/bulletin-2020-09-special-open-enrollment-period-effective-immediately-until-may-25-issued/download)

3/15 Bar/Restaurant Limits: https://www.mass.gov/doc/march-16-2020-large-gathering-at-25-people-order/download (https://www.mass.gov/doc/march-16-2020-large-gathering-at-25-people-order/download)

3/15, 4/21 School Closures: https://www.mass.gov/doc/march-16-2020-k-12-school-closing-order/download (https://www.mass.gov/doc/march-16-2020-k-12-school-closing-order/download); https://www.mass.gov/doc/april-21-2020-school-closure-extension-order/download (https://www.mass.gov/doc/april-21-2020-school-closure-extension-order/download)

3/23, Non-Essential Business Closures, Large Gatherings: https://www.mass.gov/doc/march-23-2020-essential-services-and-revised-gatherings-order/download (https://www.mass.gov/doc/march-23-2020-essential-services-and-revised-gatherings-order/download); https://www.mass.gov/news/dph-public-health-advisory-stay-at-home-advisory (https://www.mass.gov/news/dph-public-health-advisory-stay-at-home-advisory); https://www.mass.gov/doc/signed-second-extension-of-essential-services-order/download (https://www.mass.gov/doc/signed-second-extension-of-essential-services-order/download)

3/26 Early Rx Refill: https://www.mass.gov/doc/bulletin-2020-06-administration-of-precription-drug-benefits-during-covid-19-coronavirus-public/download (https://www.mass.gov/doc/bulletin-2020-06-administration-of-precription-drug-benefits-during-covid-19-coronavirus-public/download)

3/26 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54066 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54066)

3/27 Mandatory Quarantine for Travelers: https://www.mass.gov/news/baker-polito-administration-announces-travel-guidelines-and-new-health-care-resources-to (https://www.mass.gov/news/baker-polito-administration-announces-travel-guidelines-and-new-health-care-resources-to)

3/31 Extension of Non-Essential Business Closures, Large Gatherings: https://www.mass.gov/doc/march-31-2020-essential-services-extension-order/download (https://www.mass.gov/doc/march-31-2020-essential-services-extension-order/download)

4/28: Extension of Non-Essential Business CLosures, Large Gatherings:

https://www.mass.gov/doc/signed-second-extension-of-essential-services-order/download (https://www.mass.gov/doc/signed-second-extension-of-essential-services-order/download)

5/18 Extension of Non-Essential Business CLosures, Large Gatherings: https://www.mass.gov/doc/may-15-2020-24-hour-extension-order/download (https://www.mass.gov/doc/may-15-2020-24-hour-extension-order/download)

MICHIGAN

3/10 Emergency Declaration: https://www.michigan.gov/whitmer/0,9309,7-387-90487-527721–,00.html (https://www.michigan.gov/whitmer/0,9309,7-387-90487-527721--,00.html)

3/16 School Closures: https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-521890–,00.html (https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-521890--,00.html)

3/17 Bar/Restaurant Limits: https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-521789–,00.html (https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-521789--,00.html)

3/23 Stay At Home Order, Non-Essential Business Closure, Large Gatherings: https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-522626–,00.html (https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-522626--,00.html)

4/2 Extension of School Closures: https://content.govdelivery.com/attachments/MIEOG/2020/04/02/file_attachments/1417518/EO%202020-35.pdf (https://content.govdelivery.com/attachments/MIEOG/2020/04/02/file_attachments/1417518/EO%202020-35.pdf)

4/6 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/89311 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/89311)

4/9 Extension of Stay at Home Order, Non-Essential Business Closure, and Large Gatherings Ban: https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-525182–,00.html (https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-525182--,00.html)

4/10 Cost-Sharing Waiver (Treatment): https://www.michigan.gov/difs/0,5269,7-303-13222_13250-525327–,00.html (https://www.michigan.gov/difs/0,5269,7-303-13222_13250-525327--,00.html)

4/14: Extension of Non-Essential Business Closure and Bar/Restaurant Limits: https://content.govdelivery.com/attachments/MIEOG/2020/04/13/file_attachments/1426426/EO%202020-43.pdf (https://content.govdelivery.com/attachments/MIEOG/2020/04/13/file_attachments/1426426/EO%202020-43.pdf)

4/21 Early Rx Refill: https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-526675–,00.html (https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-526675--,00.html)

4/24 Extension of Stay at Home Order: https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-526894–,00.html (https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-526894--,00.html)

4/30 Extension of Non-Essential Business Closures, Bar/Restaurant Limits: https://content.govdelivery.com/attachments/MIEOG/2020/04/30/file_attachments/1440573/EO%202020-69%20Emerg%20order%20-%20public%20accommodations%20-%20re-issue.pdf (https://content.govdelivery.com/attachments/MIEOG/2020/04/30/file_attachments/1440573/EO%202020-69%20Emerg%20order%20-%20public%20accommodations%20-%20re-issue.pdf)

5/7 Extension of Stay at Home Order, Large Gatherings Ban: https://content.govdelivery.com/attachments/MIEOG/2020/05/07/file_attachments/1446124/EO%202020-77.pdf (https://content.govdelivery.com/attachments/MIEOG/2020/05/07/file_attachments/1446124/EO%202020-77.pdf)

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4/24 Non-Essential Business Closures (announced 4/24): https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-526894–,00.html (https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-526894--,00.html)

5/7 Non-Essential Business Closures (announced 5/1): https://www.michigan.gov/whitmer/0,9309,7-387-90499_90640-527845–,00.html (https://www.michigan.gov/whitmer/0,9309,7-387-90499_90640-527845--,00.html)

5/11 Non-Essential Business Closures (announced 5/7): https://content.govdelivery.com/attachments/MIEOG/2020/05/07/file_attachments/1446124/EO%202020-77.pdf (https://content.govdelivery.com/attachments/MIEOG/2020/05/07/file_attachments/1446124/EO%202020-77.pdf)

MINNESOTA

3/13 Peacetime Emergency: https://mn.gov/governor/assets/EO%2020-53%20Final_tcm1055-431912.pdf (https://mn.gov/governor/assets/EO%2020-53%20Final_tcm1055-431912.pdf)

3/15 School Closures: https://mn.gov/governor/assets/EO%2020-02%20Final_tcm1055-423084.pdf (https://mn.gov/governor/assets/EO%2020-02%20Final_tcm1055-423084.pdf)

3/16 Bar/Restaurant Limits: https://mn.gov/governor/assets/2020_03_16_EO_20_04_Bars_Restaurants_tcm1055-423380.pdf (https://mn.gov/governor/assets/2020_03_16_EO_20_04_Bars_Restaurants_tcm1055-423380.pdf)

3/25 Stay At Home Order: https://mn.gov/governor/assets/EO%2020-20%20FINAL_tcm1055-424864.pdf (https://mn.gov/governor/assets/EO%2020-20%20FINAL_tcm1055-424864.pdf)

3/25 Extension of School Closures: https://mn.gov/governor/assets/2a.%20EO%2020-19%20FINAL%20SIGNED%20Filed_tcm1055-425019.pdf (https://mn.gov/governor/assets/2a.%20EO%2020-19%20FINAL%20SIGNED%20Filed_tcm1055-425019.pdf)

3/27 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54071 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54071)

4/2 Cost-Sharing Waiver (Treatment): https://mn.gov/governor/news/?id=1055-426435 (https://mn.gov/governor/news/?id=1055-426435)

4/8 Extension of Stay At Home Order, Bar/Restaurant Limits: https://mn.gov/governor/assets/EO%2020-33%20Final_tcm1055-427292.pdf (https://mn.gov/governor/assets/EO%2020-33%20Final_tcm1055-427292.pdf)

4/24 Extension of School Closures: https://mn.gov/governor/assets/EO%2020-41%20Final_tcm1055-429563.pdf (https://mn.gov/governor/assets/EO%2020-41%20Final_tcm1055-429563.pdf)

4/30 Extension of Stay at Home Order, Bar/Restaurant Limits: https://mn.gov/governor/assets/EO%2020-48%20Final_tcm1055-430499.pdf (https://mn.gov/governor/assets/EO%2020-48%20Final_tcm1055-430499.pdf)

5/13 Extension of Bar/Restaurant Limits: https://mn.gov/governor/assets/EO%2020-56%20Final_tcm1055-431921.pdf (https://mn.gov/governor/assets/EO%2020-56%20Final_tcm1055-431921.pdf)

5/13 Large Gatherings Ban: https://mn.gov/governor/assets/EO%2020-56%20Final_tcm1055-431921.pdf (https://mn.gov/governor/assets/EO%2020-56%20Final_tcm1055-431921.pdf)

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4/27 Non-Essential Business Closures (announced 4/23): https://mn.gov/governor/assets/EO%2020-40%20Final_tcm1055-429564.pdf (https://mn.gov/governor/assets/EO%2020-40%20Final_tcm1055-429564.pdf)

5/18 Stay at Home Order, Non-Essential Business Closures (announced 5/13): https://mn.gov/governor/assets/EO%2020-56%20Final_tcm1055-431921.pdf (https://mn.gov/governor/assets/EO%2020-56%20Final_tcm1055-431921.pdf)

MISSISSIPPI

3/14 Emergency Declaration: https://twitter.com/tatereeves/status/1238892775552225281/photo/2 (https://twitter.com/tatereeves/status/1238892775552225281/photo/2)

3/19 School Closures: https://www.sos.ms.gov/Education-Publications/ExecutiveOrders/1460.pdf (https://www.sos.ms.gov/Education-Publications/ExecutiveOrders/1460.pdf)

3/20 Primary Election Postponement: https://www.sos.ms.gov/Education-Publications/ExecutiveOrders/1461.pdf (https://www.sos.ms.gov/Education-Publications/ExecutiveOrders/1461.pdf)

3/23 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54037 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54037)

3/24 Large Gatherings Ban, Bar/Restaurant Limits:
https://www.sos.ms.gov/Education-Publications/ExecutiveOrders/1463.pdf
(https://www.sos.ms.gov/Education-Publications/ExecutiveOrders/1463.pdf)

3/25 Premium Grace Period: https://www.mid.ms.gov/legal/bulletins/20203bul.pdf
(https://www.mid.ms.gov/legal/bulletins/20203bul.pdf);

https://www.mid.ms.gov/legal/bulletins/20204bul.pdf
(https://www.mid.ms.gov/legal/bulletins/20204bul.pdf)

3/31 Stay at Home Order: https://www.sos.ms.gov/Education-Publications/ExecutiveOrders/1465.pdf (https://www.sos.ms.gov/Education-Publications/ExecutiveOrders/1465.pdf)

4/15 Extension of School Closures:
https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1476.pdf
(https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1476.pdf)

4/17 Extension of Stay at Home Order:
https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1473.pdf
(https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1473.pdf)

4/27: Extension of Large Gatherings Ban:
https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1477.pdf
(https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1477.pdf)

5/8 Extension of Large Gatherings Ban:
https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1480.pdf
(https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1480.pdf)

Easing Social Distancing Requirements:

4/27 Stay at Home Order, Non-Essential Business Closures (announced 4/17):
https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1477.pdf
(https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1477.pdf)

5/7: Bar/Restaurant Limits (announced 5/4):
https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1478.pdf
(https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1478.pdf)

5/8: Non-Essential Business Closures (announced 5/8):
https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1480.pdf
(https://www.sos.ms.gov/content/executiveorders/ExecutiveOrders/1480.pdf)

MISSOURI

3/13 Emergency Declaration:
https://www.sos.mo.gov/library/reference/orders/2020/eo9
(https://www.sos.mo.gov/library/reference/orders/2020/eo9)

3/21 School Closures:
https://health.mo.gov/living/healthcondiseases/communicable/novel-coronavirus/pdf/social-distancing-order.pdf
(https://health.mo.gov/living/healthcondiseases/communicable/novel-coronavirus/pdf/social-distancing-order.pdf);

3/21, 4/3 Large Gatherings, Bar/Restaurant Limits:
https://health.mo.gov/living/healthcondiseases/communicable/novel-coronavirus/pdf/social-distancing-order.pdf
(https://health.mo.gov/living/healthcondiseases/communicable/novel-coronavirus/pdf/social-distancing-order.pdf);
https://content.govdelivery.com/attachments/MOGOV/2020/04/03/file_attachments/1419
20at%20Home%20Missouri%20Order.pdf
(https://content.govdelivery.com/attachments/MOGOV/2020/04/03/file_attachments/1419322/Stay%20at%20Home%20Missouri%20Order.pdf)

3/25 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54060
(https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54060)

4/3 Stay At Home Order, Non-Essential Business Closures:
https://content.govdelivery.com/attachments/MOGOV/2020/04/03/file_attachments/1419
20at%20Home%20Missouri%20Order.pdf
(https://content.govdelivery.com/attachments/MOGOV/2020/04/03/file_attachments/1419322/Stay%20at%20Home%20Missouri%20Order.pdf)

4/9 Extension of School Closures: https://governor.mo.gov/press-releases/archive/governor-parson-orders-schools-remain-closed-remainder-academic-year (https://governor.mo.gov/press-releases/archive/governor-parson-orders-schools-remain-closed-remainder-academic-year)

4/16 Extension of Stay at Home Order: https://governor.mo.gov/priorities/extension-stay-home-order-covd-19 (https://governor.mo.gov/priorities/extension-stay-home-order-covd-19)

Easing Social Distancing Requirements

5/4 Non-essential Business Closures, Bar/Restaurant Limits (announced 4/27): https://content.govdelivery.com/attachments/MOGOV/2020/04/27/file_attachments/1437097/Economic%20Reopening%20Order%204-27-20.pdf (https://content.govdelivery.com/attachments/MOGOV/2020/04/27/file_attachments/1437097/Economic%20Reopening%20Order%204-27-20.pdf)

MONTANA

3/12 Emergency Declaration: http://governor.mt.gov/Portals/16/docs/2020EOs/EO-02-2020_COVID-19%20Emergency%20Declaration.pdf?ver=2020-03-13-103433-047 (http://governor.mt.gov/Portals/16/docs/2020EOs/EO-02-2020_COVID-19%20Emergency%20Declaration.pdf?ver=2020-03-13-103433-047)

3/15 School Closures: http://governor.mt.gov/pressroom/governor-bullock-directs-the-closure-of-public-k-12-schools-for-two-weeks-strongly-recommends-social-distancing-measures-to-slow-the-spread-of-covid-19 (http://governor.mt.gov/pressroom/governor-bullock-directs-the-closure-of-public-k-12-schools-for-two-weeks-strongly-recommends-social-distancing-measures-to-slow-the-spread-of-covid-19)

3/20 Bar/Restaurant Limits: http://governor.mt.gov/Portals/16/Directive%20on%20Bars%20and%20Restaurants.pdf?ver=2020-03-20-101314-937 (http://governor.mt.gov/Portals/16/Directive%20on%20Bars%20and%20Restaurants.pdf?ver=2020-03-20-101314-937)

3/24 Large Gatherings Ban, School Closure Extension: http://governor.mt.gov/Portals/16/Closure%20Extensions%20and%20Social%20Distancing.pdf?ver=2020-03-24-164313-497 (http://governor.mt.gov/Portals/16/Closure%20Extensions%20and%20Social%20Distancing.pdf?ver=2020-03-24-164313-497)

3/26 Stay at Home Order, Non-Essential Business Closure, Large Gatherings Ban: https://covid19.mt.gov/Portals/223/Documents/Stay%20at%20Home%20Directive.pdf?ver=2020-03-26-173332-177 (https://covid19.mt.gov/Portals/223/Documents/Stay%20at%20Home%20Directive.pdf?ver=2020-03-26-173332-177)

3/30 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/88801 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/88801)

3/31 Mandatory Traveler Quarantine: http://governor.mt.gov/Portals/16/Quarantine%20for%20Travelers.pdf?ver=2020-03-30-170637-190 (http://governor.mt.gov/Portals/16/Quarantine%20for%20Travelers.pdf?ver=2020-03-30-170637-190)

4/7 Extension of School Closures, Bar/Restaurant Limits, Stay at Home Order, Non-Essential Business Closure, Large Gatherings Ban, and Mandatory Traveler Quarantine: http://governor.mt.gov/Portals/16/Extension%20of%20Directives.pdf?ver=2020-04-07-172755-170 (http://governor.mt.gov/Portals/16/Extension%20of%20Directives.pdf?ver=2020-04-07-172755-170)

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4/26 Stay-at-Home Order, Non-Essential Business Closures (announced 4/22): https://covid19.mt.gov/Portals/223/Documents/04-22-20%20Directive%20and%20Appx%20-%20Reopening%20Phase%20One.pdf?ver=2020-04-22-124954-977 (https://covid19.mt.gov/Portals/223/Documents/04-22-20%20Directive%20and%20Appx%20-%20Reopening%20Phase%20One.pdf?ver=2020-04-22-124954-977)

5/4 Bar/Restaurant Limits (announced 4/22) https://covid19.mt.gov/Portals/223/Documents/04-22-20%20Directive%20and%20Appx%20-%20Reopening%20Phase%20One.pdf?ver=2020-04-22-124954-977 (https://covid19.mt.gov/Portals/223/Documents/04-22-20%20Directive%20and%20Appx%20-%20Reopening%20Phase%20One.pdf?ver=2020-04-22-124954-977)

5/7 School Closures (announced 4/22): https://covid19.mt.gov/Portals/223/Documents/04-22-20%20Directive%20and%20Appx%20-%20Reopening%20Phase%20One.pdf?ver=2020-04-22-124954-977 (https://covid19.mt.gov/Portals/223/Documents/04-22-20%20Directive%20and%20Appx%20-%20Reopening%20Phase%20One.pdf?ver=2020-04-22-124954-977)

5/15 Non-Essential Business Closures (announced 5/11): https://covid19.mt.gov/Portals/223/Documents/Phase%20One%20Expansion%20Plus%20Guidance.pdf?ver=2020-05-08-150423-113 (https://covid19.mt.gov/Portals/223/Documents/Phase%20One%20Expansion%20Plus%20Guidance.pdf?ver=2020-05-08-150423-113)

NEBRASKA

3/13 Emergency Declaration: https://www.dropbox.com/s/64xel8oha2gw22h/2020%20State%20of%20Emergency%20-%20Coronavirus%20.pdf?dl=0 (https://www.dropbox.com/s/64xel8oha2gw22h/2020%20State%20of%20Emergency%20-%20Coronavirus%20.pdf?dl=0)

3/19, 3/25 Large Gatherings Ban, School Closures: https://www.dropbox.com/s/sk95elfp6bnefsv/DHM%203.19.2020.pdf?dl=0 (https://www.dropbox.com/s/sk95elfp6bnefsv/DHM%203.19.2020.pdf?dl=0); https://www.dropbox.com/s/ade9iruczk87wxk/DHM%203.25.2020.pdf?dl=0 (https://www.dropbox.com/s/ade9iruczk87wxk/DHM%203.25.2020.pdf?dl=0)

3/30 Bar/Restaurant Limits: https://governor.nebraska.gov/press/gov-ricketts-extends-statewide-social-distancing-restrictions-until-april-30th-details-new (https://governor.nebraska.gov/press/gov-ricketts-extends-statewide-social-distancing-restrictions-until-april-30th-details-new).

4/1 School Closures: https://www.dropbox.com/s/253ohztp9w96hzl/DHM%204.01.2020.pdf?dl=0 (https://www.dropbox.com/s/253ohztp9w96hzl/DHM%204.01.2020.pdf?dl=0)

4/2 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/89161 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/89161)

4/3 Large Gatherings Ban, School Closures, Bar/Restaurant Limits: https://www.dropbox.com/s/tau4u6180lu0kna/DHM%204.3.2020.pdf?dl=0 (https://www.dropbox.com/s/tau4u6180lu0kna/DHM%204.3.2020.pdf?dl=0)

Easing Social Distancing Requirements

5/4 Bar/Restaurant Limits (announced 4/24):
https://governor.nebraska.gov/press/gov-ricketts-announces-upcoming-changes-directed-health-measures-deploys-additional-resources
(https://governor.nebraska.gov/press/gov-ricketts-announces-upcoming-changes-directed-health-measures-deploys-additional-resources)

5/11 Bar/Restaurant Limits (announced 4/24):
https://governor.nebraska.gov/press/gov-ricketts-announces-upcoming-changes-directed-health-measures-deploys-additional-resources
(https://governor.nebraska.gov/press/gov-ricketts-announces-upcoming-changes-directed-health-measures-deploys-additional-resources)

NEVADA

3/5 Free Vaccine:
http://gov.nv.gov/uploadedFiles/govnewnvgov/Content/News/Press/2020/2020-03-05.DOI%20Emergency%20Regulations%20re%20COVID-19.pdf
(http://gov.nv.gov/uploadedFiles/govnewnvgov/Content/News/Press/2020/2020-03-05.DOI%20Emergency%20Regulations%20re%20COVID-19.pdf)

3/13 Emergency Declaration:
http://gov.nv.gov/News/Press/2020/Governor_Sisolak_Declares_State_of_Emergency_in_R
19/
(http://gov.nv.gov/News/Press/2020/Governor_Sisolak_Declares_State_of_Emergency_in_Response_to_COV
19/)

3/15 Large Gatherings Ban, School Closures:
http://gov.nv.gov/News/Press/2020/Governor_Sisolak_Updates_Public_on_State_Action_a
19/
(http://gov.nv.gov/News/Press/2020/Governor_Sisolak_Updates_Public_on_State_Action_and_Guidance_Reg
19/); http://gov.nv.gov/News/Emergency_Orders/2020/COVID-19_Declaration_of_Emergency_Directive_001_Closing_K-12_Schools/
(http://gov.nv.gov/News/Emergency_Orders/2020/COVID-19_Declaration_of_Emergency_Directive_001_Closing_K-12_Schools/)

3/17 Bar/Restaurant Limits:
http://gov.nv.gov/News/Press/2020/Governor_Sisolak_Announces_COVID-19_Risk_Mitigation_Initiatives/
(http://gov.nv.gov/News/Press/2020/Governor_Sisolak_Announces_COVID-19_Risk_Mitigation_Initiatives/)

3/17 Marketplace SEP: https://d1q4hslcl8rmbx.cloudfront.net/assets/uploads/2020/03/SSHIX-ECSEP-Press-Release-FINAL-3.17.20.pdf (https://d1q4hslcl8rmbx.cloudfront.net/assets/uploads/2020/03/SSHIX-ECSEP-Press-Release-FINAL-3.17.20.pdf)

3/19 Large Gatherings Ban: https://www.dropbox.com/s/sk95elfp6bnefsv/DHM%203.19.2020.pdf?dl=0 (https://www.dropbox.com/s/sk95elfp6bnefsv/DHM%203.19.2020.pdf?dl=0)

3/20 Non-Essential Business Closures: http://gov.nv.gov/News/Emergency_Orders/2020/2020-03-20_-_COVID-19_Declaration_of_Emergency_Directive_003/ (http://gov.nv.gov/News/Emergency_Orders/2020/2020-03-20_-_COVID-19_Declaration_of_Emergency_Directive_003/)

3/24 Large Gatherings Ban: https://nvhealthresponse.nv.gov/wp-content/uploads/2020/03/03.24-PUBLIC-GATHERING-DIRECTIVE_.pdf (https://nvhealthresponse.nv.gov/wp-content/uploads/2020/03/03.24-PUBLIC-GATHERING-DIRECTIVE_.pdf)

4/1 Stay at Home Order, Non-Essential Business Closures: https://nvhealthresponse.nv.gov/wp-content/uploads/2020/04/Declaration-of-Emergency-Directive-010-Stay-at-Home-3-31-20.pdf (https://nvhealthresponse.nv.gov/wp-content/uploads/2020/04/Declaration-of-Emergency-Directive-010-Stay-at-Home-3-31-20.pdf)

4/7 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/90986 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/90986)

4/14 Extension of School Closures: https://nvhealthresponse.nv.gov/wp-content/uploads/2020/04/Directive-014-Signed.pdf (https://nvhealthresponse.nv.gov/wp-content/uploads/2020/04/Directive-014-Signed.pdf)

4/21 Extension of School Closures: http://www.doe.nv.gov/News__Media/Press_Releases/2020/Governor_Sisolak_Announces_Open_During_the_2019-20_School_Year/ (http://www.doe.nv.gov/News__Media/Press_Releases/2020/Governor_Sisolak_Announces_Nevada_School_Open_During_the_2019-20_School_Year/)

4/29 Extension of Stay at Home Order, Large Gatherings Ban: https://nvhealthresponse.nv.gov/wp-content/uploads/2020/04/Declaration-of-Emergency-Directive-016.4-29-20-1.pdf (https://nvhealthresponse.nv.gov/wp-content/uploads/2020/04/Declaration-of-Emergency-Directive-016.4-29-20-1.pdf)

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5/9 Non-Essential Business Closures, Bar/Restaurant Limits: https://nvhealthresponse.nv.gov/wp-content/uploads/2020/05/Declaration-of-Emergency-Directive-018.Phase-1-Reopening.5-7-20-1.pdf (https://nvhealthresponse.nv.gov/wp-content/uploads/2020/05/Declaration-of-Emergency-Directive-018.Phase-1-Reopening.5-7-20-1.pdf)

NEW HAMPSHIRE

3/10 Waive Prior Auth, Early Rx Refill: https://www.governor.nh.gov/news-media/press-2020/documents/health-care-coronovirus-order.pdf (https://www.governor.nh.gov/news-media/press-2020/documents/health-care-coronovirus-order.pdf)

3/13 Emergency Declaration: https://www.governor.nh.gov/news-media/orders-2020/documents/2020-08.pdf (https://www.governor.nh.gov/news-media/orders-2020/documents/2020-08.pdf)

3/15 School Closures: https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-1.pdf (https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-1.pdf)

3/16 Large Gatherings Ban, Bar/Restaurant Limits: https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-2.pdf (https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-2.pdf)

3/23 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54031 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54031)

3/24 Large Gatherings Ban: https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-16.pdf (https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-16.pdf)

3/26 Stay at Home Order, Non-Essential Business Closures: https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-17-1.pdf (https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-17-1.pdf)

3/27 School Closures: https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-19.pdf (https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-19.pdf)

4/4 Extension of Large Gatherings Ban, Bar/Restaurant Limits: https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-26.pdf (https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-26.pdf)

4/16 Extension of School Closures: https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-32.pdf (https://www.governor.nh.gov/news-media/emergency-orders/documents/emergency-order-32.pdf)

5/1 Extension of Stay at Home Orde, Large Gatherings Banr: https://www.governor.nh.gov/sites/g/files/ehbemt336/files/documents/emergency-order-40.pdf (https://www.governor.nh.gov/sites/g/files/ehbemt336/files/documents/emergency-order-40.pdf)

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5/11 Non-Essential Business Closures (announced 5/1): https://www.governor.nh.gov/news-media/press-2020/20200501-stay-at-home.htm (https://www.governor.nh.gov/news-media/press-2020/20200501-stay-at-home.htm)

5/18 Bar/Restaurant Limits (announced 5/1): https://www.covidguidance.nh.gov/ (https://www.covidguidance.nh.gov/)

NEW JERSEY

3/9 Emergency Declaration, Public Health Emergency:
https://nj.gov/infobank/eo/056murphy/pdf/EO-119.pdf
(https://nj.gov/infobank/eo/056murphy/pdf/EO-119.pdf)

3/16 Large Gatherings Ban, Bar/Restaurant Limits:
https://nj.gov/infobank/eo/056murphy/pdf/EO-104.pdf
(https://nj.gov/infobank/eo/056murphy/pdf/EO-104.pdf)

3/16 School Closures:
https://nj.gov/governor/news/news/562020/approved/20200316f.shtml
(https://nj.gov/governor/news/news/562020/approved/20200316f.shtml)

3/21 Stay At Home Order, Non-Essential Retail Business Closures, Large Gatherings Ban: https://nj.gov/infobank/eo/056murphy/pdf/EO-107.pdf
(https://nj.gov/infobank/eo/056murphy/pdf/EO-107.pdf)

3/23 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54033
(https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54033)

4/8 Primary Election Postponement:
https://nj.gov/infobank/eo/056murphy/pdf/EO-120.pdf
(https://nj.gov/infobank/eo/056murphy/pdf/EO-120.pdf)

4/9 Premium Grace Period: https://nj.gov/infobank/eo/056murphy/pdf/EO-123.pdf
(https://nj.gov/infobank/eo/056murphy/pdf/EO-123.pdf)

4/16 Extension of School Closures:
https://twitter.com/NJGov/status/1250846648890245120
(https://twitter.com/NJGov/status/1250846648890245120)

5/2 Extension of School Closures:
https://nj.gov/governor/news/news/562020/approved/20200504a.shtml
(https://nj.gov/governor/news/news/562020/approved/20200504a.shtml)

Easing Social Distancing Requirements

5/13 Large Gatherings Ban (announced 5/13):
https://nj.gov/infobank/eo/056murphy/pdf/EO-142.pdf
(https://nj.gov/infobank/eo/056murphy/pdf/EO-142.pdf)

5/18 Non-Essential Business Closures (announced 5/13): https://nj.gov/infobank/eo/056murphy/pdf/EO-142.pdf (https://nj.gov/infobank/eo/056murphy/pdf/EO-142.pdf)

NEW MEXICO

3/11 Public Health Emergency, Cost-Sharing Waiver (Treatment): http://cv.nmhealth.org/wp-content/uploads/2020/03/Executive-Order-2020-004.pdf (http://cv.nmhealth.org/wp-content/uploads/2020/03/Executive-Order-2020-004.pdf)

3/13 Cost-Sharing Waiver (Treatment): https://nmhealth.org/publication/view/rules/5670/ (https://nmhealth.org/publication/view/rules/5670/)

3/13, 3/26 School Closures: https://www.governor.state.nm.us/wp-content/uploads/2020/03/MLG_EO_2020_012.pdf (https://www.governor.state.nm.us/wp-content/uploads/2020/03/MLG_EO_2020_012.pdf)

3/15, 4/6 Bar/Restaurant Limits: https://cv.nmhealth.org/wp-content/uploads/2020/04/040620-DOH-PHO.pdf (https://cv.nmhealth.org/wp-content/uploads/2020/04/040620-DOH-PHO.pdf)

3/16 Large Gatherings Ban: https://www.governor.state.nm.us/wp-content/uploads/2020/03/AMENDED-PUBLIC-HEALTH-ORDER.pdf (https://www.governor.state.nm.us/wp-content/uploads/2020/03/AMENDED-PUBLIC-HEALTH-ORDER.pdf)

3/23 Non-Essential Retail Business Closures: https://cv.nmhealth.org/wp-content/uploads/2020/03/COVID-19-DOH-Order-fv.pdf (https://cv.nmhealth.org/wp-content/uploads/2020/03/COVID-19-DOH-Order-fv.pdf)

3/23 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54032 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54032)

3/23 Stay at Home Order: https://cv.nmhealth.org/wp-content/uploads/2020/03/COVID-19-DOH-Order-fv.pdf (https://cv.nmhealth.org/wp-content/uploads/2020/03/COVID-19-DOH-Order-fv.pdf)

3/27 Mandatory Quarantine for Travelers: https://www.governor.state.nm.us/wp-content/uploads/2020/03/MLG_EO_2020_013.pdf (https://www.governor.state.nm.us/wp-content/uploads/2020/03/MLG_EO_2020_013.pdf)

4/6, 4/11, 5/1 Extension of All Orders Relating to COVID-19: https://cv.nmhealth.org/wp-content/uploads/2020/04/EO-2020-026-renewing-public-health-emergency-fv.pdf (https://cv.nmhealth.org/wp-content/uploads/2020/04/EO-2020-026-renewing-public-health-emergency-fv.pdf); https://cv.nmhealth.org/wp-content/uploads/2020/04/DOH-PHO-4-29-essential-businesses-mass-gatherings-fv.pdf (https://cv.nmhealth.org/wp-content/uploads/2020/04/DOH-PHO-4-29-essential-businesses-mass-gatherings-fv.pdf)

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5/15 Non-Essential Business Closures (announced 5/15): https://cv.nmhealth.org/wp-content/uploads/2020/05/5-15-2020-PHO.pdf (https://cv.nmhealth.org/wp-content/uploads/2020/05/5-15-2020-PHO.pdf)

NEW YORK

3/3, 3/13 Free Vaccine: https://www.dfs.ny.gov/industry_guidance/circular_letters/cl2020_03 (https://www.dfs.ny.gov/industry_guidance/circular_letters/cl2020_03); https://www.governor.ny.gov/news/governor-cuomo-announces-new-directive-requiring-new-york-insurers-waive-cost-sharing (https://www.governor.ny.gov/news/governor-cuomo-announces-new-directive-requiring-new-york-insurers-waive-cost-sharing); https://www.dfs.ny.gov/system/files/documents/2020/03/re62_57_text.pdf (https://www.dfs.ny.gov/system/files/documents/2020/03/re62_57_text.pdf); https://www.dfs.ny.gov/reports_and_publications/press_releases/pr202003131 (https://www.dfs.ny.gov/reports_and_publications/press_releases/pr202003131);

3/7 Emergency Declaration: https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/EO_202.pdf (https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/EO_202.pdf)

3/14 Bar/Restaurant Limits: https://www.governor.ny.gov/news/no-2023-continuing-temporary-suspension-and-modification-laws-relating-disaster-emergency (https://www.governor.ny.gov/news/no-2023-continuing-temporary-suspension-and-modification-laws-relating-disaster-emergency)

3/16, 5/4 Marketplace SEP: https://www.dfs.ny.gov/reports_and_publications/press_releases/pr202005041 (https://www.dfs.ny.gov/reports_and_publications/press_releases/pr202005041)

3/16, 3/27, 5/1, 5/7 School Closures: https://www.governor.ny.gov/news/no-20228-continuing-temporary-suspension-and-modification-laws-relating-disaster-emergency (https://www.governor.ny.gov/news/no-20228-continuing-temporary-suspension-and-modification-laws-relating-disaster-emergency)

3/17 Paid Sick Leave: https://www.governor.ny.gov/news/governor-cuomo-announces-three-way-agreement-legislature-paid-sick-leave-bill-provide-immediate (https://www.governor.ny.gov/news/governor-cuomo-announces-three-way-agreement-legislature-paid-sick-leave-bill-provide-immediate)

3/20, 3/27, 4/16 Stay At Home Order, Non-Essential Business Closures, Large Gatherings Ban: https://www.governor.ny.gov/news/governor-cuomo-signs-new-york-state-pause-executive-order (https://www.governor.ny.gov/news/governor-cuomo-signs-new-york-state-pause-executive-order); https://www.governor.ny.gov/news/no-20213-continuing-temporary-suspension-and-modification-laws-relating-disaster-emergency (https://www.governor.ny.gov/news/no-20213-continuing-temporary-suspension-and-modification-laws-relating-disaster-emergency); https://twitter.com/NYGovCuomo/status/1250817149041590277 (https://twitter.com/NYGovCuomo/status/1250817149041590277)

Paid Sick Leave: NC 34 Staff, Binghamton Homepage, Cuomo proposes paid sick leave for those in quarantine (https://www.binghamtonhomepage.com/local-news-2/cuomo-proposes-paid-sick-leave-for-those-in-quarantine/), March 2020.

3/26 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54067 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54067)

3/28 Primary Election Postponement: https://www.nytimes.com/2020/04/27/nyregion/coronavirus-new-york-update.html (https://www.nytimes.com/2020/04/27/nyregion/coronavirus-new-york-update.html)

4/2 Premium Grace Period: https://www.dfs.ny.gov/press_releases/pr202004023 (https://www.dfs.ny.gov/press_releases/pr202004023)

4/7, 4/16, 5/14 Extension of All Orders Relating to COVID-19:
https://www.governor.ny.gov/news/no-20231-continuing-temporary-suspension-and-modification-laws-relating-disaster-emergency
(https://www.governor.ny.gov/news/no-20231-continuing-temporary-suspension-and-modification-laws-relating-disaster-emergency)

Easing Social Distancing Requirements:

5/14 Non-Essential Business Closures (announced 5/14):
https://www.governor.ny.gov/news/no-20231-continuing-temporary-suspension-and-modification-laws-relating-disaster-emergency
(https://www.governor.ny.gov/news/no-20231-continuing-temporary-suspension-and-modification-laws-relating-disaster-emergency)

NORTH CAROLINA

3/10 Emergency Declaration: https://files.nc.gov/governor/documents/files/EO116-SOE-COVID-19.pdf (https://files.nc.gov/governor/documents/files/EO116-SOE-COVID-19.pdf)

3/14, 3/23, 3/27 Large Gatherings Ban, School Closures:
https://files.nc.gov/governor/documents/files/EO120.pdf
(https://files.nc.gov/governor/documents/files/EO120.pdf);
https://files.nc.gov/governor/documents/files/EO121-Stay-at-Home-Order-3.pdf
(https://files.nc.gov/governor/documents/files/EO121-Stay-at-Home-Order-3.pdf)

3/14 Bar/Restaurant Limits:
https://files.nc.gov/governor/documents/files/EO118.pdf
(https://files.nc.gov/governor/documents/files/EO118.pdf)

3/23 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54036
(https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54036)

3/27, 4/23 Stay At Home Order, Non-Essential Business Closures:
https://files.nc.gov/governor/documents/files/EO135-Extensions.pdf
(https://files.nc.gov/governor/documents/files/EO135-Extensions.pdf)

3/27 Premium Grace Period: https://files.nc.gov/doi/documents/legislative-services/20-b-06-covid-19-pandemic.pdf (https://files.nc.gov/doi/documents/legislative-services/20-b-06-covid-19-pandemic.pdf)

5/5 Extension of COVID-19 related orders, except for Non-Essential Business Closures: https://files.nc.gov/governor/documents/files/EO138-Phase-1.pdf (https://files.nc.gov/governor/documents/files/EO138-Phase-1.pdf)

Easing Social Distancing Requirements:

5/8 Non-Essential Business Closures (announced 5/5): https://files.nc.gov/governor/documents/files/EO138-Phase-1.pdf (https://files.nc.gov/governor/documents/files/EO138-Phase-1.pdf)

NORTH DAKOTA

3/13 Emergency Declaration: https://www.governor.nd.gov/sites/www/files/documents/EO%202020-03.pdf (https://www.governor.nd.gov/sites/www/files/documents/EO%202020-03.pdf)

3/15, 3/30 School Closures: https://www.governor.nd.gov/sites/www/files/documents/executive-orders/Executive%20Order%202020-10.1.pdf (https://www.governor.nd.gov/sites/www/files/documents/executive-orders/Executive%20Order%202020-10.1.pdf)

3/19, 4/1, 4/15 Bar/Restaurant Limits: https://www.governor.nd.gov/sites/www/files/documents/executive-orders/Executive%20Order%202020-06.3%20Extending%20Restrictions%20on%20Certain%20Types%20of%20Businesses%20During%20COVID-19%20Pandemic.pdf (https://www.governor.nd.gov/sites/www/files/documents/executive-orders/Executive%20Order%202020-06.3%20Extending%20Restrictions%20on%20Certain%20Types%20of%20Businesses%20During%20COVID-19%20Pandemic.pdf)

3/24 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54046 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54046)

3/28, 4/8 Mandatory Quarantine for Travelers:
https://www.health.nd.gov/sites/www/files/documents/Files/MSS/coronavirus/HCW/SHO-Order.pdf
(https://www.health.nd.gov/sites/www/files/documents/Files/MSS/coronavirus/HCW/SHO-Order.pdf)

4/2, 4/15 Non-Essential Business Closures:
https://www.governor.nd.gov/sites/www/files/documents/executive-orders/Executive%20Order%202020-06.3%20Extending%20Restrictions%20on%20Certain%20Types%20of%20Businesses%20During%20COVID-19%20Pandemic.pdf (https://www.governor.nd.gov/sites/www/files/documents/executive-orders/Executive%20Order%202020-06.3%20Extending%20Restrictions%20on%20Certain%20Types%20of%20Businesses%20During%20COVID-19%20Pandemic.pdf)

Easing Social Distancing Requirements

5/1 Non-Essential Business Closures and Restaurant Limits (announced 4/29):
https://www.governor.nd.gov/sites/www/files/documents/executive-orders/Executive%20Order%202020-06.4.pdf
(https://www.governor.nd.gov/sites/www/files/documents/executive-orders/Executive%20Order%202020-06.4.pdf)

5/15 Non-Essential Business Closures (announced 5/15):
https://www.governor.nd.gov/sites/www/files/documents/executive-orders/Executive%20Order%202020-06.6.pdf
(https://www.governor.nd.gov/sites/www/files/documents/executive-orders/Executive%20Order%202020-06.6.pdf)

OHIO

3/9 Emergency Declaration:
https://content.govdelivery.com/attachments/OHOOD/2020/03/09/file_attachments/1396202020-01D.pdf
(https://content.govdelivery.com/attachments/OHOOD/2020/03/09/file_attachments/1396418/Executive%202020-01D.pdf)

3/12, 3/30, 4/20 School Closures:
https://governor.ohio.gov/wps/portal/gov/governor/media/news-and-media/covid19-update-april-20-2020
(https://governor.ohio.gov/wps/portal/gov/governor/media/news-and-media/covid19-update-april-20-2020)

3/15, 4/2 Bar/Restaurant Limits:
https://content.govdelivery.com/attachments/OHOOD/2020/04/02/file_attachments/1418
20Amended%20Director%27s%20Stay%20At%20Home%20Order.pdf
(https://content.govdelivery.com/attachments/OHOOD/2020/04/02/file_attachments/1418062/Signed%20Amended%20Director%27s%20Stay%20At%20Home%20Order.pdf)

3/16 Primary Election Postponement:
https://coronavirus.ohio.gov/wps/wcm/connect/gov/c6a47eea-ce8a-4eff-bad3-d4141216bf9b/ODH+Director%27s+Order+Closure+of+the+Polling+Locations.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=ROOTWORKSPACE.Z18_M1HGGIK0N0JO00C
c6a47eea-ce8a-4eff-bad3-d4141216bf9b-n3ELaWW
(https://coronavirus.ohio.gov/wps/wcm/connect/gov/c6a47eea-ce8a-4eff-bad3-d4141216bf9b/ODH+Director%27s+Order+Closure+of+the+Polling+Locations.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=ROOTWORKSPACE.Z18_M1HGGIK0N0JO00QO9DDDDM3000-c6a47eea-ce8a-4eff-bad3-d4141216bf9b-n3ELaWW)

3/20 Premium Grace Period: https://iop-odi-content.s3.amazonaws.com/static/Legal/Bulletins/Documents/2020-03.pdf
(https://iop-odi-content.s3.amazonaws.com/static/Legal/Bulletins/Documents/2020-03.pdf)

3/22 Mandatory Quarantine for Travelers:
https://content.govdelivery.com/attachments/OHOOD/2020/04/02/file_attachments/1418
20Amended%20Director%27s%20Stay%20At%20Home%20Order.pdf
(https://content.govdelivery.com/attachments/OHOOD/2020/04/02/file_attachments/1418062/Signed%20Amended%20Director%27s%20Stay%20At%20Home%20Order.pdf)

3/22, 4/2 Stay At Home Order, Non-Essential Business Closures, Large Gatherings Ban:
https://content.govdelivery.com/attachments/OHOOD/2020/04/02/file_attachments/1418
20Amended%20Director%27s%20Stay%20At%20Home%20Order.pdf
(https://content.govdelivery.com/attachments/OHOOD/2020/04/02/file_attachments/1418062/Signed%20Amended%20Director%27s%20Stay%20At%20Home%20Order.pdf)

4/22 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/97856 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/97856)

Easing Social Distancing Requirements

5/1 Non-Essential Business Closures (announced 4/30): https://coronavirus.ohio.gov/static/publicorders/Directors-Stay-Safe-Ohio-Order.pdf (https://coronavirus.ohio.gov/static/publicorders/Directors-Stay-Safe-Ohio-Order.pdf)

5/15 Non-Essential Business Closures (announced 5/12): https://governor.ohio.gov/wps/portal/gov/governor/media/news-and-media/covid19-update-may-12-2020 (https://governor.ohio.gov/wps/portal/gov/governor/media/news-and-media/covid19-update-may-12-2020)

5/15 Restaurant Limits (announced 5/7): https://governor.ohio.gov/wps/portal/gov/governor/media/news-and-media/covid19-update-may-7-2020 (https://governor.ohio.gov/wps/portal/gov/governor/media/news-and-media/covid19-update-may-7-2020)

OKLAHOMA

3/15, 4/2, 5/1 Emergency Declaration: https://www.sos.ok.gov/documents/executive/1939.pdf (https://www.sos.ok.gov/documents/executive/1939.pdf)

3/16, 3/25 School Closures: https://sde.ok.gov/sites/default/files/documents/files/20200325124831229.pdf (https://sde.ok.gov/sites/default/files/documents/files/20200325124831229.pdf)

3/24, 4/1 Stay At Home Order, Non-Essential Business Closures, Large Gatherings Ban: https://www.sos.ok.gov/documents/executive/1926.pdf (https://www.sos.ok.gov/documents/executive/1926.pdf)

3/24 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54048 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54048)

3/29 Mandatory Quarantine for Travelers: https://www.sos.ok.gov/documents/executive/1924.pdf (https://www.sos.ok.gov/documents/executive/1924.pdf)

4/6 Waive Prior Auth, Early Rx Refill, Premium Grace Period: https://www.oid.ok.gov/lh-bulletin-no-2020-02-amended/ (https://www.oid.ok.gov/lh-bulletin-no-2020-02-amended/)

4/8, 4/16 Extension of All COVID-19 Related Orders: https://www.sos.ok.gov/documents/executive/1931.pdf (https://www.sos.ok.gov/documents/executive/1931.pdf)

Easing Social Distancing Requirements:

4/24 Non-Essential Business Closures, 5/1 Non-Essential Business Closures and Restaurant Limits (announced 4/22): https://www.okcommerce.gov/wp-content/uploads/Open-Up-and-Recover-Safely-Plan.pdf (https://www.okcommerce.gov/wp-content/uploads/Open-Up-and-Recover-Safely-Plan.pdf)

OREGON

3/5 Free Vaccine: https://www.oregon.gov/newsroom/Pages/NewsDetail.aspx?newsid=36097 (https://www.oregon.gov/newsroom/Pages/NewsDetail.aspx?newsid=36097); https://dfr.oregon.gov/insure/health/understand/Pages/coronavirus.aspx (https://dfr.oregon.gov/insure/health/understand/Pages/coronavirus.aspx)

3/8, 5/1 Emergency Declaration, Disaster Declaration: https://www.oregon.gov/gov/Documents/executive_orders/eo_20-24.pdf (https://www.oregon.gov/gov/Documents/executive_orders/eo_20-24.pdf)

3/16 Bar/Restaurant Limits: https://www.oregon.gov/gov/Documents/executive_orders/eo_20-07.pdf (https://www.oregon.gov/gov/Documents/executive_orders/eo_20-07.pdf); https://www.oregon.gov/gov/admin/Pages/eo_20-14.aspx (https://www.oregon.gov/gov/admin/Pages/eo_20-14.aspx)

3/17, 4/8, 4/23 School Closures:
https://www.oregon.gov/gov/Documents/executive_orders/eo_20-20.pdf (https://www.oregon.gov/gov/Documents/executive_orders/eo_20-20.pdf)

3/23 Stay At Home Order, Non-Essential Business Closure, Large Gatherings Ban:
https://govsite-assets.s3.amazonaws.com/jkAULYKcSh6DoDF8wBM0_EO%2020-12.pdf (https://govsite-assets.s3.amazonaws.com/jkAULYKcSh6DoDF8wBM0_EO%2020-12.pdf)

3/25 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54061 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54061)

3/25, 4/24, 5/6 Premium Grace Period:
https://dfr.oregon.gov/news/2020/Pages/20200325-grace-period-insurance-deadlines.aspx (https://dfr.oregon.gov/news/2020/Pages/20200325-grace-period-insurance-deadlines.aspx); https://dfr.oregon.gov/business/reg/Documents/Extension%20of%20DCBS%20Order.pdf (https://dfr.oregon.gov/business/reg/Documents/Extension%20of%20DCBS%20Order.pdf); https://www.oregon.gov/newsroom/Pages/NewsDetail.aspx?newsid=36497 (https://www.oregon.gov/newsroom/Pages/NewsDetail.aspx?newsid=36497); https://www.oregon.gov/newsroom/Pages/NewsDetail.aspx?newsid=36563 (https://www.oregon.gov/newsroom/Pages/NewsDetail.aspx?newsid=36563)

Easing Social Distancing Requirements:

5/15 Non-Essential Business Closures, Large Gatherings Ban, Restaurant Limits (announced 5/14):
https://www.oregon.gov/gov/Documents/executive_orders/eo_20-25.pdf (https://www.oregon.gov/gov/Documents/executive_orders/eo_20-25.pdf)

PENNSYLVANIA

3/6 Disaster Proclamation: https://www.scribd.com/document/450457202/2020-3-6-COVID19-Digital-Proclamation-pdf#from_embed (https://www.scribd.com/document/450457202/2020-3-6-COVID19-Digital-Proclamation-pdf#from_embed)

3/10 Waive Prior Auth: https://www.insurance.pa.gov/Regulations/Laws%20Regulations/Documents/COVID-19%20Bulletin%20Final_3.10.20.pdf (https://www.insurance.pa.gov/Regulations/Laws%20Regulations/Documents/COVID-19%20Bulletin%20Final_3.10.20.pdf)

3/13, 4/9 School Closures: https://www.education.pa.gov/Documents/K-12/Safe%20Schools/COVID/Act%2013%20Order.pdf (https://www.education.pa.gov/Documents/K-12/Safe%20Schools/COVID/Act%2013%20Order.pdf)

3/16 Bar/Restaurant Limits: https://www.governor.pa.gov/newsroom/wolf-administration-updates-businesses-on-guidance-for-covid-19-mitigation-efforts/ (https://www.governor.pa.gov/newsroom/wolf-administration-updates-businesses-on-guidance-for-covid-19-mitigation-efforts/)

3/19 Non-Essential Business Closures: https://www.governor.pa.gov/wp-content/uploads/2020/03/20200319-TWW-COVID-19-business-closure-order.pdf (https://www.governor.pa.gov/wp-content/uploads/2020/03/20200319-TWW-COVID-19-business-closure-order.pdf); https://www.governor.pa.gov/wp-content/uploads/2020/03/2020.3.20-TWW-amendment-to-COVID-19-business-closure-order.pdf (https://www.governor.pa.gov/wp-content/uploads/2020/03/2020.3.20-TWW-amendment-to-COVID-19-business-closure-order.pdf)

3/23, 3/24, 3/25, 3/27, 3/28, 3/30, 3/31, 4/1, 5/7 Stay At Home Order, Large Gatherings Ban: https://www.governor.pa.gov/wp-content/uploads/2020/05/20200507-TWW-Stay-at-Home-Order-Amendment.pdf (https://www.governor.pa.gov/wp-content/uploads/2020/05/20200507-TWW-Stay-at-Home-Order-Amendment.pdf)

3/27 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54073 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54073)

Easing Social Distancing Measures:

5/8, 5/15 Stay at Home Order, Non-Essential Business Closures, Large Gatherings Ban (announced 5/7): https://www.governor.pa.gov/wp-content/uploads/2020/05/20200507-TWW-Yellow-Phase-Order.pdf (https://www.governor.pa.gov/wp-content/uploads/2020/05/20200507-TWW-Yellow-Phase-Order.pdf); https://www.governor.pa.gov/wp-content/uploads/2020/05/20200514-

TWW-amendment-to-yellow-phase-order.pdf
(https://www.governor.pa.gov/newsroom/gov-wolf-announces-13-counties-will-move-to-yellow-phase-of-reopening-on-may-15/)

RHODE ISLAND

3/9, 4/8 Emergency Declaration:
http://www.governor.ri.gov/documents/orders/Executive-Order-20-18.pdf
(http://www.governor.ri.gov/documents/orders/Executive-Order-20-18.pdf)

3/13 Free Vaccine, Waive Prior Auth, Early Rx Refill:
http://www.ohic.ri.gov/documents/2020/March/Insurance%20Coverage%20Instructions%20During%20COVID-19%20State%20of%20Emergency%20FINAL.pdf (http://www.ohic.ri.gov/documents/2020/March/Insurance%20Coverage%20Instructions%20During%20COVID-19%20State%20of%20Emergency%20FINAL.pdf)

Marketplace SEP: https://healthsourceri.com/ (https://healthsourceri.com/)

3/16, 3/28, 4/10 Large Gatherings Ban, Bar/Restaurant Limits:
http://www.governor.ri.gov/documents/orders/Executive-Order-20-23.pdf
(http://www.governor.ri.gov/documents/orders/Executive-Order-20-23.pdf)

3/18, 3/30 School Closures: https://www.ri.gov/press/view/37961
(https://www.ri.gov/press/view/37961);
https://twitter.com/RIDeptEd/status/1244684069511876609
(https://twitter.com/RIDeptEd/status/1244684069511876609)

3/23 Primary Election Postponement:
http://www.governor.ri.gov/documents/orders/Executive-Order-20-11.pdf
(http://www.governor.ri.gov/documents/orders/Executive-Order-20-11.pdf)

3/25 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54053
(https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54053)

3/13, 3/26, 3/28, 4/10 Stay At Home Order:
http://www.governor.ri.gov/documents/orders/Executive-Order-20-12.pdf
(http://www.governor.ri.gov/documents/orders/Executive-Order-20-12.pdf);
http://www.governor.ri.gov/documents/orders/Executive-Order-20-13.pdf

(http://www.governor.ri.gov/documents/orders/Executive-Order-20-13.pdf);
http://www.governor.ri.gov/documents/orders/Executive-Order-20-23.pdf
(http://www.governor.ri.gov/documents/orders/Executive-Order-20-23.pdf)

3/28 Mandatory Quarantine for Travelers:
http://www.governor.ri.gov/documents/orders/Executive-Order-20-13.pdf
(http://www.governor.ri.gov/documents/orders/Executive-Order-20-13.pdf)

4/27: Waive Prior Auth:
http://www.ohic.ri.gov/documents/2020/April/COVID/April%2027/OHIC%20Bulletin%202020-03-dtd%2004272020%20-Temporary%20Emergency%20Measures%20Re%20BDR%20and%20NPs.pdf
(http://www.ohic.ri.gov/documents/2020/April/COVID/April%2027/OHIC%20Bulletin%202020-03-dtd%2004272020%20-Temporary%20Emergency%20Measures%20Re%20BDR%20and%20NPs.pdf)

5/7, 5/15 Extension of COVID-19 Related Orders:
https://governor.ri.gov/documents/orders/Executive-Order-20-34.pdf
(https://governor.ri.gov/documents/orders/Executive-Order-20-34.pdf)

SOUTH CAROLINA

3/13 Emergency Declaration:
https://governor.sc.gov/sites/default/files/Documents/Executive-Budget/2020-04-27%20eFILED%20Executive%20Order%20No.%202020-29%20-%20State%20of%20Emergency%20Due%20to%20COVID-19%20Pandemic%20Response%20%26%20Other%20Measures.pdf (https://governor.sc.gov/sites/default/files/Documents/Executive-Budget/2020-04-27%20eFILED%20Executive%20Order%20No.%202020-29%20-%20State%20of%20Emergency%20Due%20to%20COVID-19%20Pandemic%20Response%20%26%20Other%20Measures.pdf)

3/15, 3/24, 4/12, 4/22 School Closures:
https://governor.sc.gov/sites/default/files/Documents/Executive-Budget/2020-04-27%20eFILED%20Executive%20Order%20No.%202020-29%20-%20State%20of%20Emergency%20Due%20to%20COVID-19%20Pandemic%20Response%20%26%20Other%20Measures.pdf (https://governor.sc.gov/sites/default/files/Documents/Executive-Budget/2020-04-27%20eFILED%20Executive%20Order%20No.%202020-29%20-%20State%20of%20Emergency%20Due%20to%20COVID-19%20Pandemic%20Response%20%26%20Other%20Measures.pdf)

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https://governor.sc.gov/sites/default/files/Documents/Executive-Orders/2020-03-27%20FILED%20Executive%20Order%20No.%202020-14%20-%20Self-Quarantine%20for%20Individuals%20from%20High-Risk%20Areas.pdf
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https://governor.sc.gov/sites/default/files/Documents/Executive-Orders/2020-04-06%20eFILED%20Executive%20Order%20No.%202020-21%20-%20Stay%20at%20Home%20or%20Work%20Order.pdf
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4/6 Stay At Home Order:
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Easing Social Distancing Measures:

4/20 Non-Essential Business Closures (announced 4/20):
https://governor.sc.gov/sites/default/files/Documents/Executive-Orders/2020-04-20%20eFILED%20Executive%20Order%20No.%202020-28%20-%20Modification%

20of%20Restrictions%20for%20Public%20Beaches%20%26%20Waters%20%26%20Incremental%20Modification%20of%20Non-Essential%20Business%20Closures.pdf (https://governor.sc.gov/sites/default/files/Documents/Executive-Orders/2020-04-20%20eFILED%20Executive%20Order%20No.%202020-28%20-%20Modification%20of%20Restrictions%20for%20Public%20Beaches%20%26%20Waters%20%26%20Incremental%20Modification%20of%20Non-Essential%20Business%20Closures.pdf)

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5/11 Restaurant Limits (announced 5/8): https://governor.sc.gov/sites/default/files/Documents/Executive-Orders/2020-05-08%20eFILED%20Executive%20Order%20No.%202020-34%20-%20Authorization%20of%20Limited%20Indoor%20Dining%20Services%20%26%20Rescission%20of%20Boating%20Restrictions.pdf (https://governor.sc.gov/sites/default/files/Documents/Executive-Orders/2020-05-08%20eFILED%20Executive%20Order%20No.%202020-34%20-%20Authorization%20of%20Limited%20Indoor%20Dining%20Services%20%26%20Rescission%20of%20Boating%20Restrictions.pdf)

SOUTH DAKOTA

3/13 Emergency Declaration: https://sdsos.gov/general-information/executive-actions/executive-orders/assets/2020-15.PDF (https://sdsos.gov/general-information/executive-actions/executive-orders/assets/2020-15.PDF)

3/13, 3/24, 4/6 School Closures: https://twitter.com/sddoe/status/1247242924938735623 (https://twitter.com/sddoe/status/1247242924938735623)

3/23, 4/6 Large Gatherings Ban:

https://sdsos.gov/general-information/executive-actions/executive-orders/assets/2020-12.PDF (https://sdsos.gov/general-information/executive-actions/executive-orders/assets/2020-12.PDF)

3/24 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54047 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54047)

Easing Social Distancing Requirements:

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https://sdsos.gov/general-information/executive-actions/executive-orders/assets/2020-20.PDF (https://sdsos.gov/general-information/executive-actions/executive-orders/assets/2020-20.PDF)

TENNESSEE

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https://publications.tnsosfiles.com/pub/execorders/exec-orders-lee34.pdf (https://publications.tnsosfiles.com/pub/execorders/exec-orders-lee34.pdf)

3/16, 3/24, 4/15 School Closures: https://www.tn.gov/governor/covid-19/covid-19-daily-bulletin/2020/4/15/covid-19-bulletin–9—april-15–2020.html (https://www.tn.gov/governor/covid-19/covid-19-daily-bulletin/2020/4/15/covid-19-bulletin--9---april-15--2020.html)

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https://publications.tnsosfiles.com/pub/execorders/exec-orders-lee27.pdf (https://publications.tnsosfiles.com/pub/execorders/exec-orders-lee27.pdf)

3/30, 4/13 Stay At Home Order/Non-Essential Business Closures:

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Easing Social Distancing Requirements:

4/29 Stay At Home Order,Non-Essential Business Closures, Bar/Restaurant Limits (announced 4/28):

https://publications.tnsosfiles.com/pub/execorders/exec-orders-lee33.pdf (https://publications.tnsosfiles.com/pub/execorders/exec-orders-lee33.pdf)

https://publications.tnsosfiles.com/pub/execorders/exec-orders-lee35.pdf (https://publications.tnsosfiles.com/pub/execorders/exec-orders-lee35.pdf)

TEXAS

3/13, 4/12, 5/12 Emergency Declaration:
https://gov.texas.gov/uploads/files/press/DISASTER_renewing_covid19_disaster_proclama (https://gov.texas.gov/uploads/files/press/DISASTER_renewing_covid19_disaster_proclamation_No_2.pdf)

3/19, 3/31 Large Gatherings Ban, Bar/Restaurant Limits:
https://gov.texas.gov/news/post/governor-abbott-issues-executive-order-implements-statewide-essential-services-and-activities-protocols (https://gov.texas.gov/news/post/governor-abbott-issues-executive-order-implements-statewide-essential-services-and-activities-protocols)

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https://gov.texas.gov/uploads/files/press/EO-GA-16_Opening_Texas_COVID-19_FINAL_04-17-2020.pdf (https://gov.texas.gov/uploads/files/press/EO-GA-16_Opening_Texas_COVID-19_FINAL_04-17-2020.pdf)

3/26, 3/30, 4/27 Mandatory Quarantine for Travelers:

https://gov.texas.gov/uploads/files/press/EO-GA-20_expanding_travel_without_restrictions_COVID-19.pdf (https://gov.texas.gov/uploads/files/press/EO-GA-20_expanding_travel_without_restrictions_COVID-19.pdf)

3/30 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/88806 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/88806)

3/31 Stay At Home Order:

https://gov.texas.gov/uploads/files/press/EO-GA-14_Statewide_Essential_Service_and_Activity_COVID-19_IMAGE_03-31-2020.pdf (https://gov.texas.gov/uploads/files/press/EO-GA-14_Statewide_Essential_Service_and_Activity_COVID-19_IMAGE_03-31-2020.pdf)

Easing Social Distancing Requirements:

5/1 Bar/Restaurant Limits (announced 4/27)

https://gov.texas.gov/uploads/files/press/EO-GA-18_expanded_reopening_of_services_COVID-19.pdf (https://gov.texas.gov/uploads/files/press/EO-GA-18_expanded_reopening_of_services_COVID-19.pdf)

UTAH

3/6 Emergency Declaration: https://coronavirus.utah.gov/governor-issues-executive-order-declaring-a-state-of-emergency-in-preparation-for-cases-of-novel-coronavirus-in-utah/ (https://coronavirus.utah.gov/governor-issues-executive-order-declaring-a-state-of-emergency-in-preparation-for-cases-of-novel-coronavirus-in-utah/)

Paid Sick Leave: Utah House, House Bill 69 (https://le.utah.gov/~2020/bills/static/HB0069.html), March 2020.

3/13, 3/24, 4/14 School Closures: https://twitter.com/GovHerbert/status/1250147935880220673 (https://twitter.com/GovHerbert/status/1250147935880220673)

3/18, 4/1 Large Gatherings Ban:

https://drive.google.com/file/d/1PH2tbSfCvKjtw7LG1PgqhPclCaqiu-q6/view (https://drive.google.com/file/d/1PH2tbSfCvKjtw7LG1PgqhPclCaqiu-q6/view)

3/18, 4/1, 4/14 Bar/Restaurant Limits:

https://twitter.com/GovHerbert/status/1250146981252485121 (https://twitter.com/GovHerbert/status/1250146981252485121)

3/27 Stay At Home Order

https://drive.google.com/file/d/1Qey2xIxAEqIxiiAHJyHSxBosmjetkbN7/view
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4/10 Mandatory Quarantine for Travelers:

https://drive.google.com/file/d/1Ypzr9sM2b0XAqKYhR37aUkZMlmM-_5av/view
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Easing Social Distancing Requirements:

5/1 Stay At Home Order(announced 4/29)

https://drive.google.com/file/d/1xcR8cszh7ATSZY2Y2NeCkzo5mV4gD3qj/view
(https://drive.google.com/file/d/1xcR8cszh7ATSZY2Y2NeCkzo5mV4gD3qj/view)

5/1 Mandatory Quarantine for Travelers, Bar/Restaurant Limits, Large Gatherings Ban(announced 4/29)

https://drive.google.com/file/d/1b4POY_tFcqQiy209qDOc_GXp_mqG9BnJ/view
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5/1, 5/16 Large Gatherings Ban(announced 5/16)

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(https://coronavirus-download.utah.gov/Health/Phased_Health_Guidelines_V4.4.3_05152020.pdf)

VERMONT

3/13, 4/10, 5/15 Emergency Declaration:
https://governor.vermont.gov/sites/scott/files/documents/ADDENDUM%2014%20TO%20EXECUTIVE%20ORDER%2001-20.pdf
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3/15, 3/26 School Closures: https://governor.vermont.gov/press-release/governor-phil-scott-dismisses-schools-person-instruction-remainder-2019-2020-school (https://governor.vermont.gov/press-release/governor-phil-scott-dismisses-schools-person-instruction-remainder-2019-2020-school)

3/16, 5/15 Bar/Restaurant Limits: https://governor.vermont.gov/sites/scott/files/documents/ADDENDUM%2014%20TO%20EXECUTIVE%20ORDER%2001-20.pdf (https://governor.vermont.gov/sites/scott/files/documents/ADDENDUM%2014%20TO%20EXECUTIVE%20ORDER%2001-20.pdf)

3/20 Marketplace SEP: https://dvha.vermont.gov/covid-19 (https://dvha.vermont.gov/covid-19)

3/24,4/10, 5/7, 5/15 Stay At Home Order/Non-Essential Business Closures/Large Gatherings Ban:

https://governor.vermont.gov/sites/scott/files/documents/ADDENDUM%2014%20TO%20EXECUTIVE%20ORDER%2001-20.pdf (https://governor.vermont.gov/sites/scott/files/documents/ADDENDUM%2014%20TO%20EXECUTIVE%20ORDER%2001-20.pdf)

3/30 Mandatory Quarantine for Travelers: https://governor.vermont.gov/sites/scott/files/documents/ADDENDUM%207%20TO%20EXECUTIVE%20ORDER%2001-20.pdf (https://governor.vermont.gov/sites/scott/files/documents/ADDENDUM%207%20TO%20EXECUTIVE%20ORDER%2001-20.pdf)

3/30 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/88796 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/88796)

Easing Social Distancing Requirements:

4/20 Non-Essential Business Closures(announced 4/17)

https://governor.vermont.gov/press-release/governor-phil-scott-announces-additional-economic-re-opening-steps (https://governor.vermont.gov/press-release/governor-phil-scott-announces-additional-economic-re-opening-steps)

VIRGINIA

3/12 Emergency Declaration:
https://www.governor.virginia.gov/media/governorvirginiagov/governor-of-virginia/pdf/eo/EO-51-Declaration-of-a-State-of-Emergency-Due-to-Novel-Coronavirus-(COVID-19).pdf
(https://www.governor.virginia.gov/media/governorvirginiagov/governor-of-virginia/pdf/eo/EO-51-Declaration-of-a-State-of-Emergency-Due-to-Novel-Coronavirus-(COVID-19).pdf)

3/13, 3/23, 3/30 School Closures;

https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-55-Temporary-Stay-at-Home-Order-Due-to-Novel-Coronavirus-(COVID-19) (https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-55-Temporary-Stay-at-Home-Order-Due-to-Novel-Coronavirus-(COVID-19)).pdf

3/23, 4/15 Non-Essential Business Closures, Large Gatherings Ban, Bar/Restaurant Limits: https://www.governor.virginia.gov/newsroom/all-releases/2020/april/headline-856145-en.html
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3/23 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54035
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3/30 Stay At Home Order:
https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-55-Temporary-Stay-at-Home-Order-Due-to-Novel-Coronavirus-(COVID-19).pdf (https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-55-Temporary-Stay-at-Home-Order-Due-to-Novel-Coronavirus-(COVID-19).pdf)

4/13 Primary Election Postponement (local):

https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-56-Postponing-June-9,-2020-Primary-Election-to-June-23,-2020-Due-to-Novel-Coronavirus-(COVID-19).pdf
(https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-56-Postponing-June-9,-2020-Primary-Election-to-June-23,-2020-Due-to-Novel-Coronavirus-(COVID-19).pdf)

Easing Social Distancing Requirements:

5/15 Non-Essential Business Closures, Bar/Restaurant Limits (announced 5/8)

https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-61-and-Order-of-Public-Health-Emergency-Three—Phase-One-Easing-Of-Certain-Temporary-Restrictions-Due-To-Novel-Coronavirus-(COVID-19).pdf (https://www.governor.virginia.gov/media/governorvirginiagov/executive-actions/EO-61-and-Order-of-Public-Health-Emergency-Three---Phase-One-Easing-Of-Certain-Temporary-Restrictions-Due-To-Novel-Coronavirus-(COVID-19).pdf)

WASHINGTON

2/29 Emergency Declaration: https://www.governor.wa.gov/sites/default/files/20-05%20Coronavirus%20%28final%29.pdf?utm_medium=email&utm_source=govdelivery (https://www.governor.wa.gov/sites/default/files/20-05%20Coronavirus%20%28final%29.pdf?utm_medium=email&utm_source=govdelivery)

3/5, 5/1 Early Rx Refill, Waive Prior Auth: https://www.insurance.wa.gov/sites/default/files/documents/emergency-order-number-20-01.pdf (https://www.insurance.wa.gov/sites/default/files/documents/emergency-order-number-20-01.pdf) ; https://www.governor.wa.gov/sites/default/files/proclamations/20-06%20Coronavirus%20%28tmp%29.pdf?utm_medium=email&utm_source=govdelivery (https://www.governor.wa.gov/sites/default/files/proclamations/20-06%20Coronavirus%20%28tmp%29.pdf?utm_medium=email&utm_source=govdelivery); https://www.insurance.wa.gov/news/kreidler-extends-emergency-order-30-days-waiving-deductibles-and-copays-coronavirus-testing (https://www.insurance.wa.gov/news/kreidler-extends-emergency-order-30-days-waiving-deductibles-and-copays-coronavirus-testing)

3/10, 4/1 Marketplace SEP: https://www.wahbexchange.org/washington-healthplanfinder-extends-current-special-enrollment-period-gives-extra-month-for-uninsured-to-secure-health-coverage/ (https://www.wahbexchange.org/washington-healthplanfinder-extends-current-special-enrollment-period-gives-extra-month-for-uninsured-to-secure-health-coverage/)

3/15 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54022 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54022)

3/13, 4/6 School Closures: https://www.governor.wa.gov/sites/default/files/20-09.1%20-%20COVID-19%20School%20Closure%20Extension.pdf?utm_medium=email&utm_source=govdelivery (https://www.governor.wa.gov/sites/default/files/20-09.1%20-%20COVID-19%20School%20Closure%20Extension.pdf?utm_medium=email&utm_source=govdelivery)

3/16, 3/23 Large Gatherings Ban: https://www.governor.wa.gov/sites/default/files/proclamations/20-25%20Coronovirus%20Stay%20Safe-Stay%20Healthy%20%28tmp%29%20%28002%29.pdf (https://www.governor.wa.gov/sites/default/files/proclamations/20-25%20Coronovirus%20Stay%20Safe-Stay%20Healthy%20%28tmp%29%20%28002%29.pdf)

3/15 Bar/Restaurant Limits: https://www.governor.wa.gov/news-media/inslee-statement-statewide-shutdown-restaurants-bars-and-limits-size-gatherings-expanded (https://www.governor.wa.gov/news-media/inslee-statement-statewide-shutdown-restaurants-bars-and-limits-size-gatherings-expanded)

3/23,4/2, 5/4 Stay At Home Order/Non-Essential Business Closures:

https://www.governor.wa.gov/sites/default/files/20-25.3%20-%20COVID-19%20Stay%20Home%20Stay%20Healthy%20-%20Reopening%20%28tmp%29.pdf (https://www.governor.wa.gov/sites/default/files/20-25.3%20-%20COVID-19%20Stay%20Home%20Stay%20Healthy%20-%20Reopening%20%28tmp%29.pdf)

3/24 Premium Grace Period: https://www.insurance.wa.gov/sites/default/files/documents/emergency-order-20-02_3.pdf (https://www.insurance.wa.gov/sites/default/files/documents/emergency-order-20-02_3.pdf)

Easing Social Distancing Requirements:

5/11 Bar/Restaurant Limits (announced 5/11) https://www.governor.wa.gov/news-media/inslee-issues-guidance-partially-resuming-dine-restaurant-and-tavern-industry-phase-2 (https://www.governor.wa.gov/news-media/inslee-issues-guidance-partially-resuming-dine-restaurant-and-tavern-industry-phase-2)

WEST VIRGINIA

3/4 Preparedness Proclamation:
https://governor.wv.gov/Documents/SKM_C45820030417010.pdf
(https://governor.wv.gov/Documents/SKM_C45820030417010.pdf)

3/13 Early Rx Refill: https://www.wvinsurance.gov/Portals/0/pdf/20-05_Prescription_Refill_Bulletin.pdf?ver=2020-03-14-144759-5
(https://www.wvinsurance.gov/Portals/0/pdf/20-05_Prescription_Refill_Bulletin.pdf?ver=2020-03-14-144759-5);
https://www.wvinsurance.gov/Portals/0/pdf/WestVirginiaInsuranceBulletinNo.2020-01.pdf?ver=2020-03-09-163536-04390
(https://www.wvinsurance.gov/Portals/0/pdf/WestVirginiaInsuranceBulletinNo.2020-01.pdf?ver=2020-03-09-163536-04390)

3/13, 3/25, 4/21 School Closures: https://governor.wv.gov/News/press-releases/2020/Pages/COVID-19-UPDATE-Gov.-Justice-announces-West-Virginia-schools-to-remain-closed-for-rest-of-academic-year.aspx
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3/17, 3/23 Bar/Restaurant Limits:
https://www.wvinsurance.gov/Portals/0/pdf/pressrelease/WVStayHomeOrder.pdf?ver=2020-03-23-152606-773
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3/18, 3/26 Premium Grace Period:
https://www.wvinsurance.gov/Portals/0/pdf/pressrelease/20-07%20COVID-19%20Regulatory%20Guidance.pdf?ver=2020-03-26-195235-360
(https://www.wvinsurance.gov/Portals/0/pdf/pressrelease/20-07%20COVID-19%20Regulatory%20Guidance.pdf?ver=2020-03-26-195235-360);

https://www.wvinsurance.gov/Portals/0/pdf/20-EO-02_Emergency_Order.pdf?ver=2020-03-19-084523-047 (https://www.wvinsurance.gov/Portals/0/pdf/20-EO-02_Emergency_Order.pdf?ver=2020-03-19-084523-047)

3/23 Stay At Home Order/Non-Essential Business Closures:

https://www.wvinsurance.gov/Portals/0/pdf/pressrelease/WVStayHomeOrder.pdf?ver=2020-03-23-152606-773
(https://www.wvinsurance.gov/Portals/0/pdf/pressrelease/WVStayHomeOrder.pdf?ver=2020-03-23-152606-773)

3/30 Mandatory Quarantine for Travelers:

https://governor.wv.gov/Documents/SGovernor%27s20033014470.pdf (https://governor.wv.gov/Documents/SGovernor%27s20033014470.pdf)

3/30 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/88791 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/88791)

4/1 Primary Election Postponement:

https://governor.wv.gov/Documents/2020%20Proclamations/EO%2018-20.pdf (https://governor.wv.gov/Documents/2020%20Proclamations/EO%2018-20.pdf)

4/4 Large Gatherings Ban:

https://governor.wv.gov/Documents/2020%20Executive%20Orders/SKM_C335120040508170.pdf (https://governor.wv.gov/Documents/2020%20Executive%20Orders/SKM_C335120040508170.pdf)

Easing Social Distancing Requirements:

5/4 Stay At Home Order, Non-Essential Business Closures, Bar/Restaurant Limits, Large Gatherings Ban (announced 4/30)

https://governor.wv.gov/Documents/2020%20Executive%20Orders/Executive-Order-April-30-2020-Safer-At-Home-Order.pdf (https://governor.wv.gov/Documents/2020%20Executive%20Orders/Executive-Order-April-30-2020-Safer-At-Home-Order.pdf)

5/4,5/11 Non-Essential Business Closures(announced 5/4)

https://www.governor.wa.gov/news-media/inslee-releases-additional-safe-start-phase-1-guidance (https://www.governor.wa.gov/news-media/inslee-releases-additional-safe-start-phase-1-guidance)

WISCONSIN

3/12 Public Health Emergency: https://evers.wi.gov/Documents/EO/EO072-DeclaringHealthEmergencyCOVID-19.pdf (https://evers.wi.gov/Documents/EO/EO072-DeclaringHealthEmergencyCOVID-19.pdf)

3/16, 3/17, 3/20, 3/24, 4/6, 4/16 Large Gatherings Ban, Bar/Restaurant Limits: https://content.govdelivery.com/attachments/WIGOV/2020/04/16/file_attachments/1428995/EMO28-SaferAtHome.pdf (https://content.govdelivery.com/attachments/WIGOV/2020/04/16/file_attachments/1428995/EMO28-SaferAtHome.pdf):

3/18, 3/20, 4/16 School Closures:

https://content.govdelivery.com/attachments/WIGOV/2020/04/16/file_attachments/1428995/EMO28-SaferAtHome.pdf (https://content.govdelivery.com/attachments/WIGOV/2020/04/16/file_attachments/1428995/EMO28-SaferAtHome.pdf)

3/24, 4/16 Stay At Home Order/Non-Essential Business Closures:

https://evers.wi.gov/Documents/COVID19/EMO28-SaferAtHome.pdf (https://evers.wi.gov/Documents/COVID19/EMO28-SaferAtHome.pdf)

4/20 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/97716 (https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/97716)

Easing Social Distancing Requirements:

4/24, 5/11, 5/13 Non-Essential Business Closures(announced 4/16)

https://content.govdelivery.com/accounts/WIGOV/bulletins/28b7302 (https://content.govdelivery.com/accounts/WIGOV/bulletins/28b7302)

5/13 Stay At Home Order, Large Gatherings Ban, Bar/Restaurant Limits (announced 5/13)

https://content.govdelivery.com/accounts/WIGOV/bulletins/28b7302 (https://content.govdelivery.com/accounts/WIGOV/bulletins/28b7302)

WYOMING

3/13 Emergency Declaration, Public Health Emergency:
https://drive.google.com/file/d/19mX3feCje2NKRrKi_GPiKvwcckGVoVBh/view
(https://drive.google.com/file/d/19mX3feCje2NKRrKi_GPiKvwcckGVoVBh/view)

3/19, 3/27, 4/3, 4/28, 5/13 School Closures, Bar/Restaurant Limits:
https://drive.google.com/file/d/1LOAj8puy0LomGsPLbAmBuGPQTJ90A51b/view
(https://drive.google.com/file/d/1LOAj8puy0LomGsPLbAmBuGPQTJ90A51b/view)

3/20, 3/27, 4/3, 4/28 Large Gatherings Ban:

https://drive.google.com/file/d/16zkDQRvs29kNpL2GFrDv_99XXBJHtAxC/view
(https://drive.google.com/file/d/16zkDQRvs29kNpL2GFrDv_99XXBJHtAxC/view)

3/27 Section 1135 Waiver: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54070
(https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54070)

4/3, 4/29 Mandatory Quarantine for Travelers:

https://drive.google.com/file/d/1kEoIo4yHtYRoZlCSH3HQ9FW1FcTZkyc5/view
(https://drive.google.com/file/d/1kEoIo4yHtYRoZlCSH3HQ9FW1FcTZkyc5/view)

Easing Social Distancing Requirements:

5/15 Large Gatherings Ban (announced 5/13)

https://drive.google.com/file/d/102e7cpEpUyMTQ6LJ4qTglczTzhDPTwgJ/view
(https://drive.google.com/file/d/102e7cpEpUyMTQ6LJ4qTglczTzhDPTwgJ/view)

5/15 Bar/Restaurant Limits (announced 5/13)

https://drive.google.com/file/d/1LOAj8puy0LomGsPLbAmBuGPQTJ90A51b/view
(https://drive.google.com/file/d/1LOAj8puy0LomGsPLbAmBuGPQTJ90A51b/view)

Endnotes

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Washington Offices and Barbara Jordan Conference Center: 1330 G Street, NW, Washington, DC 20005 | Phone 202-347-5270

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Patient Protection and Affordable Care Act (ACA): Resources for Frequently Asked Questions

Updated May 5, 2020

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R43215

CRS REPORT
Prepared for Members and
Committees of Congress

Summary

The Patient Protection and Affordable Care Act (ACA; P.L. 111-148, as amended) had numerous provisions affecting private health insurance and public health coverage programs. This report provides resources to help congressional staff respond to constituents' frequently asked questions (FAQs) about the ACA. It lists selected resources regarding consumers, employers, and other stakeholders, with a focus on federal sources. It also lists Congressional Research Service (CRS) reports that summarize the ACA's provisions.

The Coronavirus Disease 2019 (COVID-19) pandemic has raised questions among some constituents about how to obtain and use health coverage. The ACA had several provisions to expand health coverage for certain eligible individuals. For example, the ACA established exchanges (sometimes called marketplaces) to provide eligible individuals with access to private health plans; it provides many exchange enrollees with subsidies to help pay for premiums, cost-sharing, or both. In addition, under the ACA, some states have expanded Medicaid eligibility. This report begins with contacts for constituents' specific questions on obtaining and using health coverage (such as contact information for exchanges, state Medicaid agencies, organizations providing enrollment assistance, state insurance departments, and the U.S. Department of Labor's consumer hotline for questions on employer-based coverage). These contacts can help constituents determine their health coverage options. The report also provides contacts for questions about health issues, and sources for congressional staff to contact federal agencies with ACA questions.

The report then provides basic consumer sources, including a glossary of health coverage terms and sources for obtaining the law's full text. The next sections focus on private health insurance, exchanges, and employer-sponsored coverage. These are followed by information on public health care programs, such as Medicaid, the State Children's Health Insurance Program (CHIP), and Medicare. The report also provides sources on the ACA's provisions on specific populations: women's health care, Indian health care, veterans' and military health care, and the treatment of noncitizens under the ACA. These are followed by sources on behavioral health (mental health and substance use disorders); public health, workforce, and quality; and state innovation waivers. Finally, the report lists sources on taxes, congressional efforts to repeal or amend the ACA, ACA agency audits and investigations, cost estimates and spending, insurance coverage statistics, and legal and regulatory issues.

This list is not a comprehensive directory of all resources on the ACA but rather is intended to address some questions that may arise frequently.

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This list is not a comprehensive directory of all resources on the ACA but rather is intended to address some questions that may arise frequently.

Contacts for ACA Assistance

Help with Obtaining and Using Health Coverage

Contact Us (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/contact-us/

> HealthCare.gov is the official federal portal for ACA consumer information. It has questions and answers on options for obtaining coverage and other health insurance questions. The website offers a 24/7 consumer hotline, 1-800-318-2596 (TTY: 1-855-889-4325).[1] For translation assistance in other languages, constituents may call the HealthCare.gov hotline or visit the website at https://www.healthcare.gov/language-resource.

Find Local Help (U.S. Department of Health and Human Services, HealthCare.gov)
https://localhelp.healthcare.gov

> A directory of state and local organizations trained to provide enrollment assistance and help constituents understand their health coverage options. The directory also includes insurance agents and brokers.

Consumer Assistance Program (The Center for Consumer Information and Insurance Oversight)
https://www.cms.gov/CCIIO/Resources/Consumer-Assistance-Grants/

> A clickable map directory of consumer assistance programs and other state agencies that can answer constituent questions on ACA and health insurance, including options for obtaining coverage.

Contact Your State With Questions (Centers for Medicare & Medicaid Services)
https://www.medicaid.gov/about-us/contact-us/contact-your-state-questions/index.html

> A directory of state Medicaid contacts. Individuals can apply for Medicaid coverage any time of the year.

InsureKidsNow.gov (Centers for Medicare & Medicaid Services)
https://www.insurekidsnow.gov/

> Families interested in Medicaid or State Children's Health Insurance Program (CHIP) coverage may call 1-877-KIDS-NOW (1-877-543-7669).

Map of NAIC States & Jurisdictions (National Association of Insurance Commissioners)
http://www.naic.org/state_web_map.htm

[1] A teletypewriter (TTY) is a communication device used by persons who are deaf, hard-of-hearing, or have severe speech impairments, according to "TTY," *Glossary* (U.S. Department of Health and Human Services, HealthCare.gov), at https://www.healthcare.gov/glossary/tty/.

States are the primary regulators of health insurance. Constituents with health insurance questions and problems may contact state insurance departments for assistance. The map links to each insurance department's website.

Ask EBSA (U.S. Department of Labor, Employee Benefits Security Administration)
https://www.dol.gov/agencies/ebsa/about-ebsa/ask-a-question/ask-ebsa

Constituents with questions about job-based health coverage can speak with benefits advisors at 1-866-444-3272. Benefits advisors can also answer questions about COBRA continuation coverage, which "gives workers and their families who lose their health benefits the right to choose to continue group health benefits provided by their group health plan for limited periods of time under certain circumstances such as voluntary or involuntary job loss, reduction in the hours worked, transition between jobs, death, divorce, and other life events." See https://www.dol.gov/general/topic/health-plans/cobra.

State Health Insurance Assistance Programs (SHIPs) (Centers for Medicare & Medicaid Services)
https://www.medicare.gov/contacts/#resources/ships

SHIPs offer personalized health insurance counseling for Medicare beneficiaries

Health plan enrollees may contact insurers directly to verify enrollment or to ask about coverage of particular drugs, medical services, and health care providers. Enrollees can find their health plan's customer service phone number on their insurance card, on the insurer's website, or by calling the HealthCare.gov hotline, 1-800-318-2596 (TTY: 1-855-889-4325).

Help with Health and Health Care Questions

Federal Health Information Centers and Clearinghouses (U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion)
https://health.gov/our-work/health-literacy/resources/national-health-information-center/clearinghouses/topic

A directory of federal hotlines and information clearinghouses related to health and health care.

Health Info Lines (National Institutes of Health)
https://www.nih.gov/health-information/health-info-lines

A directory of hotlines for health information.

The resources above do not provide medical advice. Constituents should contact their own health care providers for medical advice.

Find Doctors and Medical Facilities (USA.gov)
https://www.usa.gov/doctors

A compilation of tools for finding providers (such as physicians) and health care facilities (such as hospitals). Some of the listed directories incorporate quality measures. Health plan enrollees should also check their health plan's website for a provider directory.

Help with Taxes

Telephone Assistance (Internal Revenue Service)
https://www.irs.gov/help/telephone-assistance

The IRS is implementing many of the ACA's tax provisions, including premium tax credits and employer shared responsibility penalties. The Internal Revenue Service (IRS) has a Healthcare Hotline for ACA questions (1-800-919-0452) and other telephone hotlines to answer questions from individuals and employers.

Assistance for Congressional Staff

Congressional Marketplace Hotline (U.S. Department of Health and Human Services, Centers for Medicare & Medicaid Services)

A dedicated hotline exclusively for Members of Congress and congressional staff with questions about ACA implementation and exchanges: 202-690-8004, MarketplaceHillQuestions@cms.hhs.gov.

CRS Report 98-446, *Congressional Liaison Offices of Selected Federal Agencies*

The CRS report lists congressional liaison offices at federal agencies, including those that work on ACA issues, such as the Department of Health and Human Services (HHS); HHS's Centers for Medicare & Medicaid Services, which administers the ACA's private health insurance, Medicare, and Medicaid provisions; the IRS, which administers the ACA's revenue (tax) provisions; the Department of Labor, which administers ACA provisions related to employer-sponsored coverage; and the Congressional Budget Office. Congressional liaison offices answer questions from Members of Congress and congressional staff; they usually do not assist constituents directly.

Assistant Secretary for Legislation (ASL) Offices (U.S. Department of Health and Human Services)
https://www.hhs.gov/about/agencies/asl/about-asl/asl-offices/index.html

Lists contact information and subject area portfolios for HHS congressional liaison staff.

CRS reports on ACA and other health policy issues are at CRS.gov: *Issue Area: Health Care*
http://www.crs.gov/iap/health-care

Click "All Subissues" for reports on "Health Care Reform," "Private Health Insurance," and "Medicaid & CHIP," among other health-related topics. Each report has author contact information. CRS authors are available to answer questions from Members of Congress and congressional staff. CRS provides research and analysis exclusively to Congress. CRS authors are unable to assist constituents directly.

Basic Consumer Sources

HealthCare.gov (U.S. Department of Health and Human Services)
http://www.healthcare.gov

The official federal portal for ACA consumer information. Click "Get Answers" for frequently asked questions and answers, including options for obtaining coverage. Click "See Topics": "Browse all topics" for sources tailored to specific populations, such as unemployed people, self-employed people, people under 30, people with disabilities, veterans, American Indians and Alaska Natives, immigrants, pregnant women, same-sex married couples, transgender people, retirees, and incarcerated people. *Marketplace coverage & Coronavirus* covers topics such as "If I lost my job or experienced a reduction in hours due to COVID-19" https://www.healthcare.gov/coronavirus/. A Spanish-language version of HealthCare.gov is at http://www.CuidadoDeSalud.gov.

Affordable Care Act Tax Provisions for Individuals and Families (Internal Revenue Service)
https://www.irs.gov/affordable-care-act/individuals-and-families

Explains ACA tax provisions for consumers, including provisions on premium tax credits. FAQs are at https://www.irs.gov/affordable-care-act/affordable-care-act-tax-provisions-questions-and-answers.

Glossary (U.S. Department of Health and Human Services, HealthCare.gov)
http://www.healthcare.gov/glossary/index.html

Plain-language definitions of health care and health insurance terms.

Roadmap to Better Care (Centers for Medicare & Medicaid Services)
https://www.cms.gov/About-CMS/Agency-Information/OMH/equity-initiatives/c2c/consumerresources/roadmap-to-better-care.html

Consumer booklets on how to read an insurance card, how to choose a provider, how to set up and prepare for a health care appointment, and more. Some resources have been translated to other languages.

CRS Report R45244, *Legislative Actions to Modify the Affordable Care Act in the 111th-115th Congresses*

Includes "A Brief Overview of the ACA."

Find Doctors and Medical Facilities (USA.gov)
https://www.usa.gov/doctors

A compilation of tools for finding providers (such as physicians) and health care facilities (such as hospitals). Some of the listed directories incorporate quality measures. Health plan enrollees should also check their health plan's website for a provider directory.

MedlinePlus (U.S. National Library of Medicine, National Institutes of Health)
https://medlineplus.gov/

Plain-language information on numerous health topics, drugs, and supplements. Some materials are in Spanish at https://medlineplus.gov/spanish/.

ACA Text

The following resources can help with constituent requests for the text of the ACA.

Compilation of the Patient Protection and Affordable Care Act (U.S. House of Representatives, Office of the Legislative Counsel)
https://www.govinfo.gov/app/collection/comps/

The ACA compilation is listed under "P" on this website. The House Office of the Legislative Counsel compiled the text of the ACA, consolidated with amendments made by subsequent laws. The compilation is unofficial. It is updated periodically.

P.L. 111-148*, Patient Protection and Affordable Care Act* (Government Publishing Office, March 23, 2010, 124 Stat. 119)
http://www.gpo.gov/fdsys/pkg/PLAW-111publ148/pdf/PLAW-111publ148.pdf

Unlike the unofficial compilation above, this is the official publication of the ACA as enacted on March 23, 2010. However, this does not reflect current law, as the ACA has since been amended by several subsequent laws, including P.L. 111-152, Health Care and Education

Reconciliation Act of 2010, http://www.gpo.gov/fdsys/pkg/PLAW-111publ152/pdf/PLAW-111publ152.pdf.

The Individual Mandate

See also "Tax Statistics"

CRS Report R44438, *The Individual Mandate for Health Insurance Coverage: In Brief*

Basic background and state-level statistics on the individual mandate, the requirement that most individuals have minimum essential health coverage or else pay a tax penalty. The report also discusses how the Tax Cuts and Jobs Act (P.L. 115-97) effectively eliminated the individual mandate penalty beginning in 2019.

The fee for not having health insurance (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/fees/

Details on the federal individual mandate penalty, which no longer applies beginning with plan year 2019. Although the federal penalty has been eliminated, some states have enacted their own individual mandate laws.

Private Health Insurance

See also "Exchanges" and "Employer-Sponsored Coverage."

Overviews

CRS Report R45146, *Federal Requirements on Private Health Insurance Plans*

Table 1 shows which federal requirements apply to which health plans, depending on whether they are sold in the large group, small group, or individual market; and whether plans are fully insured or self-insured. Table A-1 compares requirements pre-ACA and under current law.

CRS Report RL32237, *Health Insurance: A Primer*

A basic overview of health insurance: key definitions and principles, the regulation of health insurance, and sources of health insurance.

CRS Insight IN10969, *Consumer Protections in Private Health Insurance for Individuals with Preexisting Health Conditions*

A brief overview of preexisting condition protections, pre-ACA and under current law.

Health coverage rights and protections (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/health-care-law-protections/

Summarizes consumer protections under ACA, such as coverage for preexisting conditions, the requirement that insurers provide a plain-language Summary of Benefits and Coverage, and restrictions on lifetime and annual limits.

Fact Sheets and Frequently Asked Questions (FAQs) (The Center for Consumer Information and Insurance Oversight)
http://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/index.html

The federal Center for Consumer Information and Insurance Oversight is charged with implementing the ACA's private health insurance reforms. The page provides information for stakeholders, including state officials, health insurance companies, and consumers. Private health insurance resources include, for example, *Coronavirus Disease 2019 (COVID-19) Guidance*, https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/index#COVID-19 and *FAQs About Families First Coronavirus Response Act and Coronavirus Aid, Relief, and Economic Security Act Implementation* (April 11, 2020), https://www.cms.gov/files/document/FFCRA-Part-42-FAQs.pdf.

CRS In Focus IF11359, *Applicability of Federal Requirements to Selected Health Coverage Arrangements: An Overview*

In general, private health insurance plans must comply with certain federal health insurance requirements, including some requirements enacted by ACA as amended. However, some health coverage arrangements, including certain *exempted health coverage arrangements* and *noncompliant health coverage arrangements* (as termed for purposes of this report), do not comply with federal health insurance requirements. This report gives a brief overview of these arrangements. More details are in CRS Report R46003, *Applicability of Federal Requirements to Selected Health Coverage Arrangements*.

CRS In Focus IF11523, *Health Insurance Options Following Loss of Employment*

Two-page overview of potential health coverage options following job loss, including private health insurance options such as exchange coverage. Due to the COVID-19 pandemic's economic impact, many Americans may lose jobs through which they receive health insurance.

Dependent Coverage

Young Adults and the Affordable Care Act: Protecting Young Adults and Eliminating Burdens on Businesses and Families FAQs (Employee Benefits Security Administration) https://www.dol.gov/agencies/ebsa/about-ebsa/our-activities/resource-center/faqs/young-adult-and-aca

Questions and answers on the ACA's dependent coverage provision. Under the ACA, if a health plan provides for dependent coverage of children, the plan must make such coverage available for adult children under the age of 26.

Essential Health Benefits

CRS In Focus IF10287, *The Essential Health Benefits (EHB)*

Two-pager gives brief background and infographics on EHB.

CRS Report R44163, *The Patient Protection and Affordable Care Act's Essential Health Benefits (EHB)*

Describes EHB, interstate and intrastate variations in EHB coverage, the applicability of EHB requirements to health plans, and how other ACA provisions apply to EHB.

Information on Essential Health Benefits (EHB) Benchmark Plans (The Center for Consumer Information and Insurance Oversight) https://www.cms.gov/cciio/resources/data-resources/ehb.html

Describes current requirements and options for states to select their EHB benchmark plans; summarizes other requirements related to the EHB; and links to all states' benchmark plan

documents and lists of any additionally mandated benefits. The page includes "FAQs on Essential Health Benefits Coverage and the Coronavirus (COVID-19)."

Risk Mitigation

CRS In Focus IF10994, *Risk Adjustment in the Private Health Insurance Market*

Two-page overview of the concept of risk mitigation and the ACA's risk adjustment program.

CRS Report R45334, *The Patient Protection and Affordable Care Act's (ACA's) Risk Adjustment Program: Frequently Asked Questions*

Summarizes the concepts of risk and risk mitigation in health insurance. Describes the mechanics of the ACA's risk adjustment program and how the risk adjustment program works in practice.

CRS In Focus IF10707, *Reinsurance in Health Insurance*

Reinsurance is also known as insurance for insurers. Two-page overview of insurance risk, reinsurance funding and payment structures, federal reinsurance programs, and reinsurance funds' potential impact on premiums.

CRS Report R44690, *The Patient Protection and Affordable Care Act's (ACA's) Transitional Reinsurance Program*

The ACA's temporary (2014-2016) transitional reinsurance program was designed to pay individual market health plans that enrolled high-cost enrollees. This report also summarizes the ACA's other risk mitigation programs: the permanent risk adjustment program and the temporary (2014-2016) risk corridors program.

CRS Legal Sidebar LSB10360, *Using the Power of the Purse to Change Policy: SCOTUS Case on ACA Risk Corridors Asks Important Appropriations Law Question*

CRS analysis of the lawsuits consolidated under *Maine Community Health Options v. United States*, pertaining to ACA's risk corridor provision. The Supreme Court heard oral arguments on December 10, 2019 and issued a decision on April 27, 2020, https://www.supremecourt.gov/opinions/19pdf/18-1023_m64o.pdf.

Statistics

See also "Statistics on Insurance Coverage" and "Exchange Statistics"

Trends in Subsidized and Unsubsidized Enrollment (Centers for Medicare & Medicaid Services, August 12, 2019)
https://www.cms.gov/CCIIO/Resources/Forms-Reports-and-Other-Resources/Downloads/Trends-Subsidized-Unsubsidized-Enrollment-BY17-18.pdf

Includes state-level data on enrollment in the individual (nongroup) market. An earlier version of this report was *Trends in Subsidized and Unsubsidized Individual Health Insurance Market Enrollment* (Centers for Medicare & Medicaid Services, July 2, 2018), https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Marketplaces/Downloads/2018-07-02-Trends-Report-2.pdf.

CRS In Focus IF10558, *Coverage in the Private Health Insurance Market*

Brief descriptions of and summary statistics for private health insurance coverage: group (employer) insurance coverage and nongroup (individual) insurance coverage, including

statistics on ACA exchange coverage. It also lists selected data sources for private health insurance coverage estimates.

Private Health Insurance: Enrollment Remains Concentrated among Few Issuers, including in Exchanges (Government Accountability Office (GAO), March 21, 2019)
https://www.gao.gov/products/GAO-19-306

State-level data include Appendix V, Number and Market Share of Largest Issuers Participating in Each State's Overall Individual Market; Appendix VII, Number and Market Share of Largest Issuers Participating in Overall Small Group Health Insurance Market; and Appendix VIII, Number and Market Share of Largest Issuers Participating in Each State's Overall Large Group Health Insurance Market. The report also includes state-level data on exchanges.

Compilation of State Data on the Affordable Care Act (U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, December 2016)
https://aspe.hhs.gov/compilation-state-data-affordable-care-act

Excel spreadsheet of state data on the effects of selected ACA provisions, including several provisions related to private health insurance (employer coverage and individual market coverage).

The Center for Consumer Information & Insurance Oversight: Data Resources (Centers for Medicare & Medicaid Services)
https://www.cms.gov/CCIIO/Resources/Data-Resources/index.html

This collection of federal private health insurance data sources includes:

- *Rate Review Data*, https://www.cms.gov/CCIIO/Resources/Data-Resources/ratereview.html. ACA requires health insurance issuers to submit justifications of certain proposed premium increases. These data show proposed rate changes, justification documents, review status, and final rate changes.
- *Medical Loss Ratio Data and System Resources*, https://www.cms.gov/CCIIO/Resources/Data-Resources/mlr.html. ACA requires health insurance companies to disclose the percentage of premium revenues spent on medical claims ("medical loss ratio" or MLR). These data have MLR reports by state and company.

Exchanges

Getting Exchange Coverage

HealthCare.gov (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/

Under the ACA, exchanges (sometimes called marketplaces) have been established to provide eligible individuals with access to private health plans. The website has plain-language information about the exchanges.

- For a briefer overview, see "A quick guide to the Health Insurance Marketplace," https://www.healthcare.gov/quick-guide/.

- To find a specific state's exchange, use the pull-down menu at https://www.healthcare.gov/get-coverage/. Open Enrollment periods differ by state.

Getting health coverage outside Open Enrollment (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/coverage-outside-open-enrollment/

Describes how certain individuals could qualify for "special enrollment periods" outside of open enrollment periods. (Examples of qualifying events include losing other health coverage, a change in income, marriage, death, birth, adoption, experiencing spousal abandonment or domestic violence, and moving to a new county.) Open Enrollment periods differ by state. The Open Enrollment period for 2020 coverage was November 1, 2019 to December 15, 2019 in most states using HealthCare.gov as their exchange platform. Some states have opened special enrollment periods in response to the COVID-19 pandemic, allowing uninsured persons to enroll in exchange coverage.[2] *Marketplace coverage & Coronavirus* also describes special enrollment periods in "If I lost my job or experienced a reduction in hours due to COVID-19" https://www.healthcare.gov/coronavirus/. Individuals can apply for Medicaid or State Children's Health Insurance Program (CHIP) coverage any time.

See plans & prices (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/see-plans/

In states using HealthCare.gov as their exchange platform, this website lets consumers view plan information and premium estimates without opening a HealthCare.gov account.

How to pick a health insurance plan (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/choose-a-plan/

Tips and considerations for consumers choosing a health plan.

Health Insurance Marketplace (Centers for Medicare & Medicaid Services)
http://marketplace.cms.gov/

For professionals assisting consumers with enrollment, this site has technical assistance resources, applications and forms, and federal education and outreach materials. Some of the resources are available in Spanish and selected other languages.

Using Exchange Coverage

Using Your Health Insurance Coverage (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/using-marketplace-coverage/

Consumer tips for getting prescription drugs, finding a doctor, getting emergency care, and appealing insurance-company decisions.

[2] See "States open special enrollment periods to enroll uninsured," in Louise Norris, "State and federal efforts to improve access to COVID-19 testing, treatment," https://www.healthinsurance.org/obamacare/state-and-federal-efforts-to-improve-access-to-covid-19-testing-treatment/#sep.

What Marketplace Health Insurance Plans Cover (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/coverage/

Lists the "essential health benefits" that exchange plans are required to cover. Specific benefit details differ by state and by plan.

Your total costs for health care: Premium, deductible & out-of-pocket costs (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/choose-a-plan/your-total-costs/

Tips about out-of-pocket costs and deductibles that affect consumers' total spending on health care.

CRS Report R44065, *Overview of Health Insurance Exchanges*

Summarizes individual and Small Business Health Options Program (SHOP) exchanges. Discusses eligibility, enrollment, enrollment assistance, financial assistance, the plans offered through exchanges, and exchange funding.

Exchange Subsidies

CRS Report R44425, *Health Insurance Premium Tax Credits and Cost-Sharing Subsidies*

Describes premium tax credits: who is eligible to receive them, how amounts are calculated, and data on recipients and payments. The report also describes cost-sharing subsidies (also known as cost-sharing reductions or CSRs) and the termination of CSR payments starting October 2017.

Saving money on health insurance (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/lower-costs/

This screener helps consumers check if they may be eligible for health coverage subsidies, including premium tax credits and cost-sharing subsidies.

The Premium Tax Credit – The Basics (Internal Revenue Service)
https://www.irs.gov/affordable-care-act/individuals-and-families/the-premium-tax-credit-the-basics

Basic background on premium credits. FAQs are at *Questions and Answers on the Premium Tax Credit* https://www.irs.gov/affordable-care-act/individuals-and-families/questions-and-answers-on-the-premium-tax-credit.

Premium Tax Credit Change Estimator (Internal Revenue Service, Taxpayer Advocate Service)
http://www.taxpayeradvocate.irs.gov/estimator/premiumtaxcreditchange/

The tool can help individuals estimate how their premium tax credit could change if their income or family size changes during the year.

How to make updates when your income or household change (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/reporting-changes/

For persons with exchange coverage, this site provides instructions for reporting changes in income, health coverage eligibility (for example, an offer of job-based coverage), and household members (for example, marriage, birth, adoption). These changes could affect subsidy amounts and eligibility for coverage.

Exchange Statistics and Research

Statistics and research on health insurance exchanges are available from several governmental sources. Overviews of those sources are listed here, and specific reports are detailed in relevant sections below.

Most states use the federal HealthCare.gov platform to administer their exchanges; some states use their own state-based exchange platforms. Note that sources vary in whether they have data on all states or on a subset (e.g., only those states using the Healthcare.gov platform).

U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation (ASPE)

ACA-related research, including exchange statistics, as published under the current and previous administrations. Reports vary with respect to states covered. (For example, some ASPE reports have data only on states that use the Healthcare.gov platform.)

- *Health Coverage Research:* Reports published under the current administration (since January 20, 2017, https://aspe.hhs.gov/health-coverage-research
- *Historical Research:* Reports published before January 20, 2017, https://aspe.hhs.gov/historical-research

Centers for Medicare & Medicaid Services (CMS)

- *The Center for Consumer Information & Insurance Oversight: Data Resources* https://www.cms.gov/CCIIO/Resources/Data-Resources/index.html

  Includes several exchange data sources, such as:

  - *Health Insurance Exchange Public Use Files (Exchange PUFs)*, https://www.cms.gov/CCIIO/Resources/Data-Resources/marketplace-puf. Plan-level data on HealthCare.gov exchange plans, including data on benefits, cost-sharing, plan rates, plan attributes, service areas, and quality ratings.
  - *Health Insurance State-based Exchange Public Use Files*, https://www.cms.gov/CCIIO/Resources/Data-Resources/sbm-puf. For states that do not use HealthCare.gov as their exchange platform, plan-level data on exchange plans, including data on benefits, cost-sharing, plan rates, plan attributes, and service areas.

Government Accountability Office (GAO)

GAO's mission is "[w]e support Congress in meeting its constitutional responsibilities, and help improve the performance and ensure the accountability of the federal government. We provide Congress with timely information that is objective, fact-based, nonpartisan, nonideological, and balanced." GAO has published several analyses of the ACA exchanges, including analyses of data on premiums, market concentration, plan availability, and enrollee experiences. See the search of GAO's website for examples of exchange-related reports at https://go.usa.gov/xv82a.

Enrollment Statistics

This section lists CMS and ASPE reports and data files on exchange enrollment by plan year (which is generally the calendar year). Some resources also include data on premiums, advanced

premium tax credits (APTC), enrollees with cost-sharing reductions (CSR), or other topics. Unless otherwise noted, these resources focus on the individual (not small business) exchanges.

The resources below include both pre-effectuated and effectuated data on enrollment in coverage through the individual exchanges:

- *Pre-effectuated enrollment data* reflect individuals who have selected a plan, but might not necessarily have paid their first premium.
- *Effectuated enrollment data* reflect individuals who have selected a plan *and* have submitted the first premium payment for a plan.

When comparing exchange statistics from one year to another, it is generally best to compare estimates of the same type (e.g., only comparing pre-effectuated estimates to each other, or comparing one point-in-time effectuated enrollment estimate as of February to another year's point-in-time effectuated enrollment estimate as of February). Thus, enrollment data sources are grouped below by type. See Table 1 in CRS Report R44065, *Overview of Health Insurance Exchanges* for a high-level comparison of enrollment data by year. Some trend data are also in Additional Exchange Statistics.

Pre-effectuated Enrollment Data

Pre-effectuated enrollment data reflect individuals who have selected a plan, but might not necessarily have paid their first premium. For HealthCare.gov states,[3] pre-effectuated enrollment estimates were released weekly during the Open Enrollment Period through the CMS Newsroom.

CMS Newsroom: Enrollment Snapshots during Open Enrollment Period

- *Newsroom:* This search brings up Newsroom articles that have been assigned the topic heading "Affordable Care Act." During the Open Enrollment Period, CMS publishes weekly pre-effectuated enrollment snapshots for states using the HealthCare.gov platform at https://www.cms.gov/newsroom/search?search_api_language=en&sort_by=field_date&sort_order=DESC&items_per_page=10&f%5B0%5D=topic%3A111.

CMS also issues annual reports and spreadsheets that summarize pre-effectuated enrollment through an open enrollment period. They typically include national and state data on premiums, plan selections, APTC, enrollees with CSR, and enrollee demographics.[4] The annual reports are typically released in the spring after the open enrollment period. For Healthcare.gov states, selected county and zip code level data are available for plan years since 2015. **Table 1** provides links to fact sheets or issue briefs as well as public use data files.

[3] HealthCare.gov states are states that use the HealthCare.gov information technology platform for their exchanges. To determine whether a state currently uses HealthCare.gov or its own exchange platform, check CMS, HealthCare.gov, "Need health insurance?" https://www.healthcare.gov/get-coverage/. See also the Appendix to CRS Report R44065, *Overview of Health Insurance Exchanges*.

[4] States vary in which data are reported. For example, some data elements are reported only for HealthCare.gov states.

Table 1. Pre-effectuated Enrollment Data Sources

(include selected data on premiums, plan selections, APTC, enrollees with CSR, and enrollee demographics)

Plan Year	Sources	Date Released
2020	Fact sheet: *Health Insurance Exchanges 2020 Open Enrollment Report,* https://www.cms.gov/files/document/4120-health-insurance-exchanges-2020-open-enrollment-report-final.pdf Public use data files: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/2020-Marketplace-Open-Enrollment-Period-Public-Use-Files	April 2020
2019	Fact sheet: *Health Insurance Exchanges 2019 Open Enrollment Report,* https://www.cms.gov/newsroom/fact-sheets/health-insurance-exchanges-2019-open-enrollment-report Public use data files: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/2019_Open_Enrollment.html	March 2019
2018	Fact sheet: *Health Insurance Exchanges 2018 Open Enrollment Final Report,* https://www.cms.gov/newsroom/fact-sheets/health-insurance-exchanges-2018-open-enrollment-period-final-report Public use data files: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/2018_Open_Enrollment	April 2018
2017[a]	Fact sheet: *Health Insurance Marketplaces 2017 Open Enrollment Period Final Enrollment Report: November 1, 2016 – January 31, 2017*, https://www.cms.gov/newsroom/fact-sheets/health-insurance-marketplaces-2017-open-enrollment-period-final-enrollment-report-november-1-2016 Public use data files: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/2019_Open_Enrollment	March 2017
2016[b]	Issue brief, addendum, and state level tables: *Health Insurance Marketplaces 2016 Open Enrollment Period: Final Enrollment Report*, https://aspe.hhs.gov/health-insurance-marketplaces-2016-open-enrollment-period-final-enrollment-report Public use data files: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/2016_Open_Enrollment	March 2016
2015	Issue brief: *Health Insurance Marketplaces 2015 Open Enrollment Period: March Enrollment Report*, https://aspe.hhs.gov/system/files/pdf/83656/ib_2015mar_enrollment.pdf Public use files: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/2015_Open_Enrollment	March 2015
2014[c]	Summary report: *Health Insurance Marketplace: Summary Enrollment Report for the Initial Annual Open Enrollment Period*, https://aspe.hhs.gov/pdf-report/health-insurance-marketplace-summary-enrollment-report-initial-annual-open-enrollment-period Addendum with detailed state and demographic data: https://aspe.hhs.gov/pdf-report/addendum-health-insurance-marketplace-summary-enrollment-report State profiles: https://aspe.hhs.gov/profiles-affordable-care-act-coverage-expansion-enrollment-medicaid-chip-and-health-insurance-marketplace-10-1-2013-3-31-2014	May 2014

Source: Compiled by the Congressional Research Service (CRS).

Notes: The abbreviation APTC refers to advanced premium tax credits. CSR refers to cost-sharing reductions. CMS refers to the Centers for Medicare & Medicaid Services.

a. CMS also issued a companion report for 2017: *Race, Ethnicity, and Language Preference in the Health Insurance Marketplaces 2017 Open Enrollment Period* (Centers for Medicare & Medicaid Services, April 2017). This report had national and state data on adult HealthCare.gov enrollees by race, ethnicity, and preferred spoken and written language. Includes subgroup data for Hispanics/Latinos, Asians, and Native Hawaiians or Other Pacific Islanders (NHOPI). https://www.cms.gov/About-CMS/Agency-Information/OMH/Downloads/Data-Highlight-Race-Ethnicity-and-Language-Preference-Marketplace.pdf

b. CMS also released related CSR data for 2016: *Health Insurance Marketplace Cost Sharing Reduction Subsidies by Zip Code and County 2016* (U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation). For HealthCare.gov states, this spreadsheet had county and zip code (but not state) data on the number of consumers with CSR subsidies, and the average advanced CSR payment by CSR actuarial value ("AV"). Actuarial value is a measure of a plan's generosity, the estimated insurer's share of medical expenses for a standard population and a set of allowed charges. For example, consumers with CSR AV 94% would expect to pay, on average, an estimated 6% of their medical expenses out-of-pocket. Consumers may qualify for particular CSR AV levels depending on their income. Some spreadsheet data were suppressed for privacy. https://aspe.hhs.gov/health-insurance-marketplace-cost-sharing-reduction-subsidies-zip-code-and-county-2016

c. The reports for the 2014 plan year did not have premium or CSR data. CMS did not release county or zip code data for the 2014 plan year.

Point-in-Time Effectuated Enrollment Data

Effectuated enrollment data reflect individuals who have selected a plan and have submitted the first premium payment for a plan. Point-in-time enrollment data provide a snapshot of enrollment as of a specified month.

Release dates vary for point-in-time effectuated enrollment estimates. Reports summarized in **Table 2** include point-in-time data on effectuated enrollment nationwide and for all states. They typically include data on enrollment, APTC, and enrollees with CSR. Since 2018, they also include data on premiums.

Table 2. Point-in-Time Effectuated Enrollment Reports

(include selected data on APTC and enrollees with CSR)

Point-in-Time Date	Reports	Date released
February 2019	Fact sheet: *Early 2019 Effectuated Enrollment Snapshot*, https://www.cms.gov/newsroom/fact-sheets/early-2019-effectuated-enrollment-snapshot Report: *Early 2019 Effectuated Enrollment Snapshot,* https://www.cms.gov/sites/default/files/2019-08/08-12-2019%20TABLE%20Early-2019-2018-Average-Effectuated-Enrollment.pdf	August 2019
February 2018	News release: *Centers for Medicare and Medicaid Services Releases Reports on the Performance of the Exchanges and Individual Health Insurance Market,* https://www.cms.gov/newsroom/press-releases/centers-medicare-and-medicaid-services-releases-reports-performance-exchanges-and-individual-health Report: *Early 2018 Effectuated Enrollment Snapshot* https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Marketplaces/Downloads/2018-07-02-Trends-Report-1.pdf	July 2018

Point-in-Time Date	Reports	Date released
February 2017	News release: *High Costs, Lack of Affordability Most Common Factors that Lead Consumers to Cancel Health Insurance Coverage*, https://www.cms.gov/newsroom/press-releases/high-costs-lack-affordability-most-common-factors-lead-consumers-cancel-health-insurance-coverage Report: *2017 Effectuated Enrollment Snapshot*, https://downloads.cms.gov/files/effectuated-enrollment-snapshot-report-06-12-17.pdf	June 2017
March 2016	Fact sheet: *March 31, 2016 Effectuated Enrollment Snapshot*, https://www.cms.gov/newsroom/fact-sheets/march-31-2016-effectuated-enrollment-snapshot Public use file (see March 2016 file): https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/Effectuated_Quarterly_Snapshots	June 2016
December 2015	Fact sheet: *December 31, 2015 Effectuated Enrollment Snapshot*, https://www.cms.gov/newsroom/fact-sheets/december-31-2015-effectuated-enrollment-snapshot Public use file (see December 2015 file): https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/Effectuated_Quarterly_Snapshots	March 2016
September 2015	Fact sheet: *September 30, 2015 Effectuated Enrollment Snapshot*, https://www.cms.gov/newsroom/fact-sheets/september-30-2015-effectuated-enrollment-snapshot Public use file (see September 2015 file): https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/Effectuated_Quarterly_Snapshots	December 2015
June 2015	Fact sheet: *June 30, 2015 Effectuated Enrollment Snapshot*, https://www.cms.gov/newsroom/fact-sheets/june-30-2015-effectuated-enrollment-snapshot Public use file (see June 2015 file): https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/Effectuated_Quarterly_Snapshots	September 2015
March 2015	Fact sheet: *March 31, 2015 Effectuated Enrollment Snapshot*, https://www.cms.gov/newsroom/fact-sheets/march-31-2015-effectuated-enrollment-snapshot Public use file (see March 2015 file): https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/Effectuated_Quarterly_Snapshots	June 2015
December 2014	Fact sheet: *March 31, 2015 Effectuated Enrollment Snapshot* (scroll down to "December 2014 Total Effectuated Enrollment and Financial Assistance"), https://www.cms.gov/newsroom/fact-sheets/march-31-2015-effectuated-enrollment-snapshot Public use file (see December 2014 file): https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/Effectuated_Quarterly_Snapshots	June 2015
October 2014[a]	Report includes a point-in-time nationwide effectuated enrollment estimate of 6.7 million individuals as of October 2014 (footnote 3): *How Many Individuals Might Have Marketplace Coverage After the 2015 Open Enrollment Period?* https://aspe.hhs.gov/pdf-report/how-many-individuals-might-have-marketplace-coverage-after-2015-open-enrollment-period	November 2014

Source: Compiled by the Congressional Research Service (CRS).

Notes: The abbreviation APTC refers to advanced premium tax credits; CSR refers to cost-sharing reductions.

a. National effectuated enrollment estimate only; did not include state-level data. Did not include premium, APTC, or CSR data. Earlier in Plan Year 2014, ASPE released *Health Insurance Marketplace: Summary Enrollment Report for the Initial Annual Open Enrollment Period. Effectuated Enrollment* (May 2014), which had examples of insurance issuers' public statements that 80 to 90 percent of the people who selected a Marketplace plan effectuated their coverage: https://aspe.hhs.gov/report/health-insurance-marketplace-summary-enrollment-report-initial-annual-open-enrollment-period/effectuated-enrollment.

Average Monthly Effectuated Enrollment Data

Average enrollment data reflect an average over a specified time period. *Effectuated* enrollment data reflect individuals who have selected a plan *and* have submitted the first premium payment for a plan.

Reports summarized in **Table 3** provide average monthly effectuated enrollment data, nationwide and for all states. A member month reflects one health plan member enrolled for one month. The reports state that "The average monthly effectuated enrollment number was calculated by adding total member months for the year and dividing by 12."

Since 2018, these reports have been released in the summer following the year covered by the data.

Table 3. Average Monthly Effectuated Enrollment Reports

(include selected data on premiums, APTC and enrollees with CSR)

Data Time Frame	Reports	Date Released
2018	Report; see "2018 Average Monthly Effectuated Enrollment" (starts p. 5): https://www.cms.gov/sites/default/files/2019-08/08-12-2019%20TABLE%20Early-2019-2018-Average-Effectuated-Enrollment.pdf#page=5	August 2019
2017	Report; see "2017 Average Monthly Effectuated Enrollment" (starts p. 6): https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Marketplaces/Downloads/2018-07-02-Trends-Report-1.pdf#page=6	July 2018

Source: Compiled by the Congressional Research Service (CRS).

Note: The abbreviation APTC refers to advanced premium tax credits. CSR refers to cost-sharing reductions.

Average Effectuated Enrollment Data for the First Half of the Year

Average enrollment data reflect an average over a specified time period. *Effectuated* enrollment data reflect individuals who have selected a plan *and* have submitted the first premium payment for a plan.

Reports summarized in **Table 4** provide average effectuated enrollment for the first six months of the year, as well as selected data on APTC and enrollees with CSR, nationwide and for all states.

These reports have typically been released annually late in the year.

Table 4. Average Effectuated Enrollment for First Half of the Year Reports

(includes selected data on APTC and enrollees with CSR)

Data Time Frame	Reports	Date Released
First half of 2019[a]	Fact sheet: *Effectuated Enrollment for the First Half of 2019:* "Effectuated enrollment is the average number of individuals who had an active policy at any point from January through June of 2019, and who paid their premium (thus effectuating their coverage) as of September 15, 2019," https://www.cms.gov/newsroom/fact-sheets/effectuated-enrollment-first-half-2019 Report: https://www.cms.gov/files/document/effectuated-enrollment-first-half-2019	December 2019
First half of 2018[a]	Fact sheet: *Effectuated Enrollment for the First Half of 2018*: "Effectuated enrollment is the average number of individuals who had an active policy from January through June of 2018, and who paid their premium (thus effectuating their coverage) as of September 15, 2018," https://www.cms.gov/newsroom/fact-sheets/effectuated-enrollment-first-half-2018 Report: https://www.cms.gov/sites/default/files/2018-11/11-28-2018%20Effectuated%20Enrollment%20Table.pdf	November 2018
First half of 2017	Fact sheet: *First Half of 2017 Average Effectuated Enrollment Report:* "Effectuated enrollment is the average number of individuals who had an active policy from January through June of 2017, and who paid their premium (thus effectuating their coverage) as of September 15, 2017," https://www.cms.gov/newsroom/fact-sheets/first-half-2017-average-effectuated-enrollment-report Report: https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Marketplaces/Downloads/2017-12-13-2017-Effected-Enrollment-Data.pdf	December 2017
First half of 2016[b]	Fact sheet: *First Half of 2016 Effectuated Enrollment Snapshot:* The fact sheet is "based on the average number of effectuated enrollments and disenrollments over the relevant time period. Average effectuated enrollment provides a more meaningful metric of Marketplace participation, since it captures all enrollments over the time period and is less subject to monthly variation that is not meaningful," https://www.cms.gov/newsroom/fact-sheets/first-half-2016-effectuated-enrollment-snapshot	October 2016

Source: Compiled by the Congressional Research Service (CRS).

Notes: The abbreviation APTC refers to advanced premium tax credits. CSR refers to cost-sharing reductions.

a. Includes data on average premiums by state.

b. Provides national data only; did not have state-level data.

Additional Exchange Statistics

Trends in Subsidized and Unsubsidized Enrollment (CMS, August 12, 2019)

Includes state-level data on enrollment and APTC subsidies for persons who purchase on- and off-Exchange individual (nongroup) market health insurance plans.

- *News release*, https://www.cms.gov/newsroom/press-releases/cms-releases-reports-showing-declining-enrollment-unsubsidized-population
- *Report*, https://www.cms.gov/CCIIO/Resources/Forms-Reports-and-Other-Resources/Downloads/Trends-Subsidized-Unsubsidized-Enrollment-BY17-18.pdf
- An earlier version of this report was *Trends in Subsidized and Unsubsidized Individual Health Insurance Market Enrollment* (Centers for Medicare & Medicaid Services, July 2, 2018), https://www.cms.gov/CCIIO/Programs-and-

Initiatives/Health-Insurance-Marketplaces/Downloads/2018-07-02-Trends-Report-2.pdf

Private Health Insurance: Enrollment Remains Concentrated among Few Issuers, including in Exchanges (GAO, March 21, 2019)

State-level data include Appendix I, Individual Market Health Insurance Exchange Enrollment as a Proportion of the Overall Market, 2016; Appendix II, Number and Market Share of Issuers in Each State's Individual Market Health Insurance Exchange, 2015-2017; Appendix III: Small Group Health Insurance Exchange Enrollment as a Proportion of the Overall Market, 2016; Appendix IV, Number and Market Share of Issuers in Each State's Small Group Health Insurance Exchange, 2015-2017; and Appendix VI, Market Share for Consumer Operated and Oriented Plans That Participated in the Exchanges.

- *Report*, https://www.gao.gov/products/GAO-19-306
- Earlier versions of this report include *Private Health Insurance: In Most States and New Exchanges, Enrollees Continued to be Concentrated among Few Issuers in 2014* (GAO, February 14, 2017), https://www.gao.gov/products/GAO-16-724; and *Private Health Insurance*: *Concentration of Enrollees among Individual, Small Group, and Large Group Insurers from 2010 through 2013* (GAO, December 1, 2014), https://www.gao.gov/products/GAO-15-101R

Health Insurance Exchanges: Claims Costs and Federal and State Policies Drove Issuer Participation, Premiums, and Plan Design (GAO, January 28, 2019)

Discusses research and trends in claims costs for selected issuers in five states' exchanges.

- *Report*, https://www.gao.gov/products/GAO-19-215

Data on 2019 Individual Health Insurance Market Conditions (Centers for Medicare & Medicaid Services, October 11, 2018)

Summarizes data on premium trends and insurer participation. For HealthCare.gov states, a table shows 2016-2019 average monthly premiums for the second-lowest cost silver plan and lowest cost plan. The premiums are for a 27-year-old single nonsmoker.

- *Fact sheet*, https://www.cms.gov/newsroom/fact-sheets/data-2019-individual-health-insurance-market-conditions
- *Report*, https://www.cms.gov/sites/default/files/2018-10/10-11-18%20Average%20Monthly%20Premiums%20for%20SLCSP%20and%20LCP%202016-2019_0.pdf.

The Exchanges Trends Report (CMS, July 2, 2018)[5]

Data on HealthCare.gov call center satisfaction, reasons why uninsured consumers decided not to purchase a health plan, agent and broker participation, and use of Special Enrollment Periods.

[5] Two other reports were released the same day and are listed above: *Early 2018 Effectuated Enrollment Snapshot* (CMS, July 2, 2018), https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Marketplaces/Downloads/2018-07-02-Trends-Report-1.pdf; and *The Exchanges Trends Report* (CMS, July 2, 2018), https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Marketplaces/Downloads/2018-07-02-Trends-Report-3.pdf.

- *News release*, https://www.cms.gov/newsroom/press-releases/centers-medicare-and-medicaid-services-releases-reports-performance-exchanges-and-individual-health
- *Report*, https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Marketplaces/Downloads/2018-07-02-Trends-Report-3.pdf

The Health Insurance Exchanges Trends Report: High Premiums and Disruptions in Coverage Lead to Decreased Enrollment in the Health Insurance Exchanges (CMS, June 12, 2017)[6]

Analyzes survey data from consumers who terminated or cancelled exchange coverage. In this report, exchange consumers who selected a plan but did not pay their first month's premium are considered to have cancelled their coverage.

- *News release*, https://www.cms.gov/newsroom/press-releases/high-costs-lack-affordability-most-common-factors-lead-consumers-cancel-health-insurance-coverage
- *Report*, https://downloads.cms.gov/files/cost-disruptions-trends-report-06-12-17.pdf

Individual Market Premium Changes: 2013-2017 (U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, May 23, 2017)

Compares premiums in individual market plans purchased in 2013 to premiums in ACA exchange plans purchased in 2017. The data do not take into account premium subsidies in the exchanges. Many of ACA's private health insurance provisions took effect in 2014 (for example, inclusion of the essential health benefits), which makes comparing premiums before and after the ACA difficult given the products offered in the two time frames are vastly different.

- *Report*, https://aspe.hhs.gov/pdf-report/individual-market-premium-changes-2013-2017

Qualified Health Plan Choice and Premiums in HealthCare.gov States (CMS) https://www.cms.gov/CCIIO/Resources/Data-Resources/QHP-Choice-Premiums.html

Appendix tables have state and county trend data since plan year 2014 on the number of insurers participating in ACA exchanges in HealthCare.gov states. Also includes selected state and county data on cost-sharing and on premiums, including average lowest cost plan (LCP) premiums and second lowest cost silver plan (SLCSP) premiums.

- A press release accompanying plan year 2020 data is "Premiums for HealthCare.gov Plans are down 4 percent but remain unaffordable to non-subsidized consumers" (CMS, October 22, 2019) https://www.cms.gov/newsroom/press-releases/premiums-healthcaregov-plans-are-down-4-percent-remain-unaffordable-non-subsidized-consumers.

Similar reports for previous years were released by U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation (ASPE). Reports varied with respect to methodology and states covered:

[6] Another report was released the same day and is listed above: *2017 Effectuated Enrollment Snapshot* (CMS, June 12, 2017), https://downloads.cms.gov/files/effectuated-enrollment-snapshot-report-06-12-17.pdf.

- *2019 Health Plan Choice and Premiums in HealthCare.gov States* (ASPE, October 26, 2018) https://aspe.hhs.gov/pdf-report/health-plan-choice-and-premiums-2019-federal-health-insurance-exchange
- *Health Plan Choice and Premiums in the 2018 Federal Health Insurance Exchange* (ASPE, October 30, 2017) https://aspe.hhs.gov/pdf-report/health-plan-choice-and-premiums-2018-federal-health-insurance-exchange
- *Health Plan Choice and Premiums in the 2017 Health Insurance Marketplace* (ASPE, October 2016) https://aspe.hhs.gov/pdf-report/health-plan-choice-and-premiums-2017-health-insurance-marketplace
- *Health Plan Choice and Premiums in the 2016 Health Insurance Marketplace* (ASPE, October 2015) https://aspe.hhs.gov/pdf-report/health-plan-choice-and-premiums-2016-health-insurance-marketplace
- *Health Plan Choice and Premiums in the 2015 Health Insurance Marketplace* (ASPE, December 2014) https://aspe.hhs.gov/pdf-report/health-plan-choice-and-premiums-2015-health-insurance-marketplace
- *Premium Affordability, Competition, and Choice in the Health Insurance Marketplace, 2014* (ASPE, June 2014) https://aspe.hhs.gov/pdf-report/premium-affordability-competition-and-choice-health-insurance-marketplace-2014

Details About Baseline Projections for Selected Programs: Federal Subsidies for Health Insurance (Includes Effects of the Affordable Care Act) (Congressional Budget Office) https://www.cbo.gov/about/products/baseline-projections-selected-programs#6

> The Congressional Budget Office (CBO) periodically produces 10-year baseline projections, which "reflect CBO's best judgment about how the economy and the budget will evolve under existing laws." These projections include estimates of subsidized and unsubsidized enrollment in individual (nongroup) exchanges (marketplaces), and estimates of federal outlays for premium tax credits.

Coverage of Abortion Services by Exchange Plans

CRS Report RL33467, *Abortion: Judicial History and Legislative Response*

> Describes ACA's provisions on the coverage of abortion services by health plans that are available through exchanges.

CMS Announces Enhanced Program Integrity Efforts for the Exchange (Centers for Medicare & Medicaid Services, December 20, 2019) https://www.cms.gov/newsroom/press-releases/cms-announces-enhanced-program-integrity-efforts-exchange

> This press release links to a final rule on exchange plans' billing and collection of premium payments for certain abortion services. Lawsuits challenging the rule have been filed. The rule's effective dates have also been modified (https://www.federalregister.gov/d/2020-09608).

Employer-Sponsored Coverage

Sources for Employees and Their Families

Overviews

People with job-based coverage (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/have-job-based-coverage/

FAQs for consumers with employer-sponsored coverage and those who are losing their employer-sponsored coverage.

Affordable Care Act—Information for Workers and Families (U.S. Department of Labor, Employee Benefits Security Administration)
https://www.dol.gov/agencies/ebsa/laws-and-regulations/laws/affordable-care-act/for-workers-and-families

For employees who receive health coverage through their jobs, this page lists consumer protections under the ACA, such as coverage of preexisting conditions and preventive services; and the requirement that employees receive a plain-language Summary of Benefits and Coverage.

Ask EBSA (U.S. Department of Labor, Employee Benefits Security Administration)
https://www.dol.gov/agencies/ebsa/about-ebsa/ask-a-question/ask-ebsa

Constituents with questions about employer-based health coverage can speak with benefits advisors at 1-866-444-3272. Benefits advisors can also answer questions about COBRA continuation coverage, which "gives workers and their families who lose their health benefits the right to choose to continue group health benefits provided by their group health plan for limited periods of time under certain circumstances such as voluntary or involuntary job loss, reduction in the hours worked, transition between jobs, death, divorce, and other life events." https://www.dol.gov/general/topic/health-plans/cobra

Federal Employee Health Benefits Program

CRS Report R43922, *Federal Employees Health Benefits (FEHB) Program: An Overview*

Includes a section on "Impact of the Affordable Care Act."

The Affordable Care Act and OPM (U.S. Office of Personnel Management)
http://www.opm.gov/healthcare-insurance/affordable-care-act/

ACA resources and FAQs for FEHBP beneficiaries.

Tribal Employers: Indian Tribes FAQs (U.S. Office of Personnel Management)
http://www.opm.gov/healthcare-insurance/tribal-employers/faqs/

Under the ACA, certain tribal employers may purchase FEHBP coverage for their tribal employees. FAQs on how the ACA expands FEHBP eligibility for tribal employees.

Changes to Federal Benefits Eligibility Due to Health Reform: Frequently Asked Questions (FAQs) (U.S. Office of Personnel Management)
http://www.opm.gov/healthcare-insurance/special-initiatives/health-care-reform/

FAQs for federal employees on the ACA dependent coverage provision, which became effective for plan years beginning on or after September 23, 2010.

Healthcare: Carriers: Carrier Letters (U.S. Office of Personnel Management)
https://www.opm.gov/healthcare-insurance/healthcare/carriers/#url=Carrier-Letters

Guidance for FEHB program carriers. Includes, for example, *Information for Carriers on Coronavirus* (March 11, 2020) https://www.opm.gov/healthcare-insurance/healthcare/carriers/2020/2020-02.pdf and *Coverage of Diagnostic Testing, Preventive Services, and Telehealth for COVID-19* (April 23, 2020) https://www.opm.gov/healthcare-insurance/healthcare/carriers/2020/2020-08.pdf

Members of Congress and Congressional Staff

CRS Report R43194, *Health Benefits for Members of Congress and Designated Congressional Staff: In Brief*

A provision in the ACA specifically affects Members of Congress and certain congressional staff and their employer-sponsored health benefits. The report explains the implementation of that provision.

The Affordable Care Act and OPM (U.S. Office of Personnel Management)
http://www.opm.gov/healthcare-insurance/affordable-care-act/

Includes ACA resources for Members of Congress and congressional staff. FAQs are at *Insurance: Members of Congress & Staff*, https://www.opm.gov/faqs/topic/insure/?cid=6bf9dd32-d3b9-4fc7-9416-431e535f933a

Who can use DC Health Link? (DC Health Link)
https://dchealthlink.com/node/1660

Members of Congress and designated congressional staff can purchase health insurance from the District of Columbia SHOP exchange, called DC Health Link (855-532-5465). Questions can also be answered by the U.S. Senate Disbursing Office (202-224-1093) and the House of Representatives Office of Payroll and Benefits (202-225-1435).

Sources for Employers

See also “Excise Tax on High-Cost Employer-Sponsored Health Coverage” under “Taxes.”

Overviews

Affordable Care Act (U.S. Department of Labor, Employee Benefits Security Administration)
https://www.dol.gov/agencies/ebsa/laws-and-regulations/laws/affordable-care-act/for-employers-and-advisers

Information on ACA implementation for employers. The page has information on grandfathered plans, waiting periods, and other topics for employer-sponsored health coverage.

Affordable Care Act Tax Provisions for Employers (Internal Revenue Service)
https://www.irs.gov/affordable-care-act/employers

Explanations of ACA tax provisions for employers, such as W-2 reporting requirements, the Small Business Health Care Tax Credit, and potential employer penalties for certain large employers.

Employer Penalties

CRS Report R45455, *The Affordable Care Act's (ACA's) Employer Shared Responsibility Provisions (ESRP)*

> ACA's employer shared responsibility provisions (ESRP) are also known as the "employer mandate." Certain "applicable large employers" (ALEs) are subject to penalties if they do not offer affordable and adequate health coverage to employees and at least one of their full-time employees obtains a premium tax credit or cost-sharing subsidy through the exchanges. This report summarizes how employers determine whether they are ALEs and how ESRP penalties are calculated. It also describes ESRP implementation and defines terms used in ESRP law and regulations.

Questions and Answers on Employer Shared Responsibility Provisions Under the Affordable Care Act (Internal Revenue Service)
https://www.irs.gov/affordable-care-act/employers/questions-and-answers-on-employer-shared-responsibility-provisions-under-the-affordable-care-act

> FAQs on the employer shared responsibility provisions under the ACA. The document describes which employers are subject to the penalty and how the penalty amount is calculated, and it provides important dates.

Employer Shared Responsibility Provision Estimator (Internal Revenue Service, Taxpayer Advocate Service)
https://taxpayeradvocate.irs.gov/estimator/esrp/

> Employers can use this estimator to determine whether they may be an applicable large employer, and to estimate their maximum potential liability for the employer shared responsibility payment.

CRS In Focus IF10039, *Proposals to Change the ACA's Definition of "Full Time"*

> Two-pager analyzes proposals to change ACA's definition of "full-time" from 30 hours to 40 hours a week.

Employer Wellness Programs and Genetic Information

CRS Report R44311, *Employer Wellness Programs and Genetic Information: Frequently Asked Questions*

> Describes requirements for when an employer may request genetic information from an employee as part of a wellness program.

Small Businesses

Exploring coverage options for small businesses (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/small-businesses/learn-more/how-aca-affects-businesses/

> Information on how the ACA affects small employers.

CRS Report R44065, *Overview of Health Insurance Exchanges*

> Describes Small Business Health Options Program (SHOP) exchanges.

Health insurance for your business and employees (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/small-businesses

Resources about the SHOP exchange. For further questions, the federal health insurance call center for small employers is 1-800-706-7893.

CRS Report R43181, *The Affordable Care Act and Small Business: Economic Issues*

Analysis of ACA employer penalties, the small business health insurance tax credit, and SHOP exchanges.

Small Business Health Care Tax Credit and the SHOP Marketplace (Internal Revenue Service)
https://www.irs.gov/affordable-care-act/employers/small-business-health-care-tax-credit-and-the-shop-marketplace

Certain small employers participating in the SHOP exchange may be eligible for the small business health insurance tax credit. This page describes eligibility and how to claim the credit.

Medicaid and the State Children's Health Insurance Program

Individuals can enroll in Medicaid and the State Children's Health Insurance Program (CHIP) any time of the year. There is no limited enrollment period for these programs. Eligibility criteria vary by state.

Each state operates its own Medicaid and CHIP programs within federal guidelines.

- Links to each state's Medicaid website and contact information; scroll to "Select Your State"
  https://www.healthcare.gov/medicaid-chip/
- Links to each state's CHIP website, or call 1-877-KIDS-NOW (1-877-543-7669)
  https://www.insurekidsnow.gov/coverage/index.html

Medicaid and CHIP coverage (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/medicaid-chip/

FAQs and tips for Medicaid and CHIP potential applicants and new enrollees.

CRS In Focus IF10399, *Overview of the ACA Medicaid Expansion*

As of January 1, 2014, states have the option to extend Medicaid coverage to most nonelderly, low-income individuals. Two-pager includes a map of states' Medicaid expansion decisions, and a brief overview of the expansion's rules, financing, and projections of enrollment and spending.

CRS Report R41210, *Medicaid and the State Children's Health Insurance Program (CHIP) Provisions in ACA: Summary and Timeline*

Detailed section-by-section summary of ACA's Medicaid and CHIP provisions. This CRS report, which may be of historical interest, contains some ACA provisions that may have been amended since the report was published.

The Affordable Care Act and Medicaid (Medicaid and CHIP Payment and Access Commission, MACPAC)
https://www.macpac.gov/topics/aca-medicaid/

MACPAC analysis of Medicaid policy and data. MACPAC is a nonpartisan legislative branch agency that makes recommendations to Congress and the U.S. Department of Health and Human Services.

2018 Actuarial Report on the Financial Outlook for Medicaid (CMS Office of the Actuary, 2020)
https://www.cms.gov/files/document/2018-report.pdf

Includes national estimates of ACA Medicaid expansion enrollment and per-person expenditures. See the "Expansion adults" column in "Table 16—Past and Projected Numbers of Medicaid Enrollees, by Category, Fiscal Years 2000–2027" and "Table 22—Past and Projected Medicaid Expenditures on Medical Assistance Payments Per Enrollee, by Enrollment Category, Fiscal Years 2000–2027" (pp. 53 and 68); and "Impacts of the Medicaid Eligibility Expansion" (p. 19). Note that these figures for the expansion adults do not include ACA expansion adults who were "not newly eligible." Some states had expanded their Medicaid eligibility to certain expansion adults prior to 2014; in those cases, some of the expansion adults are considered "not newly eligible."

Medicaid Enrollment Data Collected through MBES (Centers for Medicare & Medicaid Services, Medicaid.gov)
https://www.medicaid.gov/medicaid/program-information/medicaid-and-chip-enrollment-data/enrollment-mbes/index.html

These Medicaid Budget and Expenditure System (MBES) reports have state data on total Medicaid enrollees and, in Medicaid expansion states, "Total VIII Group" enrollees. The VIII Group, also known as the "New Adult Group," consists of adults enrolled in Medicaid through the ACA Medicaid expansion. (Most of these adults are considered "newly eligible." However, some states had expanded their Medicaid eligibility to certain adults prior to 2014; in those cases, some of the VIII Group members are considered "not newly eligible.") Note that data may be missing for some Medicaid expansion states.

Expenditure Reports from MBES/CBES (Centers for Medicare & Medicaid Services, Medicaid.gov)
https://www.medicaid.gov/medicaid/financing-and-reimbursement/state-expenditure-reporting/expenditure-reports/index.html

ACA Medicaid expansion spending data are in expenditure reports from the Medicaid Budget and Expenditure System (MBES). Nationally in FY2016, expenditures for individuals in the ACA Medicaid expansion (the "VIII Group") totaled $82.262 billion, including $77.999 billion in federal dollars and $4.263 billion in state dollars. For FY2016 annual data by state, click "FY 2016 Medicaid Financial Management Data – By State." Within that spreadsheet, for each state, the service category "Total VIII Group" shows expenditures for individuals in the ACA Medicaid expansion. On the right of the spreadsheet, in the "Find in this Dataset" search box, type *VIII*. Total expenditures are in the "Total Computable" column. Federal expenditures are in the "Federal Share" column. State expenditures are in the "State Share" column.

CRS Report R45412, *Medicaid Alternative Benefit Plan Coverage: Frequently Asked Questions*

States implementing the ACA Medicaid expansion are required to cover the expansion population using alternative benefit plans (ABP). The ACA also made other changes to ABP requirements. This report explains ABP and answers frequently asked questions.

Compilation of State Data on the Affordable Care Act (U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, December 2016)
https://aspe.hhs.gov/compilation-state-data-affordable-care-act

Excel spreadsheet of state data on the effects of selected ACA provisions, including several Medicaid provisions.

CRS In Focus IF10422, *Medicaid Disproportionate Share Hospital (DSH) Reductions*

Federal Medicaid statute requires states to make disproportionate share hospital (DSH) payments to hospitals with a disproportionate share of low-income patients. ACA has a provision to reduce Medicaid DSH allotments. The two-page report describes the ACA provision and how it has since been amended.

Frequently Asked Questions (Centers for Medicare & Medicaid Services, Medicaid.gov)
https://www.medicaid.gov/faq/index.html#/

For state officials and stakeholders, these sources address questions on the ACA, Medicaid, and CHIP. On the right, choose "Affordable Care Act" under "Filter by Topic."

CRS In Focus IF11010, *Medicaid Coverage for Former Foster Youth Up to Age 26*

Two-page overview of the ACA requirement that states provide Medicaid coverage to certain former foster youth until their 26th birthday.

Coronavirus Disease 2019 (COVID-19) (Centers for Medicare & Medicaid Services, Medicaid.gov)
https://www.medicaid.gov/resources-for-states/disaster-response-toolkit/coronavirus-disease-2019-covid-19/index.html

Information on Medicaid coverage and benefits related to COVID-19.

CRS In Focus IF11523, *Health Insurance Options Following Loss of Employment*

Two-page overview of potential health coverage options following job loss, including the ACA Medicaid expansion. Due to the COVID-19 pandemic's economic impact, many Americans may lose jobs through which they receive health insurance.

Medicare

Medicare.gov (Centers for Medicare & Medicaid Services)
https://www.medicare.gov/

The official federal portal for consumer information on Medicare.

- State Health Insurance Assistance Programs (SHIPs) offer personalized health insurance counseling for Medicare beneficiaries
  https://www.medicare.gov/contacts/#resources/ships
- Directory of consumer assistance contacts
  https://www.medicare.gov/Contacts/
- *Medicare & Coronavirus* describes Medicare coverage of COVID-19-related services and recommendations for Medicare beneficiaries
  https://www.medicare.gov/medicare-coronavirus

Medicare and the Marketplace (Centers for Medicare & Medicaid Services)
http://www.cms.gov/Medicare/Eligibility-and-Enrollment/Medicare-and-the-Marketplace/Overview1.html

Detailed FAQs about the relationship between Medicare and the ACA exchanges (marketplaces), including questions on enrollment, coordination of benefits, and end-stage renal disease.

Medicare and the Marketplace (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/medicare/medicare-and-the-marketplace/

Information on how to switch from exchange coverage to Medicare.

CRS Report R41196, *Medicare Provisions in the Patient Protection and Affordable Care Act (PPACA): Summary and Timeline*

Detailed section-by-section summary of the ACA's Medicare provisions. This CRS report, which may be of historical interest, contains some ACA provisions that may have been amended since the report was published.

CRS Report R44075, *The Independent Payment Advisory Board (IPAB): Frequently Asked Questions*

The CRS report, which may be of historical interest, has FAQs on the Independent Payment Advisory Board, which ACA established to develop proposals to "reduce the per capita rate of growth in Medicare spending." P.L. 115-123, the Bipartisan Budget Act of 2018, repealed the Independent Payment Advisory Board.

Compilation of State Data on the Affordable Care Act (U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, December 2016)
https://aspe.hhs.gov/compilation-state-data-affordable-care-act

Excel spreadsheet of selected state data on the effects of selected ACA provisions, including several Medicare provisions.

Specific Populations

Women's Health Care

See also "Coverage of Abortion Services by Exchange Plans"

CRS Report R45426, *The Pregnancy Assistance Fund: An Overview*

The Pregnancy Assistance Fund was established by the ACA.

Preventive Services

Women's Preventive Services Guidelines (U.S. Department of Health and Human Services, Health Resources and Services Administration)
https://www.hrsa.gov/womens-guidelines-2019

Lists the women's preventive services that nongrandfathered health plans generally are required to cover without cost sharing, when furnished in-network.

Fact Sheets and Frequently Asked Questions (FAQs) (The Center for Consumer Information and Insurance Oversight)
https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/index.html

The section "Affordable Care Act" includes FAQs on women's preventive services.

- FAQ set 26 addresses BRCA testing (for genetic mutations related to breast cancer susceptibility), contraceptives, and well-woman preventive care for dependents, http://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/Downloads/aca_implementation_faqs26.pdf.
- FAQ set 12 discusses well-woman visits; interpersonal and domestic violence screening; Human Papillomavirus (HPV) DNA testing; HIV testing; and breastfeeding support, supplies, and counseling, http://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/aca_implementation_faqs12.html.
- FAQ set 29 addresses lactation counseling and breastfeeding equipment, religious accommodations for the contraceptive coverage requirement, and BRCA testing, https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/Downloads/FAQs-Part-XXIX.pdf.
- FAQ set 31 addresses contraception and breast reconstruction in connection with a mastectomy, https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/Downloads/FAQs-31_Final-4-20-16.pdf.
- FAQ set 35 addresses the December 20, 2016 update of Women's Preventive Services Guidelines, https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/Downloads/FAQ-Part-35_12-20-16.pdf.
- FAQ set 36 addresses accommodations for religious objections to the contraceptive mandate, https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/Downloads/ACA-FAQs-Part-36_1-9-17.pdf.

Contraceptive Coverage[7]

CRS Report R45928, *The Federal Contraceptive Coverage Requirement: Past and Pending Legal Challenges*

> The federal contraceptive coverage requirement stems from the ACA, which requires health insurance issuers and employment-based health plans to cover preventive care for women "as provided for" in certain agency-supported guidelines. 42 U.S.C. § 300gg-13(a)(4). Those guidelines include FDA-approved contraceptives among the covered services. *See* Health Resources and Services Administration, *Women's Preventive Services Guidelines*, https://www.hrsa.gov/womens-guidelines-2019 (last updated Dec. 2019).
>
> This report provides background on the federal contraceptive coverage requirement, the regulations exempting certain entities from that requirement, and related legal challenges.

Little Sisters of the Poor Saints Peter & Paul Home v. Pennsylvania, No. 19-431
https://www.supremecourt.gov/search.aspx?filename=/docket/docketfiles/html/public/19-431.html

> In 2018, the Department of Health and Human Services, along with the Departments of Labor and the Treasury, issued final rules expanding upon existing regulatory exemptions for certain entities with religious objections to providing contraceptive coverage. *See* Religious Exemptions and Accommodations for Coverage of Certain Preventive Services Under the Affordable Care Act, 83 Fed. Reg. 57,536 (2018) https://www.federalregister.gov/d/2018-24512; Moral Exemptions and Accommodations for Coverage of Certain Preventive Services Under the Affordable Care Act, 83 Fed. Reg. 57,592 (2018) https://www.federalregister.gov/d/2018-24514; *see also* Press Release, *Trump Administration*

[7] This section was written by CRS Legislative Attorney Victoria Killion.

Issues Final Rules Protecting Conscience Rights in Health Insurance, HHS.GOV (Nov. 7, 2018), https://www.hhs.gov/about/news/2018/11/07/trump-administration-issues-final-rules-protecting-conscience-rights-in-health-insurance.html.

Implementation of the 2018 final rules is currently enjoined as a result of a preliminary nationwide injunction upheld by the U.S. Court of Appeals for the Third Circuit. Pennsylvania v. President United States, 930 F.3d 543, 575-76 (3d Cir. 2019). The U.S. Government and an intervening party have challenged the Third Circuit's decision, and the consolidated cases are pending before the Supreme Court in *Little Sisters of the Poor v. Pennsylvania.*

Indian Health Care

CRS Report R41152, *Indian Health Care: Impact of the Affordable Care Act (ACA)*

The ACA reauthorized the Indian Health Care Improvement Act (IHCIA), which authorizes many Indian Health Service programs and services. The report summarizes major IHCIA changes and other ACA provisions that may affect American Indian and Alaska Native health care.

Americans Indians & Alaska Natives (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/american-indians-alaska-natives/coverage/

An overview of coverage options for American Indians and Alaska Natives.

CRS Report R41630, *The Indian Health Care Improvement Act Reauthorization and Extension as Enacted by the ACA: Detailed Summary and Timeline*

Detailed section-by-section summary of IHCIA provisions in the ACA.

Affordable Care Act (Indian Health Service)
https://www.ihs.gov/aca/

Includes FAQs on the ACA for Indian Health Service-eligible persons.

Veterans and Military Health Care

The Affordable Care Act and Your VA Health Coverage (U.S. Department of Veterans Affairs)
https://www.va.gov/health-care/about-affordable-care-act/

Answers to veterans' questions about the ACA individual mandate, whether the ACA changes VA health benefits, and how to obtain health coverage.

TRICARE and the Affordable Care Act (Defense Health Agency)
http://tricare.mil/aca

Explains that the military's TRICARE health program is considered minimum essential coverage for the purpose of ACA's individual mandate.

CRS Report R45399, *Military Medical Care: Frequently Asked Questions*

See "How does the Patient Protection and Affordable Care Act affect TRICARE?"

Noncitizens

Health coverage for immigrants (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/immigrants/

Describes the eligibility of immigrants for exchange coverage and subsidies, Medicaid, and CHIP.

CRS Report R43561, *Treatment of Noncitizens Under the Affordable Care Act*

The CRS report, which may be of historical interest, summarizes how the ACA's individual mandate, exchanges, exchange subsidies, and Medicaid provisions apply to noncitizens. It also describes the verification of alien status for exchange coverage.

CRS Legal Sidebar LSB10341, *DHS Final Rule on Public Charge: Overview and Considerations for Congress*

Describes the "public charge" rule and how Medicaid and private health insurance are considered in making public charge determinations.

Behavioral Health

Health Insurance and Mental Health Services (U.S. Department of Health and Human Services, MentalHealth.gov)
https://www.mentalhealth.gov/get-help/health-insurance

FAQs about private health insurance, Medicare, and Medicaid coverage of mental health benefits.

Health benefits & coverage: Mental health & substance abuse coverage (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/coverage/mental-health-substance-abuse-coverage/

Brief overview of requirements for behavioral health services coverage in exchange plans.

Affordable Care Act Implementation FAQs—Set 17 (The Center for Consumer Information and Insurance Oversight, November 8, 2013)
http://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/aca_implementation_faqs17.html

FAQs about the implementation of the Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA), as amended by the ACA.

*Affordable Care Act Implementation FAQs—Set 29 (*The Center for Consumer Information and Insurance Oversight, October 23, 2015)
https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/Downloads/FAQs-Part-XXIX.pdf

Additional FAQs about MHPAEA and disclosure, and anorexia treatment coverage.

*FAQs About Affordable Care Act Implementation Part 31 (*The Center for Consumer Information and Insurance Oversight, April 20, 2016)
https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/Downloads/FAQs-31_Final-4-20-16.pdf

Additional FAQs about MHPAEA implementation and Medication Assisted Therapy (MAT) for opioid use disorder.

FAQs About Affordable Care Act Implementation Part 34 and Mental Health and Substance Abuse Disorder Parity Implementation (The Center for Consumer Information and Insurance Oversight, October 27, 2016)
https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/Downloads/FAQ-part-34_10-26-16_FINAL.PDF

Additional FAQs about MHPAEA implementation and disclosure, financial requirements and quantitative treatment limitations, nonquantitative treatment limitations. MAT for opioid use disorder, and court-ordered treatment.

FAQs About Mental Health and Substance Use Disorder Parity Implementation and the 21st Century Cures Act Part 38 (The Center for Consumer Information and Insurance Oversight, June 16, 2017)
https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/Downloads/FAQ-Part-38.pdf

Additional FAQs about implementation and disclosure under the MHPAEA, as amended by ACA and the 21st Century Cures Act.

FAQs About Mental Health and Substance Use Disorder Parity Implementation and the 21st Century Cures Act Part 39 (The Center for Consumer Information and Insurance Oversight, September 5, 2019)
https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/Downloads/FAQs-Part-39.pdf

Additional FAQs about implementation and disclosure under the MHPAEA, as amended by ACA and the 21st Century Cures Act.

Public Health, Workforce, Quality, and Related Provisions

CRS Report R41278, *Public Health, Workforce, Quality, and Related Provisions in ACA: Summary and Timeline*

Detailed section-by-section summary of the ACA's provisions on public health, the health workforce, quality improvement, health centers, prevention and wellness, maternal and child health, nursing homes and other long-term care providers, comparative effectiveness research, health information technology, emergency care, elder justice, biomedical research, FDA and medical products, 340B drug pricing, and malpractice reform. Some of the provisions in this report may have been amended since the report was first published.

CRS Report R44796, *The ACA Prevention and Public Health Fund: In Brief*

Overview of the Prevention and Public Health Fund, which was established by ACA. It describes authority, appropriations, funding distributions, and funded activities.

CRS Report R43911, *The Community Health Center Fund: In Brief*

Overview of the Community Health Center Fund, established by ACA. Includes a table of awarded funds by state. The fund supports the federal Health Center Program and the National Health Service Corps.

CRS Report R44620, *Biologics and Biosimilars: Background and Key Issues*

Discusses the Biologics Price Competition and Innovation Act (BPCIA), enacted as Title VII of the ACA.

CRS Insight IN10728, *The Teaching Health Center Graduate Medical Education (THCGME) Program: Increased Funding and Policy Changes in BBA 2018*

Brief summary of the THCGME program, which was established by ACA. This CRS Insight may be of historical interest.

CRS Insight IN10185, *Congress May Consider Options to Extend Expiring Funds for Primary Care*

Summary of ACA mandatory funding to support the Health Centers program, the National Health Service Corps, and the Teaching Health Center Graduate Medical Education program. Discusses legislation to extend this funding.

CRS Report R44282, *The Ryan White HIV/AIDS Program: Overview and Impact of the Affordable Care Act*

Describes the Ryan White Program and notes that "The long-range impact of ACA on the Ryan White Program—in which health and treatment services provided under Ryan White are replaced by access to such services through health insurance coverage via ACA—remains to be determined."

CRS Report R44272, *Nutrition Labeling of Restaurant Menu and Vending Machine Items*

The report provides background information and summarizes selected aspects of implementing regulations.

CRS Report R43930, *Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program: Background and Funding*

Describes the ACA-established MIECHV Program to support home visits to certain families with young children. The visits are conducted by nurses, mental health clinicians, social workers, or paraprofessionals with specialized training.

CRS Report R45183, *Teen Pregnancy: Federal Prevention Programs*

Describes the Personal Responsibility Education Program (PREP), which was established by ACA.

CRS Insight IN11010, *Funding for ACA-Established Patient-Centered Outcomes Research Trust Fund (PCORTF) Extended Through FY2029*

Describes the Patient-Centered Outcomes Research Institute (PCORI), a private, nonprofit, tax-exempt corporation established by ACA. Also describes funding for the Patient-Centered Outcomes Research Trust Fund (PCORTF), which supports PCORI.

State Innovation Waivers

CRS Report R44760, *State Innovation Waivers: Frequently Asked Questions*

Describes the waiver program, including which ACA provisions may be waived, the application process, and waiver requirements.

Section 1332: State Innovation Waivers (The Center for Consumer Information and Insurance Oversight)

https://www.cms.gov/cciio/programs-and-initiatives/state-innovation-waivers/section_1332_state_innovation_waivers-.html

Federal guidance and correspondence on state innovation waivers and state waiver applications.

Taxes

See also "The Individual Mandate" and "Exchange Subsidies."

Tax Filing Resources

Health coverage & your federal taxes (U.S. Department of Health and Human Services, HealthCare.gov)
https://www.healthcare.gov/taxes/

For consumers, links to forms, tips, and tools for completing federal income tax returns.

Affordable Care Act (ACA) Tax Provisions (Internal Revenue Service)
https://www.irs.gov/Affordable-Care-Act/

Links to common "Questions and Answers" and "Health Care Tax Tips."

ACA Information Center for Tax Professionals (Internal Revenue Service)
https://www.irs.gov/tax-professionals/aca-information-center-for-tax-professionals

Guidance for tax professionals.

Contacts for Tax Filing Assistance

Telephone Assistance (Internal Revenue Service)
https://www.irs.gov/help-resources/telephone-assistance

The IRS is implementing many of the ACA's tax provisions, including the individual mandate, premium tax credits, and employer shared responsibility penalties. The IRS has a Healthcare Hotline for ACA questions (1-800-919-0452) and other telephone hotlines to answer questions from individuals and employers.

Contact Your Local IRS Office (Internal Revenue Service)
https://www.irs.gov/help-resources/contact-your-local-irs-office

Directory of IRS Taxpayer Assistance Centers for in-person help with tax questions and problems. In a directory listing, click the "Services Provided" link; many locations provide "assistance with Affordable Care Act tax provision questions for individuals."

Free Tax Return Preparation for Qualifying Taxpayers (Internal Revenue Service)
https://www.irs.gov/individuals/free-tax-return-preparation-for-you-by-volunteers

Describes tax return preparation programs for persons who make $56,000 or less, persons with disabilities, limited English speaking taxpayers, and persons aged 60 and older.

Need someone to prepare your tax return? (Internal Revenue Service)
https://www.irs.gov/tax-professionals/choosing-a-tax-professional

Tips for choosing a tax preparer, a Directory of Federal Tax Return Preparers with Credentials and Select Qualifications, and how to make a complaint about a tax preparer.

Tax Provisions

Overviews

CRS In Focus IF10591, *Taxes and Fees Enacted as Part of the Affordable Care Act*

Two-page overview of ACA's revenue provisions.

Affordable Care Act (ACA) Tax Provisions (Internal Revenue Service)
https://www.irs.gov/affordable-care-act

Briefly summarizes the ACA's tax provisions. For a more comprehensive list, click "List of Tax Provisions" in the left navigation bar; for many provisions, there are links to "Questions and Answers."

Present Law And Background Relating To The Tax-Related Provisions In The Affordable Care Act (Joint Committee on Taxation, JCX-6-13, March 4, 2013)
https://www.jct.gov/publications.html?func=startdown&id=4511

Summarizes the ACA's revenue (tax) provisions. Note that this publication has not been updated since 2013. Some ACA provisions may have been amended since then (for example, effective dates may have changed or certain provisions may have been repealed).

Tax Statistics

Results of the 2019 Filing Season (Treasury Inspector General for Tax Administration, January 22, 2020)
https://www.treasury.gov/tigta/auditreports/2020reports/202044007fr.pdf

The section "Administration of Affordable Care Act Provisions" has statistics on tax returns regarding premium tax credits (PTC) and advance premium tax credits (APTC).

SOI [Statistics of Income] Tax Stats – Affordable Care Act (ACA) Statistics (Internal Revenue Service)
https://www.irs.gov/uac/soi-tax-stats-affordable-care-act-aca-statistics

Statistics on ACA tax provisions, including the individual mandate (also called the "Health Care Individual Responsibility Payment"), premium tax credits, excise taxes, and the Small Employer Health Care Tax Credit.

SOI [Statistics of Income] Tax Stats—Historic Table 2 (Internal Revenue Service)
https://www.irs.gov/statistics/soi-tax-stats-historic-table-2

Links to state-by-state spreadsheets with data on the ACA individual mandate (see "Health care individual responsibility payment" rows).

Medical Device Tax

CRS Report R43342, *The Medical Device Excise Tax: Economic Analysis*

The report gives an overview of the tax: its legislative origins, its revenue effects, arguments for and against the tax, and its economic effects. Note that the Further Consolidated Appropriations Act, 2020 (P.L. 116-94, December 20, 2019) repealed the tax; the tax does not apply to sales after December 31, 2019. Previously, the Consolidated Appropriations Act, 2016 (P.L. 114-113, December 18, 2015) included a two-year moratorium on the tax for 2016

and 2017. P.L. 115-120 (January 22, 2018) extended the moratorium for an additional two years, for 2018 and 2019, https://www.irs.gov/newsroom/medical-device-excise-tax.

Excise Tax on High-Cost Employer-Sponsored Health Coverage

CRS Report R44147, *Excise Tax on High-Cost Employer-Sponsored Health Coverage: In Brief*

The ACA included a 40% tax on employer-sponsored health coverage. The tax would have applied to the aggregate cost of applicable coverage that exceeded a specified dollar limit. The tax was sometimes called the "Cadillac tax." Note that the Further Consolidated Appropriations Act, 2020 (P.L. 116-94, December 20, 2019) repealed the tax, effective for taxable years beginning after December 31, 2019. Previously, the Consolidated Appropriations Act, 2016 (P.L. 114-113, December 18, 2015) delayed the tax's effective date by two years, to 2020. P.L. 115-120 (January 22, 2018) delayed the tax's effective date for an additional two years, to 2022.

CRS Report R44160, *The Excise Tax on High-Cost Employer-Sponsored Health Coverage: Background and Economic Analysis*

The report analyzed Medical Expenditure Panel Survey data to estimate the share of employer plans with premiums that could exceed the Cadillac tax threshold in future years.

CRS Report R44159, *The Excise Tax on High-Cost Employer-Sponsored Health Insurance: Estimated Economic and Market Effects*

The report "examines several issues. It evaluates the potential of the Cadillac tax to affect health insurance coverage and the health care market. It also examines the expected incidence (burden) of the tax—that is, which group's income will be reduced by the tax. Finally, the report discusses implications for economic efficiency in the context of tax administration."

Congressional Efforts to Repeal or Amend ACA

CRS Report R45244, *Legislative Actions to Modify the Affordable Care Act in the 111th-115th Congresses*

The report summarizes laws enacted during the 111th-115th Congresses that repealed or modified ACA provisions. It also summarizes bills passed in the House or Senate during the 111th-115th Congresses that would have repealed or modified ACA provisions, had they been enacted.

CRS Report R44883, *Comparison of the American Health Care Act (AHCA) and the Better Care Reconciliation Act (BCRA)*

Side-by-side comparison of: (1) current law, (2) the AHCA as passed by the House on May 4, 2017, and (3) the Senate's BCRA discussion draft as updated July 20, 2017.

CRS Report R44903, *Provisions of Obamacare Repeal Reconciliation Act of 2017 (ORRA)*

Section-by-section summary of ORRA as posted on the Senate Budget Committee website on July 19, 2017. ORRA was largely based on H.R. 3762, Restoring Americans' Healthcare Freedom Reconciliation Act of 2015, which President Obama vetoed on January 8, 2016.

CRS Report R44785, *H.R. 1628: The American Health Care Act (AHCA)*

Summarizes the AHCA as passed by the House on May 4, 2017.

H.R. 3762—*To provide for reconciliation pursuant to section 2002 of the concurrent resolution on the budget for fiscal year 2016* (Congress.gov)
https://www.congress.gov/bill/114th-congress/house-bill/3762

H.R. 3762 in the 114th Congress would have amended or repealed several ACA provisions. Congress.gov links to bill and amendment texts, legislative actions, and floor votes. President Obama vetoed the bill on January 8, 2016.

CRS Report R44300, *Provisions of the Senate Amendment to H.R. 3762*

The report, which may be of historical interest, summarizes the version of H.R. 3762 that President Obama vetoed on January 8, 2016.

CRS Report R44238, *Potential Policy Implications of the House Reconciliation Bill (H.R. 3762)*

The report, which may be of historical interest, summarizes the version of H.R. 3762, the Restoring Americans' Healthcare Freedom Reconciliation Act of 2015, that passed the House on October 23, 2015.

CRS Report R44100, *Use of the Annual Appropriations Process to Block Implementation of the Affordable Care Act (FY2011-FY2017)*

Describes ACA's impact on federal spending and ACA provisions in enacted appropriations acts.

Affordable Care Act (Congressional Budget Office)
https://www.cbo.gov/topics/health-care/affordable-care-act

A collection of Congressional Budget Office (CBO) analyses and cost estimates on the ACA and proposals to amend or repeal the ACA.

Agency Audits and Investigations

Oversight.gov (Council of the Inspectors General on Integrity and Efficiency)
https://oversight.gov/

A database of recent public reports from federal Inspectors General (IGs). IGs investigate waste, fraud, and abuse in their agencies' programs and operations. One may search the database for terms such as "Affordable Care Act":
https://www.oversight.gov/reports?field_address_country=All&keywords_exact=affordable%20care%20act&items_per_page=60

Affordable Care Act Reviews (U.S. Department of Health & Human Services, Office of Inspector General)
http://oig.hhs.gov/reports-and-publications/aca/

A compilation of HHS Office of Inspector General (OIG) reports on the ACA. It includes audits, evaluations, and investigations of exchanges and HHS's other ACA-related programs. The HHS OIG's mission is to protect the integrity of HHS programs and the health and welfare of program beneficiaries.

Explore Key Issues by Topic (U.S. Government Accountability Office)
https://www.gao.gov/key_issues/overview#t=1

Choose "Health care" for a compilation of U.S. Government Accountability Office (GAO) reports on its health-care related investigations. Also search GAO's website for ACA-related reports, https://www.gao.gov/search?q=%22affordable+care+act%22. GAO's mission is "We

support Congress in meeting its constitutional responsibilities, and help improve the performance and ensure the accountability of the federal government. We provide Congress with timely information that is objective, fact-based, nonpartisan, nonideological, and balanced."

Cost Estimates and Spending

Affordable Care Act (Congressional Budget Office)
http://www.cbo.gov/topics/health-care/affordable-care-act

A collection of CBO analyses and cost estimates on the ACA and proposals to amend or repeal the ACA, including analyses of the ACA's effects on the federal budget, labor markets, and health insurance coverage. ACA's original cost estimates are in *Selected CBO Publications Related to Health Care Legislation, 2009-2010*, https://www.cbo.gov/publication/21993

CRS Report R41390, *Discretionary Spending Under the Affordable Care Act (ACA)*

Summarizes the ACA's effects on discretionary spending.

CRS Report R41301, *Appropriations and Fund Transfers in the Affordable Care Act (ACA)*

Summarizes the ACA's mandatory appropriations.

CRS Report R45244, *Legislative Actions to Modify the Affordable Care Act in the 111th-115th Congresses*

Discusses ACA's impact on federal spending.

CRS Report R44100, *Use of the Annual Appropriations Process to Block Implementation of the Affordable Care Act (FY2011-FY2017)*

Describes ACA's impact on federal spending and ACA provisions in enacted appropriations acts.

CRS In Focus IF10830, *U.S. Health Care Coverage and Spending*

Two-page overview of national health expenditures and health coverage.

National Health Expenditure Data: Historical (Centers for Medicare & Medicaid Services, Office of the Actuary)
https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html

Estimates of total health care spending in the United States, with breakdowns by service type and source of funds.

Health Care Spending Growth and Federal Policy (U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, March 22, 2016)
https://aspe.hhs.gov/sites/default/files/pdf/190471/SpendingGrowth.pdf

Analysis of post-ACA trends in national health care spending, Medicare spending, and private health insurance spending.

Deregulating Health Insurance Markets: Value to Market Participants (Council of Economic Advisers, February 2019)
https://www.whitehouse.gov/wp-content/uploads/2019/02/Deregulating-Health-Insurance-Markets-FINAL.pdf

Analyzes the effects of ACA and other health insurance regulations, and more recent deregulatory health insurance reforms. Members of the Council of Economic Advisers are appointed by the President with the advice and consent of the Senate.

"Recent Trends in Health Care Costs," in *The Economic Record of the Obama Administration: Reforming the Health Care System* (Council of Economic Advisers, December 2016).
https://obamawhitehouse.archives.gov/sites/default/files/page/files/20161213_cea_record_healh_care_reform.pdf#page=58

Analysis of trends in health care costs: prices, per enrollee spending, and aggregate spending. Members of the Council of Economic Advisers are appointed by the President with the advice and consent of the Senate.

CRS Report R44832, *Frequently Asked Questions About Prescription Drug Pricing and Policy*

Discusses ACA's impact on drug coverage and spending.

Statistics on Insurance Coverage

See also "Exchange Statistics" and "Statistics."

Census Bureau Statistics

Health Insurance (U.S. Census Bureau)
https://www.census.gov/topics/health/health-insurance.html

Census Bureau reports and tables on health coverage.

Health Insurance Coverage in the United States: 2018 (U.S. Census Bureau, September 10, 2019)
https://www.census.gov/library/publications/2019/demo/p60-267.html

National and state health insurance coverage statistics for 2018. Scroll down for detailed tables, including state tables.

My Congressional District (U.S. Census Bureau)
http://www.census.gov/mycd/

After selecting a congressional district, click "$ Socio-Economic" to get health insurance data from the American Community Survey.

Explore Census Data: Advanced Search (U.S. Census Bureau)
https://data.census.gov/cedsci/advanced

Contains detailed health insurance coverage tables for recent years. Under "Filters," choose *Topics* > *Health* > *Health Insurance*. One can also filter by *Year*. Once one has a table, click *Customize Table* to modify it by *Geographies*, including by *Congressional District*. When using Census tables, note the margins of error.[8]

Selected Characteristics of Health Insurance Coverage in the United States, Table ID S2701, American Community Survey (U.S. Census Bureau)
https://data.census.gov/cedsci/table?tid=S2701

[8] "Margin of error" is defined at the U.S. Census Bureau's Glossary, https://www.census.gov/glossary/#term_MarginofErrorMOE.

This table shows the estimated percent of the population that was uninsured at the time of the survey. It also has estimates of the percent uninsured for selected demographic groups. For congressional district data, click "Customize Table" to modify by *Geographies*, then choose *Congressional District.* A map is available at *Uninsured Rate by Congressional District: 2018,* https://www.census.gov/content/dam/Census/library/visualizations/2019/demo/p60-267/Map_Uninsured_Rate_by_CD_2018.pdf.

When using Census tables, note the margins of error.[9] The above table and map show one-year estimates (2018). One-year estimates might not be available for geographies with small populations.

Five-year estimates (2014-2018) are available at https://data.census.gov/cedsci/table?tid=ACSST5Y2018.S2701. Five-year estimates are based on five years of survey data and often have smaller margins of error than one-year estimates. For geographies with small populations, five-year estimates are also more likely to be available than one-year estimates.

Small Area Health Insurance Estimates (SAHIE) Program: Health Insurance Interactive Data Tool (U.S. Census Bureau)
https://www.census.gov/data-tools/demo/sahie/#/

SAHIE produces model-based estimates of health insurance coverage for counties and states. This is an interactive tool for showing uninsured rate trends. On the left, one can filter by state, county, age group, race, sex, and income.

U.S. Department of Health and Human Services Statistics

National Health Interview Survey (Centers for Disease Control and Prevention, National Center for Health Statistics)
http://www.cdc.gov/nchs/nhis/new_nhis.htm

Includes survey data on lack of insurance, public health plan coverage, and private health insurance coverage, by region and state. Most of the tables show the percentage of the population that was uninsured at the time of the survey, although some of the national tables also show estimates of those uninsured for at least part of the year prior to the survey, and those uninsured for more than a year at the time of the survey. See the following:

- Early release reports are compiled at *Health Insurance Coverage: Estimates from the National Health Interview Survey*, https://www.cdc.gov/nchs/nhis/healthinsurancecoverage.htm
- National, regional, and selected state data for 2018 are in *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey, 2018* (May 2019), https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201905.pdf
- National, regional, and selected state data for 2017 are in *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey, 2017* (May 2018), https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201805.pdf

[9] "Margin of error" is defined at the U.S. Census Bureau's Glossary, https://www.census.gov/glossary/#term_MarginofErrorMOE.

- National, regional, and selected state data for 2016 are in *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey, 2016* (May 2017), https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201705.pdf
- National, regional, and state data for 2015 are in *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey, 2015* (May 2016), http://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201605.pdf
- National, regional, and state data for 2014 are in *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey, 2014* (June 2015), http://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201506.pdf
- State data comparing 2013 and 2014 are in Health Insurance Annual State Estimate Tables (June 2015), http://www.cdc.gov/nchs/data/nhis/earlyrelease/State_estimates_insurance_2013_2014.pdf
- National trends for the nonelderly population since 1968 are in *Long-term Trends in Health Insurance Coverage,* https://www.cdc.gov/nchs/data/nhis/health_insurance/TrendHealthInsurance1968_2018.pdf

Health Coverage Research (U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation)
https://aspe.hhs.gov/health-coverage-research

Health coverage research published during President Trump's Administration (that is, since January 20, 2017).

Historical Research (U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation)
https://aspe.hhs.gov/historical-research

Research on ACA's impacts, including on insurance coverage, published during President Obama's Administration (that is, before January 20, 2017). For example, see *Health Insurance Coverage and the Affordable Care Act, 2010-2016* (March 2016), https://aspe.hhs.gov/sites/default/files/pdf/187551/ACA2010-2016.pdf.

Medical Expenditure Panel Survey (Agency for Healthcare Research and Quality)
http://meps.ahrq.gov/

Includes private-sector employer survey data on employer-sponsored insurance; for example,

- *Trends in Health Insurance at Private Employers, 2008-2018,* https://meps.ahrq.gov/data_files/publications/st524/stat524.pdf
- *Summary Data Tables*, https://meps.ahrq.gov/mepsweb/data_stats/quick_tables.jsp#insurance
- *MEPS Insurance Component Chartbook 2018,* https://meps.ahrq.gov/data_files/publications/cb23/cb23.pdf
- *Results from the 2017 MEPS-IC Private-Sector National Tables,* https://meps.ahrq.gov/data_files/publications/st513/stat513.pdf; and
- *Results from the 2016 MEPS-IC Private-Sector National Tables,* https://meps.ahrq.gov/data_files/publications/st503/stat503.pdf.

Legal and Regulatory Issues

See also "Women's Health Care."

CRS Legal Sidebar LSB10389, *Fifth Circuit Holds the Individual Mandate Unconstitutional: Implications for Congress*

CRS analysis of the lawsuit *Texas v. United States*. Discusses the December 18, 2019 decision of the U.S. Court of Appeals for the Fifth Circuit, and identifies legislative options for Congress. On March 2, 2020, the Supreme Court granted review in the Texas litigation.

CRS Legal Sidebar LSB10360, *Using the Power of the Purse to Change Policy: SCOTUS Case on ACA Risk Corridors Asks Important Appropriations Law Question*

CRS analysis of the lawsuits consolidated under *Maine Community Health Options v. United States*, pertaining to ACA's risk corridor provision. The Supreme Court heard oral arguments on December 10, 2019 and issued a decision on April 27, 2020, https://www.supremecourt.gov/opinions/19pdf/18-1023_m64o.pdf.

Federal Register (National Archives and Records Administration)
https://www.federalregister.gov/documents/search?conditions%5Bterm%5D=%22affordable+care+act%22+%7C+%22111-148%22++%7C+ppaca&order=newest

This link searches the *Federal Register* for proposed rules, final rules, notices, and presidential documents mentioning the ACA.

CRS Report R43474, *Implementing the Affordable Care Act: Delays, Extensions, and Other Administrative Actions Taken by the Obama Administration*

The report, which may be of historical interest, summarizes selected administrative actions to address ACA implementation and discusses the congressional lawsuit *U.S. House of Representatives v. Burwell*.

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Health Insurance Premium Tax Credits and Cost-Sharing Subsidies

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CRS REPORT
Prepared for Members and
Committees of Congress

Summary

Certain individuals without access to subsidized health insurance coverage may be eligible for premium tax credits, as established under the Patient Protection and Affordable Care Act (ACA; P.L. 111-148, as amended). The dollar amount of the premium credit varies from individual to individual, based on a formula specified in statute. Individuals who are eligible for the premium credit, however, generally are still required to contribute some amount toward the purchase of health insurance.

In order to be eligible to receive premium tax credits, individuals must have annual household income at or above 100% of the federal poverty level (FPL) but not more than 400% FPL; not be eligible for certain types of health insurance coverage, with exceptions; file federal income tax returns; and enroll in a plan through an individual exchange. Exchanges are not insurance companies; rather, exchanges serve as marketplaces for the purchase of health insurance. They operate in every state and the District of Columbia (DC).

The premium credit is refundable, so individuals may claim the full credit amount when filing their taxes, even if they have little or no federal income tax liability. The credit also is advanceable, so individuals may choose to receive the credit on a monthly basis to coincide with the payment of insurance premiums. The ACA premium credit is financed through permanent appropriations authorized under the federal tax code.

Individuals who receive premium credits also may be eligible for subsidies that reduce cost-sharing expenses. The ACA established two types of cost-sharing subsidies (or cost-sharing reductions). One type of subsidy reduces annual cost-sharing limits; the other directly reduces cost-sharing requirements (e.g., lowers a deductible). Individuals who are eligible for cost-sharing reductions may receive both types. Although applicable health plans must provide these cost-sharing reductions, such plans are no longer receiving payments to reimburse them for the cost of providing the subsidies.

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Background

Certain individuals and families without access to subsidized health insurance coverage may be eligible for premium tax credits.[1] These premium credits, authorized under the Patient Protection and Affordable Care Act (ACA; P.L. 111-148, as amended), apply toward the cost of purchasing specific types of health plans offered by private health insurance companies.[2] Individuals who receive premium credits also may be eligible for subsidies that reduce cost-sharing expenses.

To be eligible for premium tax credits and cost-sharing subsidies, individuals and families must enroll in health plans offered through health insurance exchanges and meet other criteria. Exchanges operate in every state and the District of Columbia (DC). Exchanges are not insurance companies; rather, they are marketplaces that offer private health plans to qualified individuals and small businesses. The ACA specifically requires exchanges to offer insurance options to individuals and to small businesses, so exchanges are structured to assist these two different types of customers. Consequently, each state has one exchange to serve individuals and families (an *individual exchange*) and another to serve small businesses (a *Small Business Health Options Program*, or *SHOP, exchange*).

Health insurance companies that participate in the individual and SHOP exchanges must comply with numerous federal and state requirements. Among such requirements are restrictions related to the determination of premiums for exchange plans (*rating restrictions*). Insurance companies are prohibited from using health factors in determining premiums. However, they are allowed to vary premiums by age (within specified limits), geography, number of individuals enrolling in a plan, and smoking status (within specified limits).[3]

Premium Tax Credits

The dollar amount of the premium tax credit is based on a statutory formula and varies from individual to individual. Individuals who are eligible for the premium credits generally are required to contribute some amount toward the purchase of their health insurance.

The premium credit is refundable, so individuals may claim the full credit amount when filing their taxes, even if they have little or no federal income tax liability. The credit also is advanceable, so individuals may choose to receive the credit in advance of filing taxes on a monthly basis to coincide with the payment of insurance premiums (technically, advance payments go directly to insurers). Advance payments automatically reduce monthly premiums by the credit amount. Therefore, the direct cost of insurance to an individual or family eligible for premium credits generally will be lower than the advertised cost for a given exchange plan.

[1] See Internal Revenue Service (IRS), "The Premium Tax Credit," at https://www.irs.gov/affordable-care-act/individuals-and-families/the-premium-tax-credit-the-basics-0.

[2] §1401 of the Patient Protection and Affordable Care Act (ACA; P.L. 111-148, as amended), new §36B of the Internal Revenue Code of 1986 (IRC).

[3] For additional discussion regarding these rating restrictions, see CRS Report R45146, *Federal Requirements on Private Health Insurance Plans*.

Eligibility

In order to be eligible to receive premium tax credits, individuals must meet the following criteria:

- file federal income tax returns;
- enroll in a plan through an individual exchange;
- have annual household income at or above 100% of the federal poverty level (FPL) but not more than 400% FPL;[4] and
- not be eligible for minimum essential coverage (see "Not Eligible for Minimum Essential Coverage" section in this report), with exceptions.

These eligibility criteria are discussed in greater detail below.

File Federal Income Tax Returns

Because the premium assistance is provided in the form of tax credits, such assistance is administered by the Internal Revenue Service (IRS) through the federal tax system. The premium credit process requires qualifying individuals to file federal income tax returns, even if their incomes are at levels that normally do not necessitate the filing of such returns.

Married couples are required to file joint tax returns to claim the premium credit. The calculation and allocation of credit amounts may differ in the event of a change in tax-filing status during a given year (e.g., individuals who marry or divorce).[5]

Enroll in a Plan Through an Individual Exchange

Premium credits are available only to individuals and families enrolled in plans offered through individual exchanges; premium credits are not available through SHOP exchanges. Individuals may enroll in exchange plans if they (1) reside in a state in which an exchange was established; (2) are not incarcerated, except individuals in custody pending the disposition of charges; and (3) are citizens or have other lawful status.[6]

Undocumented individuals (individuals without proper documentation for legal residence) are prohibited from purchasing

Actuarial Value and Metal Plans

Most health plans sold through exchanges established under the ACA are required to meet actuarial value (AV) standards, among other requirements. AV is a summary measure of a plan's generosity, expressed as the percentage of medical expenses estimated to be paid by the insurer for a standard population and set of allowed charges. In other words, the higher the percentage, the lower the cost sharing, on average, for the population. AV is not a measure of plan generosity for an enrolled individual or family, nor is it a measure of premiums or benefits packages.

An exchange plan that is subject to the AV standards is given a precious metal designation: platinum (AV of 90%), gold (80%), silver (70%), or bronze (60%).

[4] The guidelines that designate the federal poverty level (FPL) are used in various federal programs for eligibility purposes. The poverty guidelines vary by family size and by whether the individual resides in the 48 contiguous states and the District of Columbia, Alaska, or Hawaii. See Office of the Assistant Secretary for Planning and Evaluation, "Frequently Asked Questions Related to the Poverty Guidelines and Poverty," at https://aspe.hhs.gov/frequently-asked-questions-related-poverty-guidelines-and-poverty#programs.

[5] See IRS, "Health Insurance Premium Tax Credit: Final Regulations," 77 *Federal Register* 30377, May 23, 2012.

[6] Generally, enrollment through individual exchanges is restricted to a certain time period: an open enrollment period (OEP). The OEP for exchanges occurs near the end of a given calendar year for enrollment into health plans that begin

coverage through an exchange, even if they could pay the entire premium. Because the ACA prohibits undocumented individuals from obtaining exchange coverage, these individuals are not eligible for premium credits. Although certain individuals are not eligible to enroll in exchanges due to incarceration or legal status, their family members may still receive premium credits as long as these family members meet all eligibility criteria.

Have Annual Household Income Between 100% and 400% of the Federal Poverty Level

Individuals generally must have household income within a statutorily defined range (based on FPL) to be eligible for premium credits, with some exceptions. Household income is measured according to the definition for modified adjusted gross income (MAGI).[7] An individual whose MAGI is at or above 100% FPL up to and including 400% FPL may be eligible to receive premium credits.[8]

Table 1 displays the income ranges that correspond to the eligibility criteria for premium credits in 2020 (using poverty guidelines updated by the Department of Health and Human Services [HHS] for 2019).[9]

Table 1. Income Ranges Applicable to Eligibility for 2020 Premium Tax Credits, by Selected Family Sizes

(based on 2019 HHS poverty guidelines)

Number of Persons in Family	48 Contiguous States and DC	Alaska	Hawaii
1	$12,490 - $49,960	$15,600 - $62,400	$14,380 - $57,520
2	$16,910 - $67,640	$21,130 - $84,520	$19,460 - $77,840
3	$21,330 - $85,320	$26,660 - $106,640	$24,540 - $98,160
4	$25,750 - $103,000	$32,190 - $128,760	$29,620 - $118,480

the following year. Under certain circumstances, individuals may enroll in exchange plans outside of the OEP. For individuals who experience a "triggering event" during the plan year, exchanges are required to provide a "special enrollment period" (SEP) to allow such individuals the option of enrolling into an exchange for that plan year. SEP rules are specified at 45 C.F.R. 155.40, at https://www.govinfo.gov/content/pkg/CFR-2013-title45-vol1/xml/CFR-2013-title45-vol1-sec155-420.xml.

[7] See CRS Report R43861, *The Use of Modified Adjusted Gross Income (MAGI) in Federal Health Programs*, for background information about the use of MAGI in determining eligibility for premium tax credits.

[8] There are exceptions to the lower bound income threshold at 100% FPL. One exception relates to the state option under the ACA to expand Medicaid for individuals with income up to 138% FPL. If a state chooses to undertake the ACA Medicaid expansion (or has already expanded Medicaid above 100% FPL), eligibility for premium credits would begin above the income level at which Medicaid eligibility ends in such a state. (Note that in states that do not expand Medicaid to at least 100% FPL, some low-income residents in those states are *ineligible* for both premium credits and Medicaid.) Another exception is for lawfully present aliens with incomes below 100% FPL, who are *not* eligible for Medicaid for the first five years that they are lawfully present. The ACA established §36B(c)(1)(B) of the IRC to allow such lawfully present aliens to be eligible for premium credits. Lastly, the final regulation on premium credits provided a special rule for credit recipients whose incomes at the end of a given tax year end up being less than 100% FPL. Such individuals will continue to be considered eligible for premium tax credits for that tax year.

[9] The poverty guidelines are updated annually, at the beginning of the year. However, premium credit calculations are based on the prior year's guidelines to provide individuals with timely information as they compare and enroll in exchange plans during the open enrollment period (which occurs prior to the beginning of the plan year).

Source: Congressional Research Service (CRS) computations based on Department of Health and Human Services (HHS), "Annual Update of the HHS Poverty Guidelines," 84 *Federal Register* 1167, February 1, 2019, at https://www.govinfo.gov/content/pkg/FR-2019-02-01/pdf/2019-00621.pdf.

Notes: For 2020, the income levels used to calculate premium credit eligibility and amounts are based on 2019 HHS poverty guidelines. The poverty guidelines are updated annually for inflation. DC = District of Columbia.

Not Eligible for Minimum Essential Coverage

To be eligible for a premium credit, an individual may *not* be eligible for *minimum essential coverage* (MEC), with exceptions (described below). The ACA broadly defines MEC to include Medicare Part A; Medicare Advantage; Medicaid (with exceptions); the State Children's Health Insurance Program (CHIP); Tricare; Tricare for Life, a health care program administered by the Department of Veterans Affairs; the Peace Corps program; any government plan (local, state, federal), including the Federal Employees Health Benefits Program (FEHBP); any plan offered in the individual health insurance market; any employer-sponsored plan (including group plans regulated by a foreign government); any grandfathered health plan; any qualified health plan offered inside or outside of exchanges; and any other coverage (such as a state high-risk pool) recognized by the HHS Secretary.[10]

However, the ACA provides certain exceptions regarding eligibility for MEC and premium tax credits. An individual may be eligible for premium credits even if he or she is eligible for any of the following sources of MEC:

- the individual (non-group) health insurance market;[11]
- an employer-sponsored health plan that is either unaffordable[12] or inadequate;[13] or
- limited benefits under the Medicaid program.[14]

Medicaid Expansion

Under the ACA, states have the option to expand Medicaid eligibility to include all non-elderly, nonpregnant individuals with incomes up to 138% FPL.[15] If an individual who applied for premium credits through an exchange is determined to be eligible for Medicaid, the exchange must have that individual enrolled in Medicaid instead of an exchange plan. Therefore, in states that have expanded Medicaid eligibility to include individuals with incomes at or above 100% FPL (or any state in which such individuals currently are eligible for Medicaid), premium credit eligibility begins at the income level at which Medicaid eligibility ends.

[10] See CRS Report R44438, *The Individual Mandate for Health Insurance Coverage: In Brief*.

[11] The private health insurance market continues to exist outside of the ACA exchanges. Moreover, almost all exchange plans may be offered in the market outside of exchanges.

[12] In 2018, if the employee's premium contribution toward the employer's self-only plan exceeds 9.56% of household income, such a plan is considered unaffordable for premium credit eligibility purposes; see https://www.irs.gov/pub/irs-drop/rp-17-36.pdf.

[13] If a plan's actuarial value is less than 60%, the plan is considered inadequate for premium credit eligibility purposes.

[14] Limited benefits under Medicaid include the pregnancy-related benefits package, treatment of emergency medical conditions only, and other limited benefits.

[15] See CRS In Focus IF10399, *Overview of the ACA Medicaid Expansion*.

Determination of Required Premium Contributions and Premium Tax Credits

Required Premium Contribution Examples

The amount of the premium tax credit varies from individual to individual. Calculation of the credit is based on the household income (i.e., MAGI) of the individual (and dependents), the premium for the exchange plan in which the individual (and dependents) is enrolled, and other factors. For simplicity's sake, the following formula may be used to calculate the credit:

Premium for Standard Plan – Required Premium Contribution = Premium Tax Credit

As mentioned in the "Background" section of this report, premiums are allowed to vary based on a few characteristics of the person (or family) seeking health insurance. *Standard Plan* refers to the second-lowest-cost silver plan (see text box in "Eligibility" section of this report) in the person's (or family's) local area. *Required Premium Contribution* refers to the amount that a premium credit-eligible individual (or family) may pay toward the exchange premium. The required premium contribution is capped according to household income, with such income measured relative to FPL (see **Table 1**). The cap requires lower-income individuals to contribute a smaller share of income toward the monthly premium, compared with the requirement for higher-income individuals (see **Figure 1**).

The *Premium Tax Credit* is the difference between the premium and the required contribution. Given that the premium and required contribution vary from person to person, the premium credit amount likewise varies greatly. An extreme example is when the premium for the standard plan is very low, the tax credit may cover the entire premium and the individual may pay nothing toward the premium. The opposite extreme scenario, for some higher-income individuals, is when the required contribution exceeds the premium amount, leading to a credit of zero dollars, meaning the individual (or family) would pay the entire premium amount.

To illustrate the premium credit calculation for 2020, consider a premium credit recipient living in Lebanon, KS—the geographic center of the continental United States—with household income of $18,735 (150% FPL, according to premium credit regulations). Such an individual would be required to contribute 4.12% of that income toward the premium for the standard plan in his or her local area (see **Figure 1**). In other words, the maximum amount that this person would pay for the year toward the standard plan is approximately $772 (that is, $18,735 × 4.12%), or around $64 per month. In contrast, an individual residing in the same area with income of $31,225 (250% FPL) would be required to contribute 8.29% of his or her income toward the premium for the same plan. The maximum amount this individual would pay for the standard plan would be around $2,589 for the year, or approximately $216 per month.[16]

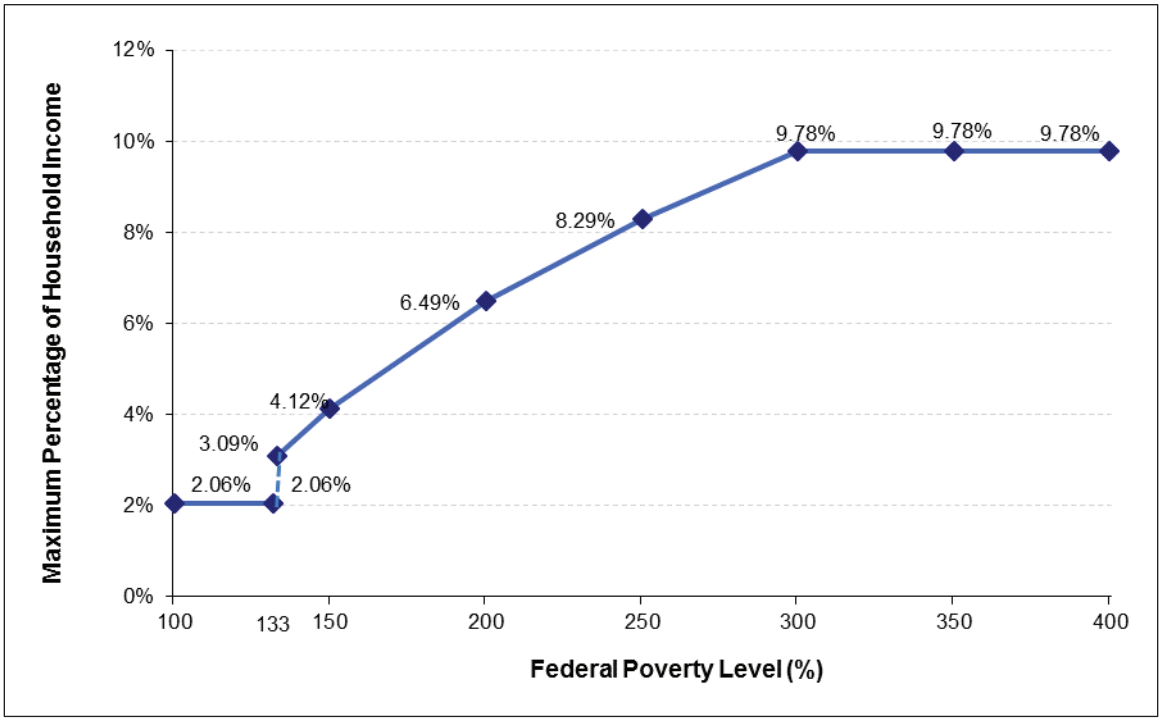
A similar calculation is used to determine the required premium contribution for a family. For instance, consider a couple and one child residing in Lebanon, KS, who are eligible for premium tax credits with household income of $31,995 in 2020. For a family of this size, this income is equivalent to 150% FPL for premium credit purposes. Just as in the example above of the individual with income at 150% FPL, this family would be required to contribute 4.12% of its annual income toward the premium for the standard plan in its local area. This means that the

[16] For estimates of premium credit amounts based on factors for which insurance companies are allowed to vary premiums (as described in the "Background" section of this report), see Kaiser Family Foundation, "Health Insurance Marketplace Calculator," at http://kff.org/interactive/subsidy-calculator/.

maximum amount the family would pay for that plan is approximately $1,318 in 2020, or around $110 per month.

Figure 1. Cap on Required Premium Contributions for Individuals Receiving Premium Tax Credits in 2020

(cap varies by income, as measured relative to the federal poverty level)



Source: IRS, Revenue Procedure 2019-29, https://www.irs.gov/pub/irs-drop/rp-19-29.pdf.

Notes: The cap assumes that the individual enrolls in the standard plan (second-lowest-cost silver plan) used to calculate premium credit amounts. If the individual were to enroll in an exchange plan that is more expensive than this standard plan, the individual would be responsible for paying that premium difference.

Generally, the arithmetic difference between the premium and the individual's (or family's) required contribution is the tax credit amount provided to the individual (or family). Therefore, factors that affect either the premium or the required contribution (or both) will change the premium credit amount; such factors include age, family size, and choice of metal plan.

Reconciliation of Premium Tax Credits

As mentioned previously, an eligible individual (or family) may receive advance payments of the premium credit to coincide with when insurance premiums are due. For such an individual, advance payments are provided on a monthly basis and are based on income in the prior year's tax return. When an individual files his or her tax return for a given year, the total amount of advance payments he or she received in that tax year is reconciled with the amount he or she should have received.

If an individual's income increased during the year and he or she received too much in premium credits, the excess amount will be repaid in the form of a tax payment. For individuals with incomes below 400% FPL, the repayment amounts are capped, with greater tax relief provided to individuals with lower incomes (see **Table 2**).

Table 2. Annual Limits on Repayment of Excess Premium Tax Credits

Household Income (Expressed as a Percentage of the Federal Poverty Level)	Applicable Dollar Limit for Unmarried Individuals[a]
Less Than 200%	$325
At Least 200% But Less Than 300%	$800
At Least 300% But Less Than 400%	$1,350

Source: IRS, Internal Revenue Bulletin 2019-47, at https://www.irs.gov/irb/2019-47_IRB.

Notes: The applicable dollar limit for all other tax filers is twice the limit for unmarried individuals.

a. Does not include surviving spouses or heads of households.

If an individual's income decreased during the year and he or she should have received a larger tax credit, the additional credit amount will be included in the individual's tax refund for the year or used to reduce the amount of taxes owed.

Preliminary Tax Credit Data

The IRS has published preliminary data about the ACA tax credit in its annual "Statistics of Income" (SOI) reports. The most recently published SOI report is for tax year 2017.[17] The following data provide summary statistics about two overlapping taxpayer populations: individuals who received advance payments of the ACA tax credit, and individuals who claimed the credit on their individual income tax returns.[18]

Tax Year 2017

For tax year 2017, nearly 6.1 million tax returns indicated receipt of advance payments of the ACA tax credit, totaling to almost $32 billion. Of those 6.1 million returns, nearly 2.5 million taxpayers received advance payments that were less than what they were eligible for, and approximately 3.4 million taxpayers received advance payments that were more than what they were eligible for.[19] The remaining difference represents taxpayers who received the correct amount in advance payments.

The SOI data indicate that approximately 5.3 million tax returns for the 2017 tax year claimed a total of nearly $28.8 billion of ACA tax credit. The 5.3 million returns represent the number of taxpayers who were actually eligible for the ACA tax credit, based on the information provided in the 2017 tax returns.[20] These eligible taxpayers represent those who received advance payments

[17] The data represent tax return information at the time of filing; therefore, the data do not incorporate corrections or amendments made to the tax returns at a later time. IRS, "Affordable Care Act Items," Table 2.7, at https://www.irs.gov/statistics/soi-tax-stats-individual-income-tax-returns-publication-1304-complete-report.

[18] The SOI report does not include all estimates of tax credit recipients and claimants necessary to fully describe the overlap of these two taxpayer populations.

[19] The 3.4 million taxpayers who received excess advanced payments paid back a total of approximately $3.8 billion.

[20] The number of taxpayers who received advance payments exceeded the number who were eligible for the credits, indicating that some taxpayers received unauthorized credits. The IRS did not include, in the SOI report, an estimate of the number of taxpayers who received unauthorized credits.

of the credit and those who claimed the credit after the end of the tax year.[21] The IRS also has published limited tax credit data by state, county, and zip code.[22]

Enrollment Data

HHS regularly publishes data on persons selecting and enrolling in exchange plans, including individuals who were determined eligible for the premium tax credit. For 2020, HHS made reports and public-use files available with national enrollment data, as well as limited data by state, county, and zip code.[23] During the 2020 open enrollment period, approximately 87% of all exchange enrollees were eligible for the ACA tax credit.[24]

Cost-Sharing Subsidies

An individual who qualifies for the premium tax credit, is enrolled in a silver plan (see text box above, "Actuarial Value and Metal Plans"), *and* has annual household income no greater than 250% FPL is eligible for cost-sharing subsidies.[25] The purpose of these subsidies is to reduce an individual's (or family's) expenses when he or she receives health services covered under the silver plan. There are two types of subsidies, and both are based on income (see descriptions below). Individuals who are eligible for cost-sharing assistance may receive both types of subsidies, as long as they meet the applicable eligibility requirements.

The ACA requires the HHS Secretary to provide full reimbursements to insurers that provide cost-sharing subsidies. Federal outlays for such reimbursements totaled the following amounts:

- FY2014: $2.111 billion;
- FY2015: $5.382 billion;
- FY2016: $5.652 billion;
- FY2017: $7.317 billion; and
- FY2018: $0[26]

Although the ACA authorized the cost-sharing subsidies and payments to reimburse insurers, it did not address the financing for such payments. The Obama Administration made cost-sharing subsidy payments to insurers using an appropriation that finances the premium tax credits. The House of Representatives filed suit, claiming that the payments violated the appropriations clause of the U.S. Constitution. After holding that the House has standing to sue the Obama Administration, the U.S. District Court for the District of Columbia concluded that the payment of the cost-sharing subsidies was unconstitutional for lack of a valid appropriation enacted by

[21] The IRS did not include, in the SOI report, separate estimates of the number of eligible taxpayers who received advance payments and the number who did not.

[22] See IRS, "ACA Data from Individuals," at https://www.irs.gov/statistics/soi-tax-stats-affordable-care-act-aca-statistics-individual-income-tax-items.

[23] Centers for Medicare & Medicaid Services (CMS), "2020 Marketplace Open Enrollment Period Public Use Files," at https://www.cms.gov/index.php/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/2020-Marketplace-Open-Enrollment-Period-Public-Use-Files.

[24] See CMS, "Health Insurance Exchanges 2020 Open Enrollment Report," April 1, 2020, at https://www.cms.gov/files/document/4120-health-insurance-exchanges-2020-open-enrollment-report-final.pdf.

[25] §1402 of the ACA.

[26] Data provided to CRS by the IRS Budget Office on March 21, 2019.

Congress. The court barred the Obama Administration from making the payments but stayed its decision pending appeal of the case. Following the November 2016 election, the court delayed the case to allow for nonjudicial resolution, including possible legislative action. Congress did not provide appropriations, and on October 13, 2017, the Trump Administration filed a notice announcing it would terminate payments for these subsidies beginning with the payment that was scheduled for October 18.[27] However, the administrative decision to terminate cost-sharing reduction payments provides no relief to insurers that are required under federal law to provide subsidies to eligible individuals.

Reduction in Annual Cost-Sharing Limits

Each metal plan limits the total amount an enrollee will be required to pay out of pocket for use of covered services in a year (referred to as an *annual cost-sharing limit* in this report). In other words, the amount an individual spends in a given year on health care services covered under his or her plan is capped.[28] For 2020, the annual cost-sharing limit for self-only coverage is $8,150; the corresponding limit for family coverage is $16,300.[29] One type of cost-sharing assistance reduces such limits (see **Table 3**). This cost-sharing subsidy reduces the annual limit faced by premium credit recipients with incomes up to and including 250% FPL; greater subsidy amounts are provided to those with lower incomes. In general, this cost-sharing assistance targets individuals and families that use a great deal of health care in a year and, therefore, have high cost-sharing expenses. Enrollees who use very little health care may not generate enough cost-sharing expenses to reach the annual limit.

Table 3. ACA Cost-Sharing Subsidies: Reduced Annual Cost-Sharing Limits, 2020

Household Income Tier, by Federal Poverty Level	Annual Cost-Sharing Limits	
	Self-Only Coverage	*Family Coverage*
100% to 150%	$2,700	$5,400
Greater Than 150% to 200%	$2,700	$5,400
Greater Than 200% to 250%	$6,500	$13,000

Source: Department of Health and Human Services (HHS), "Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2020," Table 9, 84 *Federal Register* 17542, April 25, 2019, at https://www.govinfo.gov/content/pkg/FR-2019-04-25/pdf/2019-08017.pdf.

Note: ACA = Patient Protection and Affordable Care Act (P.L. 111-148, as amended).

For example, consider the hypothetical individual who resides in Lebanon, KS, and has household income at 150% FPL (as discussed in the "Required Premium Contribution Examples" section of this report). A person eligible to receive cost-sharing subsidies would face an annual cost-sharing limit of $2,700, compared to an annual limit of $8,150 for someone who does not receive this subsidy. The practical effect of this reduction would occur when this individual spent up to the reduced amount. For additional covered services received by the individual, the insurance company would pay the entire cost. Therefore, by reducing the annual cost-sharing

[27] For a discussion of legal considerations related to the termination of CSR payments, see CRS Legal Sidebar LSB10018, *Department of Health and Human Services Halts Cost-Sharing Reduction (CSR) Payments*.

[28] The annual cost-sharing limit applies only to health services that are covered under the health plan and are received within the provider network, if applicable.

[29] See "Maximum Annual Limitation on Cost Sharing for Plan Year 2020," 84 *Federal Register* 17541, April 25, 2019, at https://www.govinfo.gov/content/pkg/FR-2019-04-25/pdf/2019-08017.pdf.

limit, eligible individuals are required to spend less before benefitting from this financial assistance.

Reduction in Cost-Sharing Requirements

The second type of cost-sharing subsidy also applies to premium credit recipients with incomes up to and including 250% FPL. For eligible individuals, the cost-sharing requirements (for the plans in which they have enrolled) are reduced to ensure that the plans cover a certain percentage of allowed health care expenses, on average. The practical effect of this cost-sharing subsidy is to increase the actuarial value (AV) of the exchange plan in which the person is enrolled (**Table 4**), so enrollees face lower cost-sharing requirements than they would have without this assistance. Given that this type of cost-sharing subsidy directly affects cost-sharing requirements (e.g., lowers a deductible), both enrollees who use minimal health care and those who use a great deal of services may benefit from this assistance.

Table 4. ACA Cost-Sharing Subsidies: Increased Actuarial Values

Household Income Tier, by Federal Poverty Level	New Actuarial Values for Cost-Sharing Subsidy Recipients
100% to150%	94%
Greater Than 150% to 200%	87%
Greater Than 200% to 250%	73%

Source: 45 C.F.R. §156.420.

Note: ACA = Patient Protection and Affordable Care Act (P.L. 111-148, as amended).

To be eligible for cost-sharing subsidies, an individual must be enrolled in a silver plan, which already has an AV of 70% (see text box above, "Actuarial Value and Metal Plans"). For an individual who receives the subsidy referred to in **Table 4**, the health plan will impose different cost-sharing requirements so that the silver plan will meet the applicable increased AV. The ACA does not specify how a plan should reduce cost-sharing requirements to increase the AV from 70% to one of the higher AVs. Through regulations, HHS requires each insurance company that offers a plan subject to these cost-sharing subsidies to develop variations of its silver plan; these silver plan variations must comply with the higher levels of actuarial value (73%, 87%, and 94%).[30] When an individual is determined by an exchange to be eligible for a cost-sharing subsidy, the person is enrolled in the silver plan variation that corresponds with his or her income.

Consider the same hypothetical individual discussed in the previous section. Since this person's income is at 150% FPL, if he or she receives this type of subsidy, the silver plan in which he or she is enrolled will have an AV of 94% (as indicated in **Table 4**), instead of the usual 70% AV for silver plans. This marked change in AV entails notable reductions in cost-sharing requirements. For example, the annual medical deductible of the standard plan in the local area for this hypothetical individual is $4,000 in 2020.[31] However, the plan variation with a 94% AV has a deductible of $500.[32] The practical effect for this hypothetical person is that he or she would have

[30] See 45 C.F.R. §156.420.

[31] A deductible is the amount an insured individual pays before a health insurance company begins to pay for health care services covered under the plan in which that individual is enrolled.

[32] The deductible data are available at https://data.healthcare.gov/.

to spend $500, instead of $4,000, before the insurer would begin to pay for medical claims associated with that person's use of covered services.[33]

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Insert Acknowledgments Here

Disclaimer

[33] Certain services, such as preventive health services, are exempt from any cost-sharing requirements, including deductibles.

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INTERIM SUMMARY REPORT ON RISK ADJUSTMENT FOR THE 2019 BENEFIT YEAR

Published: March 25, 2020

I. Background

Section 1343 of the Patient Protection and Affordable Care Act (PPACA) establishes a permanent risk adjustment program to provide payments to health insurance issuers that offer plans that attract higher-than-average risk enrollees, such as those with chronic conditions. These payments reduce the incentive for issuers to structure their plan benefit designs or marketing strategies to avoid such enrollees and lessening the potential influence of risk selection on the premiums that plans charge. In response to stakeholder feedback, HHS also began releasing an interim summary report to provide issuers and states with additional information on the progress of the risk adjustment program for the applicable benefit year prior to publication of the final report.

The risk adjustment methodology developed by the Department of Health and Human Services (HHS) is based on the premise that premiums should reflect differences in plan benefits, quality, and efficiency rather than the health status of the enrolled population. The HHS-operated risk adjustment methodology determines each plan's risk adjustment transfer amount based on the actuarial risk of enrollees, the actuarial value (AV) of coverage, utilization, the cost of doing business in local rating areas, and the effect of different cost-sharing levels on utilization. For the 2019 benefit year, HHS applied this methodology in all 50 states and the District of Columbia.

This interim summary report on risk adjustment is based on issuers submitting at least 90% of three quarters of 2019 benefit year claims data and 90% of enrollment data for the 2019 benefit year. In the 2018 benefit year, HHS introduced the high-cost risk pool (HCRP) within the HHS-operated risk adjustment methodology, which reimburses issuers for a portion of each enrollee's aggregated plan paid amounts that meet certain parameters. As in the 2018 interim report, HCRP interim estimates have not been included because we expect that many issuers will submit their more expensive and complicated claims towards the end of the data submission period.

II. Description of Data

As described in the November 7, 2019, "Evaluation of EDGE Data Submissions for the 2019 Benefit Year" bulletin,[1] HHS evaluated whether issuers provided access to EDGE server data sufficient for HHS to calculate and release an interim summary risk adjustment report for each state and the District of Columbia. HHS evaluated each issuer's data to determine if the issuer loaded at least 90% of its enrollment data for the full 2019 benefit year, and 90% of its claims data linked to enrollees (i.e., non-orphaned medical and pharmacy claims data) for the first three quarters of the benefit year (the data "quantity" evaluation). HHS also evaluated each issuer's EDGE server data to investigate outliers on a number of criteria (the data "quality" evaluation). If an issuer had a specific data outlier, the issuer was provided an opportunity to explain the outlier status. If the outlier was determined to be a true unresolved data quality issue, or if the issuer submitted no explanation, the issuer failed the data quality evaluation. As described in the bulletin, HHS will issue interim risk adjustment summary information for a state and the District of Columbia *only* if all credible issuers in that state passed both data quantity and quality

[1] Available at https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/EDGE-2019-QQ-Guidance.pdf.

thresholds.[2] For the 2019 benefit year risk adjustment interim summary results, all 50 states and the District of Columbia are eligible for inclusion in the 2019 benefit year interim risk adjustment report.

The data displayed in this report are preliminary. Final risk adjustment data may differ and therefore result in significantly different magnitude and direction of the transfers from the data presented in this report. Because an issuer's risk adjustment transfer amount is dependent on the data submitted by other issuers within a state market risk pool, a stable risk score for an issuer between interim and final risk adjustment may not reflect a stable risk adjustment transfer amount. In addition, many issuers submitted more than the required threshold amount described above. The final risk adjustment transfer results and final state average calculations, based on issuers' final data submissions, may diverge from the data patterns reflected in this report.

The risk scores provided in this interim risk adjustment report will not necessarily be predictive of final 2019 benefit year risk adjustment risk scores. If an issuer wishes to use this interim information to assist in estimating the 2019 benefit year risk adjustment transfer amounts, it should do so with caution and in combination with other significant data. In particular, smaller issuers may experience a wider degree of variation, given the impact larger issuers have on transfers within a state market risk pool.

However, the data released in this report may be useful to issuers seeking additional information about the progress of the risk adjustment program prior to publication of the annual summary report, especially for those that participate in other regulatory programs that may have earlier submission deadlines, such as rate review for certain states. This report also contains data, such as billable member months and statewide average premiums, which may have utility beyond risk scores or risk adjustment.

III. Comparison of Interim and Final Risk Adjustment Results for the 2018 Benefit Year

As we discussed in the 2018 Benefit Year Risk Adjustment Summary Report, we conducted additional analysis comparing the 2018 benefit year interim and final risk adjustment results to examine predictability and variation.[3]

For the 2015 benefit year, the first year HHS provided interim risk scores, 20 states plus the District of Columbia received interim risk adjustment results; the following year, 48 states plus the District of Columbia received interim results.[4] Since the 2017 benefit year, all 50 states plus the District of Columbia have received interim results, marking a significant improvement in the

[2] Issuers were deemed credible if they had at least 0.5% market share in a state.
[3] Available at https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/Summary-Report-Risk-Adjustment-2018.pdf.
[4] Massachusetts operated a state-based risk adjustment program for the 2014 through 2016 benefit years; therefore, the Commonwealth was not eligible for inclusion in the interim report issued by HHS for these benefit years. HHS began operating risk adjustment in all states (including Massachusetts) and the District of Columbia starting with the 2017 benefit year.

quantity and quality of issuer data submissions. In addition, preliminary regression modeling based on data from benefit years 2016-2018 suggests a strong predictive relationship between total transfers and risk scores from interim to final, with continued improvement from year to year. This trend reflects and depends on higher quantity and quality data earlier in the data submission process, and provides more reliable estimates prior to final data submission that can be used in combination with other significant data for issuers' rate setting and financial forecasts. This relationship between interim and final results was stronger for issuers in the individual market than those in the small group market.

We compared the national data quantity completion rate at the data submission deadlines for the interim reports for the 2018 and 2019 benefit years, which were determined by comparing each issuer's EDGE server data submission to their final baseline representing the full year of data for 2018 and 2019. For the 2018 benefit year interim risk adjustment estimates, we calculated a data completion of 92.5% as of the interim deadline of January 17, 2019. For the 2019 benefit year interim risk adjustment estimates, we calculated a data completion of 92.0% with a similar interim deadline of January 16, 2020.

We note that depending on issuers' data quantity submissions beyond three quarters of data in a given state market risk pool, issuers' relative portion of data submitted by the interim deadline, issuers' market share, and data quality once final data has been loaded, the estimates from interim to final could still change significantly. For example, the regression modeling indicated that predictability of final risk adjustment results from interim in a given state market risk pool can be drastically reduced by a single issuer outlier with incomplete or erroneous data, even one with relatively few enrollees.

In addition to interim risk scores not reflecting the final risk scores, risk scores changes over benefit years do not necessarily reflect changes in population health risk as risk scores changes year over year are also affected by changes in plan enrollment (metal or cost sharing), coding practices, and the risk adjustment methodology. We estimate that changes in risk adjustment model updates from 2018 to 2019 benefit years will result in an overall risk score decrease after final 2019 benefit year risk scores are calculated, with most of this decrease being due to changes in recalibration data with the addition of enrollee-level EDGE data to the model recalibration.[5] **Therefore, risk score differences indicated below in Table 1 comparing interim 2019 and final 2018 data submission are not comparable due to data completeness and model differences by year.**

[5] See the HHS Notice of Benefit and Payment Parameters for 2019; Final Rule, 83 FR 16930 at 16939 – 16952 (April 17, 2018).

Table 1. Percent Change in Select Risk Adjustment Variables, 2019 Interim to 2018 Final[6]

	INDIVIDUAL MARKET[7]		SMALL GROUP MARKET	
	Mean	Standard Deviation	Mean	Standard Deviation
Plan Liability Risk Score	-4.2%	-5.0%	-4.5%	-4.9%
Billable Member Months	-4.6%	-5.4%	-2.4%	-1.9%
Monthly Premiums	0.4%	-0.4%	3.1%	3.8%
Age Rating Factor	0.5%	0.7%	0.4%	0.4%
Actuarial Value	0.0%	0.2%	0.3%	0.4%

[6] Percent change in risk score is calculated based on unadjusted risk scores. Mean percent changes are weighted by billable member months.
[7] Individual Market includes the Massachusetts and Vermont merged markets.

IV. HHS-operated Risk Adjustment Program State-specific Data

Included in Table 2 are the key elements of the risk adjustment state payment transfer formula for states that met the credibility requirements.

Table 2. Description of Risk Adjustment Data

DATA ELEMENT	DESCRIPTION
State Average Monthly Premium	The state average premium for a state market risk pool is the weighted average monthly premium for the state market risk pool, weighted by plan share of statewide enrollment in the state market risk pool. A 14% administrative cost adjustment is applied to the state average monthly premium. This value is used in the state payment transfer formula calculations of risk adjustment payments and charges.
State Average Monthly Premium Before Adjustment	The state average premium for a state market risk pool is the weighted average monthly premium for the state market risk pool, weighted by plan share of statewide enrollment in the state market risk pool before the 14% administrative cost adjustment is applied. This value is for informational purposes only and is not used in the calculation of risk adjustment payments and charges.
State Average Plan Liability Risk Score (PLRS)	The state average PLRS is calculated as the summed products of PLRS and billable member months for all plans within the state market risk pool divided by total billable months for all plans within the state market risk pool.
State Average Allowable Rating Factor (ARF)	The state average ARF is calculated as the summed products of ARF and billable member months for the plans within the state market risk pool divided by total billable member months for all plans in the state market risk pool.
State Average Actuarial Value (AV)	The state average AV is calculated as the summed products of AV and billable member months for the plans within the state market risk pool divided by the total billable member months within the state market risk pool. AV corresponds with metal and catastrophic tiers as follows: • Catastrophic: 0.57 • Bronze: 0.60 • Silver: 0.70 • Gold: 0.80 • Platinum: 0.90
State Average Induced Demand Factor (IDF)	The state average IDF is calculated as the summed products of IDF and billable member months for the plans within the state market risk pool divided by the total billable member months within the state market risk pool. IDF corresponds with metal and catastrophic tiers as follows: • Catastrophic: 1.00 • Bronze: 1.00 • Silver: 1.03 • Gold: 1.08 • Platinum: 1.15
Billable Member Months	Billable member months are the member months of an individual or family policy that are included when setting the policy's premium rate.

Table 3. Interim Risk Adjustment State Averages with State Billable Member Months[8]

Table 3 below is provided in Excel format as a separate link, titled Appendix A.

State	Risk Pool	Average Premium	Average Premium Before Adjustment	Average Plan Liability Risk Score	Average Allowable Rating Factor	Average Actuarial Value	Induced Demand Factor	Billable Member Months
AK	Individual	$636.65	$740.30	1.359	1.631	0.669	1.025	196,672.4
	Small Group	$688.31	$800.36	1.103	1.481	0.721	1.044	159,526.9
AL	Individual	$570.13	$662.94	2.057	1.653	0.695	1.030	2,021,930.5
	Small Group	$362.30	$421.28	1.402	1.515	0.772	1.069	2,455,296.0
	Catastrophic	$228.32	$265.48	1.232	1.114	0.570	1.000	12,235.7
AR	Individual	$399.54	$464.58	1.774	1.525	0.695	1.029	3,308,983.6
	Small Group	$364.38	$423.70	1.245	1.457	0.788	1.076	513,999.5
	Catastrophic	$163.47	$190.09	0.380	1.008	0.570	1.000	2,423.3
AZ	Individual	$516.44	$600.51	1.488	1.739	0.670	1.022	1,533,126.5
	Small Group	$380.96	$442.97	1.120	1.429	0.726	1.048	1,685,765.3
	Catastrophic	$220.41	$256.29	0.490	0.979	0.570	1.000	6,103.8
CA	Individual	$492.39	$572.55	1.264	1.654	0.694	1.034	22,477,066.1
	Small Group	$427.21	$496.76	1.059	1.412	0.774	1.074	23,989,975.6
	Catastrophic	$171.01	$198.85	0.283	0.983	0.570	1.000	312,092.7
CO	Individual	$526.10	$611.74	1.288	1.686	0.650	1.016	2,220,590.3
	Small Group	$400.96	$466.23	1.032	1.397	0.729	1.049	3,015,334.9
	Catastrophic	$202.70	$235.69	0.391	0.994	0.570	1.000	59,002.0
CT	Individual	$554.76	$645.07	1.478	1.804	0.661	1.020	1,360,138.4
	Small Group	$516.46	$600.54	1.254	1.526	0.722	1.047	1,543,306.1
	Catastrophic	$167.59	$194.88	0.318	1.034	0.570	1.000	22,602.8
DC	Individual	$425.16	$494.37	1.336	1.109	0.734	1.056	178,822.6
	Small Group	$437.91	$509.19	1.097	1.036	0.821	1.099	943,870.4
	Catastrophic	$106.42	$123.74	0.298	0.737	0.570	1.000	8,420.2
DE	Individual	$715.84	$832.37	1.537	1.740	0.697	1.036	273,474.2
	Small Group	$547.41	$636.52	1.227	1.490	0.767	1.068	302,555.9
	Catastrophic	$268.78	$312.54	0.301	1.025	0.570	1.000	1,721.6

[8] States with no breakout for catastrophic risk pools did not have issuers offering risk adjustment covered plans in the catastrophic risk pool in the 2019 benefit year.

State	Risk Pool	Average Premium	Average Premium Before Adjustment	Average Plan Liability Risk Score	Average Allowable Rating Factor	Average Actuarial Value	Induced Demand Factor	Billable Member Months
FL	Individual	$527.55	$613.43	1.525	1.677	0.676	1.024	20,066,352.6
	Small Group	$459.15	$533.90	1.297	1.493	0.766	1.067	4,066,305.4
	Catastrophic	$201.64	$234.46	0.632	1.171	0.570	1.000	11,640.9
GA	Individual	$518.24	$602.61	1.547	1.655	0.686	1.027	4,640,080.7
	Small Group	$480.41	$558.61	1.310	1.458	0.755	1.061	1,962,667.0
	Catastrophic	$175.72	$204.33	0.568	1.100	0.570	1.000	41,690.1
HI	Individual	$543.33	$631.78	1.324	1.717	0.729	1.053	352,565.2
	Small Group	$408.62	$475.14	1.190	1.486	0.885	1.139	540,996.9
	Catastrophic	$122.26	$142.17	0.176	0.926	0.570	1.000	5,230.5
IA	Individual	$792.61	$921.64	1.603	1.879	0.708	1.039	545,206.9
	Small Group	$390.47	$454.03	1.147	1.457	0.722	1.045	1,234,414.1
	Catastrophic	$241.91	$281.29	0.337	0.996	0.570	1.000	3,780.2
ID	Individual	$458.46	$533.09	1.296	1.600	0.659	1.019	1,168,815.6
	Small Group	$327.70	$381.05	1.020	1.394	0.740	1.053	754,154.6
	Catastrophic	$183.35	$213.19	0.369	0.967	0.570	1.000	10,404.1
IL	Individual	$549.32	$638.74	1.499	1.733	0.671	1.024	4,017,193.8
	Small Group	$444.18	$516.49	1.225	1.461	0.788	1.079	4,878,376.2
	Catastrophic	$256.27	$297.99	0.558	0.994	0.570	1.000	20,386.4
IN	Individual	$425.01	$494.20	1.709	1.774	0.681	1.025	1,510,718.2
	Small Group	$471.94	$548.77	1.252	1.488	0.727	1.046	1,248,377.6
	Catastrophic	$314.97	$366.24	0.066	1.004	0.570	1.000	49.7
KS	Individual	$562.69	$654.30	1.714	1.684	0.705	1.038	1,047,084.3
	Small Group	$370.74	$431.09	1.236	1.436	0.766	1.068	1,082,077.9
	Catastrophic	$232.72	$270.61	0.275	1.061	0.570	1.000	4,814.2
KY	Individual	$514.80	$598.60	1.693	1.767	0.667	1.021	893,119.5
	Small Group	$453.88	$527.76	1.439	1.470	0.751	1.058	651,950.1
	Catastrophic	$155.07	$180.32	0.287	0.992	0.570	1.000	12,207.3
LA	Individual	$524.88	$610.33	1.816	1.724	0.679	1.026	1,184,384.8
	Small Group	$407.11	$473.38	1.257	1.444	0.767	1.068	1,557,941.0
MA	Catastrophic	$223.37	$259.73	0.333	1.185	0.570	1.000	14,115.9

State	Risk Pool	Average Premium	Average Premium Before Adjustment	Average Plan Liability Risk Score	Average Allowable Rating Factor	Average Actuarial Value	Induced Demand Factor	Billable Member Months
	Merged	$413.46	$480.76	1.252	1.517	0.729	1.047	8,949,349.6
MD	Individual	$471.41	$548.15	1.543	1.690	0.714	1.042	2,157,893.2
	Small Group	$396.07	$460.54	1.118	1.456	0.749	1.059	3,132,491.3
	Catastrophic	$103.52	$120.37	0.324	0.990	0.570	1.000	83,142.9
ME	Individual	$572.63	$665.85	1.251	1.755	0.649	1.015	782,378.2
	Small Group	$419.43	$487.71	1.054	1.514	0.697	1.034	591,834.1
	Catastrophic	$181.14	$210.63	0.539	1.117	0.570	1.000	10,841.5
MI	Individual	$438.20	$509.53	1.413	1.724	0.658	1.019	3,580,585.2
	Small Group	$348.29	$404.99	1.213	1.441	0.794	1.082	4,483,504.1
	Catastrophic	$164.09	$190.81	0.410	0.998	0.570	1.000	68,235.5
MN	Individual	$388.91	$452.22	1.237	1.808	0.660	1.021	1,755,331.4
	Small Group	$432.96	$503.44	1.090	1.473	0.739	1.055	3,258,356.2
	Catastrophic	$138.32	$160.84	0.305	1.015	0.570	1.000	50,046.6
MO	Individual	$563.45	$655.17	1.774	1.730	0.677	1.023	2,165,560.9
	Small Group	$441.02	$512.82	1.350	1.456	0.748	1.058	1,305,756.8
	Catastrophic	$235.12	$273.40	0.440	1.044	0.570	1.000	4,887.9
MS	Individual	$532.18	$618.81	1.811	1.651	0.706	1.034	1,061,111.8
	Small Group	$361.89	$420.80	1.102	1.384	0.760	1.062	382,097.0
MT	Individual	$575.04	$668.65	1.238	1.755	0.640	1.013	590,323.0
	Small Group	$386.32	$449.21	0.966	1.439	0.710	1.042	555,049.8
	Catastrophic	$246.97	$287.17	0.238	1.013	0.570	1.000	4,704.6
NC	Individual	$634.14	$737.37	1.483	1.667	0.684	1.027	5,467,153.7
	Small Group	$445.99	$518.59	1.162	1.490	0.742	1.054	2,128,731.9
	Catastrophic	$183.31	$213.15	0.514	1.039	0.570	1.000	104,109.3
ND	Individual	$457.02	$531.42	1.301	1.597	0.691	1.033	420,122.3
	Small Group	$400.03	$465.15	1.027	1.343	0.821	1.100	450,451.2
	Catastrophic	$135.93	$158.06	0.321	1.000	0.570	1.000	25,232.8
NE	Individual	$742.62	$863.51	1.439	1.586	0.701	1.037	1,003,939.7
	Small Group	$440.01	$511.64	1.138	1.439	0.712	1.041	577,983.6
	Catastrophic	$265.37	$308.56	0.808	1.043	0.570	1.000	9,893.7

State	Risk Pool	Average Premium	Average Premium Before Adjustment	Average Plan Liability Risk Score	Average Allowable Rating Factor	Average Actuarial Value	Induced Demand Factor	Billable Member Months
NH	Individual	$469.53	$545.97	1.364	1.804	0.667	1.021	515,920.8
	Small Group	$446.22	$518.86	1.118	1.518	0.728	1.046	689,376.3
	Catastrophic	$139.09	$161.73	0.256	1.022	0.570	1.000	13,865.2
NJ	Individual	$450.15	$523.43	1.421	1.704	0.681	1.025	3,580,531.1
	Small Group	$528.20	$614.18	1.279	1.483	0.750	1.059	3,499,997.8
	Catastrophic	$164.52	$191.30	0.248	1.018	0.570	1.000	45,427.1
NM	Individual	$424.46	$493.56	1.389	1.824	0.698	1.035	628,924.9
	Small Group	$444.29	$516.61	1.144	1.495	0.765	1.066	571,669.4
	Catastrophic	$167.39	$194.64	0.460	0.983	0.570	1.000	3,452.4
NV	Individual	$428.04	$497.72	1.391	1.658	0.665	1.021	1,120,869.1
	Small Group	$367.31	$427.10	1.048	1.390	0.748	1.058	1,006,198.0
	Catastrophic	$193.59	$225.10	0.475	0.987	0.570	1.000	9,246.5
NY	Individual	$510.24	$593.30	1.525	0.984	0.699	1.039	3,523,090.2
	Small Group	$622.07	$723.34	1.562	0.975	0.769	1.071	10,520,214.3
	Catastrophic	$154.50	$179.66	0.245	0.996	0.570	1.000	129,276.2
OH	Individual	$468.41	$544.66	1.621	1.812	0.658	1.018	2,386,194.8
	Small Group	$527.69	$613.59	1.589	1.526	0.740	1.054	973,014.3
	Catastrophic	$172.71	$200.83	0.417	1.021	0.570	1.000	26,142.1
OK	Individual	$566.26	$658.44	1.873	1.604	0.690	1.031	1,784,295.9
	Small Group	$375.06	$436.11	1.289	1.469	0.757	1.062	1,757,505.3
	Catastrophic	$241.75	$281.10	0.593	1.031	0.570	1.000	5,179.9
OR	Individual	$455.02	$529.09	1.315	1.688	0.675	1.026	2,077,415.3
	Small Group	$377.40	$438.83	1.045	1.409	0.766	1.067	2,246,691.7
	Catastrophic	$150.43	$174.91	0.187	0.942	0.570	1.000	11,007.8
PA	Individual	$539.82	$627.69	1.580	1.791	0.699	1.034	4,901,949.9
	Small Group	$447.93	$520.84	1.360	1.504	0.787	1.079	4,890,991.4
	Catastrophic	$217.08	$252.42	0.441	1.030	0.570	1.000	21,822.6
RI	Individual	$396.84	$461.44	1.513	1.714	0.708	1.039	530,581.4
	Small Group	$467.68	$543.82	1.411	1.532	0.818	1.096	620,320.0
SC	Individual	$567.17	$659.50	1.569	1.699	0.671	1.023	2,446,797.3

State	Risk Pool	Average Premium	Average Premium Before Adjustment	Average Plan Liability Risk Score	Average Allowable Rating Factor	Average Actuarial Value	Induced Demand Factor	Billable Member Months
	Small Group	$476.57	$554.15	1.170	1.464	0.735	1.049	811,072.0
	Catastrophic	$185.55	$215.75	0.396	1.048	0.570	1.000	25,908.6
SD	Individual	$552.59	$642.54	1.455	1.597	0.659	1.018	380,526.7
	Small Group	$426.24	$495.63	1.103	1.433	0.695	1.033	400,490.0
	Catastrophic	$206.09	$239.64	0.342	0.977	0.570	1.000	11,430.2
TN	Individual	$571.06	$664.03	1.925	1.765	0.665	1.020	2,192,026.0
	Small Group	$373.65	$434.47	1.239	1.480	0.734	1.052	2,212,312.4
	Catastrophic	$250.30	$291.05	1.051	1.091	0.570	1.000	5,054.8
TX	Individual	$470.71	$547.34	1.613	1.648	0.676	1.025	11,816,360.9
	Small Group	$455.76	$529.96	1.272	1.440	0.741	1.055	7,847,620.2
	Catastrophic	$211.62	$246.07	0.587	1.047	0.570	1.000	65,403.1
UT	Individual	$399.81	$464.89	1.155	1.538	0.655	1.017	2,331,334.5
	Small Group	$318.98	$370.91	1.020	1.416	0.750	1.057	1,496,898.5
	Catastrophic	$178.05	$207.04	0.756	1.145	0.570	1.000	13,924.3
VA	Individual	$589.50	$685.46	1.459	1.673	0.687	1.030	3,149,910.0
	Small Group	$435.83	$506.78	1.175	1.430	0.779	1.075	4,079,983.2
	Catastrophic	$242.26	$281.70	0.421	1.017	0.570	1.000	26,259.5
VT	Catastrophic	$212.02	$246.53	0.257	0.999	0.570	1.000	3,838.1
	Merged	$508.69	$591.51	1.375	0.982	0.742	1.058	822,535.8
WA	Individual	$487.70	$567.09	1.396	1.750	0.672	1.024	2,609,324.0
	Small Group	$406.18	$472.30	1.161	1.470	0.765	1.066	2,686,259.6
	Catastrophic	$186.93	$217.36	0.365	1.001	0.570	1.000	28,797.2
WI	Individual	$602.34	$700.39	1.477	1.866	0.678	1.026	2,335,913.2
	Small Group	$449.68	$522.89	1.150	1.453	0.757	1.063	1,378,086.5
	Catastrophic	$189.49	$220.33	0.325	1.024	0.570	1.000	20,458.2
WV	Individual	$803.33	$934.11	1.872	1.930	0.674	1.023	257,565.5
	Small Group	$544.96	$633.68	1.345	1.512	0.755	1.061	211,009.0
	Catastrophic	$294.72	$342.70	2.071	0.974	0.570	1.000	1,246.1
WY	Individual	$818.03	$951.20	1.408	1.624	0.730	1.049	299,536.3
	Small Group	$534.92	$622.00	0.945	1.403	0.720	1.044	88,067.2

V. HHS-operated Risk Adjustment Geographic Cost Factor (GCF) – Appendix B

The purpose of the geographic cost factor (GCF) adjustment is to remove differences in premium caused by allowable geographic rating variations. GCFs are calculated for each rating area established by the state under 45 C.F.R. § 147.102(b).

The GCFs are calculated based on the observed average silver plan premium for the metal-level risk pool (calculated separately for individual and small group if the state does not have a merged market) or catastrophic plan premium for the catastrophic risk pool, in a geographic area relative to the statewide average silver or catastrophic plan premium. Calculation of the GCF involves three steps. First, the average premium is computed for each silver or catastrophic plan, as applicable, in each rating area (using the same formula that is used to compute plan premiums in the statewide average premium calculation). The second step is to generate a set of plan average premiums that standardizes the premiums for age rating. Plan premiums are standardized for age by dividing the average plan premium by the plan rating factor (calculated at the rating area level), the enrollment-weighted rating factor applied to all billable members. Lastly, a GCF is computed for each rating area. The GCF is simply the ratio of the enrollment-weighted average age-standardized premium revenue for a rating area to the overall statewide enrollment-weighted average age-standardized premium revenue for all silver plans. The enrollment-weighted statewide average of plan GCF values will equal 1.0, so the GCF can be interpreted as the percentage by which any geographic area's costs deviate from the state average.[9]

Appendix B is provided in Excel format as a separate link.

[9] A GCF of zero indicates no silver plans in the rating area. In final risk adjustment calculations, a GCF of zero will have an imputed value of one.

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
Center for Consumer Information and Insurance Oversight
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March 24, 2020

FAQs on Availability and Usage of Telehealth Services through Private Health Insurance Coverage in Response to Coronavirus Disease 2019 (COVID-19)

Q1. How can states and health insurance issuers use telehealth services to mitigate the impact of the COVID-19 public health emergency?

A1. The widespread availability and usage of telehealth services is vital to combat COVID-19.[1] Using telehealth services, enrollees are able to visit a healthcare professional from their home without having to travel to a medical office or hospital, helping minimize the risk of exposure to, and community spread of, COVID-19. CMS recognizes that most, if not all, issuers are currently offering telehealth benefits in some form in their current plans. Many states have encouraged health insurance issuers to cover robust telehealth services without cost sharing, and many issuers have already taken steps to promote the use of telehealth services by providing expanded access to telehealth services without cost sharing. We strongly encourage all issuers to promote the use of telehealth services, including by notifying policyholders and beneficiaries of their availability, by ensuring access to a robust suite of telehealth services, including mental health and substance use disorder services, and by covering telehealth services without cost sharing or other medical management requirements. To support these efforts, the HHS Office for Civil Rights has released a Notification of Enforcement Discretion waiving certain regulatory requirements under the HIPAA Rules to encourage providers to offer telehealth services during the COVID-19 public health emergency.[2] Providers are encouraged to continue protecting patient privacy to the maximum extent possible.

CMS encourages states to support efforts by health insurance issuers to increase access to telehealth services. In particular, CMS urges states to consider whether state licensing laws could be relaxed to enable more in-state and out-of-state providers to offer telehealth services in the state during the period in which a public health emergency declaration under section 319 of the Public Health Service Act (PHS Act) related to COVID-19 or a national emergency declaration under the National Emergencies Act, 50 U.S.C. 1601, *et seq*., related to COVID-19 is in effect.[3]

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[1] https://www.hhs.gov/about/news/2020/03/17/secretary-azar-announces-historic-expansion-of-telehealth-access-to-combat-covid-19.html.

[2] https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html

[3] On January 31, 2020, HHS Secretary Alex M. Azar II declared that as of January 27, 2020, a public health emergency exists nationwide as the result of the 2019 novel coronavirus. *See* Determination of the HHS Secretary that a Public Health Emergency Exists, https://www.phe.gov/emergency/news/healthactions/phe/Pages/2019-nCoV.aspx. On March 13, 2020, the President declared that the outbreak of COVID-19 in the United States constitutes a national emergency beginning March 1, 2020. *See* Proclamation on Declaring a National Emergency Concerning the Novel Coronavirus Disease (COVID-19) Outbreak, issued March 13, 2020, https://www.whitehouse.gov/presidential-actions/proclamation-declaring-national-emergency-concerning-novel-coronavirus-disease-covid-19-outbreak/.

Q2. In light of the public health emergency posed by COVID-19, will CMS allow issuers in the individual and group markets to amend plan benefits during a plan year to provide or expand coverage for telehealth services, and to reduce or eliminate cost sharing for such services?

A2. Yes. Issuers in the individual and group[4] markets are generally not permitted to modify a health insurance product mid-year. However, to facilitate the nation's response to COVID-19, CMS will not take enforcement action against any health insurance issuer in the individual or group market that makes mid-year changes to the health insurance product to provide greater coverage for telehealth services or to reduce or eliminate cost-sharing requirements for telehealth services, even if the specific telehealth services covered by the change are not related to COVID-19. CMS would continue to take enforcement action against any health insurance issuer that attempts to limit or eliminate other benefits to offset the costs of increasing the generosity of telehealth benefits.

This enforcement discretion will provide flexibility to issuers, consistent with state law, to make such changes at any point during the period during which a public health emergency declaration under section 319 of the PHS Act related to COVID-19 or a national emergency declaration under the National Emergencies Act, 50 U.S.C. 1601, *et seq*., related to COVID-19 is in effect. Issuers would not be expected to further amend their plans at the end of the period during which a public health emergency or national emergency declaration is in effect to undo any changes made under this policy. CMS encourages states to take a similar enforcement approach and would not consider a state to have failed to substantially enforce section 2703 of the PHS Act if it takes such an approach.

Q3. In light of the public health emergency posed by COVID-19, will CMS allow issuers of catastrophic plans to provide coverage for telehealth services before enrollees meet plan deductibles?

A3. Yes. To facilitate the nation's response to COVID-19, CMS will not take enforcement action against any health insurance issuer that amends its catastrophic plans to provide pre-deductible coverage for telehealth services, even if the specific telehealth services covered by the amendment are not related to COVID-19. This enforcement discretion will also apply for the period during which either the COVID-19 public health emergency declaration or national emergency declaration is in effect. CMS would continue to take enforcement action against any health insurance issuer that attempts to limit or eliminate other benefits under a catastrophic plan to offset the costs of providing pre-deductible coverage for telehealth services.

CMS encourages states to take a similar enforcement approach and would not consider a state to have failed to substantially enforce section 1302(e) of the PPACA if it takes such an approach.

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[4] The enforcement policy announced in this FAQ is not applicable to self-insured employer-sponsored group health plans, and does not affect provisions enforced by the Department of Labor against group health plans. To the extent applicable state or local law prohibits self-insured non-Federal governmental plans from making mid-year changes, we encourage the applicable state or local authority to exercise enforcement discretion similar to that described in this guidance, and in such cases, encourage self-insured non-Federal governmental plans to make the type of mid-year changes with respect to telehealth that are discussed in this document.

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
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March 24, 2020

FAQs on Prescription Drugs and the Coronavirus Disease 2019 (COVID-19) for Issuers Offering Health Insurance Coverage in the Individual and Small Group Markets

Q1. May issuers offering coverage in the individual and small group markets permit early access to prescription drug refills or greater than a 90-day supply of medication(s)?

Nothing in federal regulations would prohibit issuers in the individual and small group markets from permitting enrollees to access a prescription drug refill before otherwise being eligible for a refill under plan terms and conditions or to access drugs beyond a 90-day supply. Many states have already taken steps to encourage issuers to authorize early refills and waive medication refill limits. CMS encourages issuers to lift fill restrictions when appropriate, while also taking into consideration patient safety risks associated with early refills for certain drug classes, such as opioids, benzodiazepines, and stimulants.

Q2. How can issuers address prescription drug access issues, such as specific drug supply shortages identified by the Food and Drug Administration (FDA)?

The FDA monitors the prescription supply chain and provides detail on specific prescription drug shortages at https://www.fda.gov/drugs/drug-safety-and-availability/drug-shortages. We encourage issuers offering coverage in the individual and small group markets to monitor this website to ensure enrollees have access to the affected drugs or a therapeutic alternative.

In addressing any potential drug shortage, issuers should consider the type of drug involved, condition(s) treated by the drug, expected length of the drug shortage or access issue, and which enrollees are impacted. CMS recommends that issuers work with their enrollees and providers to provide coverage for therapeutically equivalent non-formulary drugs as prescribed by the enrollee's provider, and waive prior authorization or step therapy for therapeutically equivalent formulary drug products. If an issuer does not provide coverage of a non-formulary drug that is therapeutically equivalent to a drug on the plan's formulary, enrollees may use the drug exceptions process to request that the drug be covered, pursuant to 45 CFR 156.122(c), including on an expedited basis due to exigent circumstances.

CMS encourages such issuers to provide coverage of these drugs subject to cost-sharing requirements that are the same as or more generous to enrollees than those applicable to the drug that is in shortage.

CMS also encourages issuers offering coverage in the individual and small group markets to provide coverage of drugs dispensed at out-of-network pharmacies as if dispensed at in-network pharmacies (e.g., subject to in-network cost-sharing requirements) as an additional method to

ensure adequate access when enrollees cannot reasonably be expected to obtain covered drugs at a network pharmacy.

Lastly, to the extent that issuers make these changes, CMS strongly encourages such issuers to promptly communicate this information to enrollees, to ensure that enrollees can benefit from these changes as soon as possible.

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CENTER FOR CONSUMER INFORMATION & INSURANCE OVERSIGHT

DATE: March 24, 2020

TO: All Qualified Health Plan and Stand-alone Dental Plan Issuers on the Federally-facilitated Exchanges and State-based Exchanges on the Federal Platform

FROM: Randy Pate
Director, Center for Consumer Information and Insurance Oversight

SUBJECT: Payment and Grace Period Flexibilities Associated with the COVID-19 National Emergency

On March 13, 2020, the President declared that the outbreak of the coronavirus (COVID-19) in the United States constitutes a national emergency beginning March 1, 2020.[1] The Centers for Medicare & Medicaid Services (CMS) will provide states and issuers flexibility to protect the health and safety of new and existing enrollees in the Federally-facilitated Exchanges (FFEs)[2] and State-based Exchanges on the Federal Platform (SBE-FPs)[3] during the COVID-19 national emergency. Similar to flexibility CMS provided during previous major emergencies, namely FEMA-declared emergencies and disasters, CMS will exercise enforcement discretion as described below to permit issuers of qualified health plans (QHPs) and stand-alone dental plans (SADPs) to extend payment deadlines for initial binder payments as well as ongoing premium payments during the period of the COVID-19 national emergency.[4]

Consumer Payments and Grace Period Extensions. If an FFE or SBE-FP issuer, in connection with the COVID-19 emergency, extends premium payment deadlines and delays cancellations or terminations of coverage for non-payment of premiums with the permission of the applicable state regulatory authority, CMS will exercise enforcement discretion with regard to regulatory premium payment requirements regarding the deadline for payments to effectuate coverage under 45 CFR 155.400(e) and the deadline under 45 CFR 156.270(g) for termination of coverage after the exhaustion of grace periods, including for individuals receiving the benefit of advance payments of the premium tax credit (APTC). CMS encourages State-based Exchanges to take a similar approach.

[1] *See* Proclamation on Declaring a National Emergency Concerning the Novel Coronavirus Disease (COVID-19) Outbreak, issued March 13, 2020, https://www.whitehouse.gov/presidential-actions/proclamation-declaring-national-emergency-concerning-novel-coronavirus-disease-covid-19-outbreak/.
[2] FFE states for the 2020 Plan Year are AL, AK, AZ, DE, FL, GA, HI, IL, IN, IA, KS, LA, ME, MI, MO, MS, MT, NE, NH, NC, ND, OH, OK, SC, SD, TN, TX, UT, VA, WV, WI, and WY.
[3] SBE-FP states for the 2020 Plan Year are AR, KY, NJ, NM, NM, OR, and PA.
[4] On January 31, 2020, the Secretary of Health and Human Services also declared a public health emergency in response to COVID-19 under section 319 of the Public Health Service Act, 42 U.S.C. 247d. The non-enforcement policy announced in this document will continue as long as either the COVID-19 national emergency or the section 319 public health emergency are in effect.

This enforcement policy allows issuers to extend payment deadlines and delay the beginning of any applicable grace period. Once a grace period is triggered, however, the basic requirements applicable to the grace period would remain unchanged. In the case of grace periods for enrollees receiving APTC when they fail to timely make payments, issuers must pay all appropriate claims for services rendered to the enrollee during the first month of the three-month grace period and may pend claims for services rendered to the enrollee in the second and third months. Issuers must also notify providers of the possibility for denied claims when an enrollee is beyond the first month of the grace period. Once the three-month grace period expires, issuers must notify HHS of terminations for non-payment, which will result in issuers' return of APTC for the second and third months of an exhausted grace period.

CMS Approves Medicaid Section 1135 Waivers for 11 Additional States in Response to COVID-19

Mar 23, 2020 Medicaid & CHIP

Today, in keeping with its commitment to ensure states have the necessary tools to respond to the 2019 Novel Coronavirus (COVID-19) pandemic, the Centers for Medicare & Medicaid Services (CMS) approved an additional 11 state Medicaid waiver requests under Section 1135 of the Social Security Act (Act), bringing the total number of approved Section 1135 waivers for states to 13. The waivers were approved within days of states' submitting them, and offer states new flexibilities to focus their resources on combatting the outbreak and providing the best possible care to Medicaid beneficiaries in their states. These waivers support President Trump's commitment to operating a COVID-19 response that is locally executed, state managed and federally supported.

These waivers, which were announced earlier today during a White House conference call with the governors, provide relief on a number of fronts, such as prior authorization and provider enrollment requirements, suspending certain nursing home pre-admission reviews, and facilitating reimbursement to providers for care delivered in alternative settings due to facility evacuations.

Today's approved waivers include the following states:

- Alabama
- Arizona
- California
- Illinois
- Louisiana

- Mississippi
- New Hampshire
- New Jersey
- New Mexico
- North Carolina
- Virginia

“Thanks to the decisive leadership of President Trump during this emergency, CMS has been able to swiftly remove barriers and cut red tape for our state partners,” said CMS Administrator Seema Verma. “These waivers give a broad range of states the regulatory relief and support they need to more quickly and effectively care for their most vulnerable citizens.”

On March 13, 2020, President Trump declared the rapidly evolving COVID-19 situation a national emergency, enabling CMS to waive certain requirements in Medicare, Medicaid, and CHIP under section 1135 emergency authority. CMS immediately began accepting and approving state section 1135 Medicaid waiver requests and on March 22, 2020, CMS released an 1135 Medicaid & CHIP Checklist to assist states with their requests.

Examples of waivers available under section 1135 of the Act include:

- Temporarily suspend prior authorization requirements;
- Extend existing authorizations for services through the end of the public health emergency;
- Modify certain timeline requirements for state fair hearings and appeals;
- Relax provider enrollment requirements to allow states to more quickly enroll out-of-state or other new providers to expand access to care, and
- Relax public notice and submission deadlines for certain COVID-19 focused Medicaid state plan amendments, enabling states to make changes faster and ensure they can be retroactive to the beginning of the emergency.

These section 1135 waivers are effective March 1, 2020 and will end upon termination of the public health emergency, including any extensions. Last week, CMS approved COVID-19 related state Medicaid section 1135 waiver requests for Florida and Washington.

These waivers, and earlier CMS actions in response to COVID-19, are part of the ongoing White House Task Force efforts. To keep up with

the important work the Task Force is doing in response to COVID-19, visit www.coronavirus.gov. For a complete and updated list of CMS actions, and other information specific to CMS, please visit the Current Emergencies Website.

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Tracking Health Reform

Putting The Pieces Together Again: American States and the End of the ACA's Shared Responsibility Payment

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Abstract The Tax Cuts and Jobs Act (TCJA) eliminated the ACA's "shared responsibility payment," which penalized those who failed to comply with the requirement to purchase health insurance. In this article the authors explain efforts in several states to respond to this change by adopting individual health insurance mandates at the state level. Although there are good reasons to think that states may be reluctant to consider establishing their own mandates, New Jersey, the District of Columbia, and Vermont quickly joined Massachusetts in establishing such measures in 2018. In 2019 California and Rhode Island enacted state-level mandates. Four other states—Maryland, Connecticut, Hawaii, and Washington—formally considered mandates but have not enacted them. The authors compare the policy debates among these states and one other state, New York, which has not seen a legislative proposal for a mandate despite its strong support for the ACA. Their analysis explores the dynamics within the US federal system when a key component of a complex and politically salient national initiative is eliminated and states are left with many policy, political, and administrative questions of what to do next.

Keywords health insurance, Affordable Care Act, individual mandate, state policy, federalism

When President Donald Trump signed the Tax Cuts and Jobs Act (TCJA) into law on December 22, 2017 (P.L. 115-97), the federal government effectively eliminated the penalty established by the Patient Protection and Affordable Care Act of 2010 (ACA) on individuals who failed to maintain minimum essential health coverage. The mandate itself was not eliminated—although its constitutional status has been challenged in

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federal court (*Texas v. United States*)—but the "shared responsibility payment," penalizing those who failed to comply with the requirement, was reduced to zero. Although the mandate may exert a hortatory effect on some individuals to obtain health insurance, the end of the financial penalty will surely weaken its effect.

The individual mandate (also called the "individual responsibility requirement") was considered a pillar of the ACA, along with guaranteed issue, community rating, and subsidies for those who cannot afford the full price of insurance. Those who drafted the mandate expected it to reduce adverse selection, prevent the least healthy people from dominating the health insurance market, and draw revenues into the insurance market from healthy, typically younger individuals (42 U.S.C. § 18091 (a)(2)(I)). Guaranteed issue and community rating without a mandate may beget an adverse-selection death spiral; a high-risk profile among insured people could lead to increased premiums, which in turn could cause healthy individuals to exit the market and further raise the risk profile (Rosenbaum 2011). Such scenarios did occur, as several states in the 1990s enacted guaranteed-issue and community-rating laws without universal mandates, resulting in "skyrocketing insurance premium costs, reductions in individuals with coverage, and reductions in insurance products and providers" (*National Federation of Independent Business (NFIB) v. Sebelius*, 567 U.S. 519, 2012; shortened hereafter *NFIB v. Sebelius* 2012).

The mandate was also viewed as a way of preventing free riding in society's provision of health care. As Stuart Butler put it in his 1989 Heritage Foundation lecture, the idea of an individual mandate assumes an "implicit contract between households and society," where Americans will provide health care, for example, to a person "struck down by a heart attack in the street . . . whether or not he has insurance" (Butler 1989: 6).

The same logic underlay the Massachusetts health care reform of 2006, which was signed into law by then-Governor Mitt Romney. That measure required, with some exceptions, every adult resident of the state to obtain a minimum level of insurance coverage, provided free or subsidized insurance for lower-income individuals, and established a health insurance "connector" that served as a clearinghouse for the purchase of health insurance plans (Woltmann and Gasteier 2017). The 2010 ACA encompassed versions of these basic elements: mandates, exceptions, minimum essential coverage standards, subsidies, and marketplaces. The individual mandate went into effect in 2014; in tax year 2018, payment for not having minimum essential coverage or qualifying for an exemption was $695 per individual (up to a maximum of $2,085) or 2.5% of household income.

The brief history of the individual mandate has not been easy. The mandate garnered much less public support than all other ACA provisions. In 2016, only 35% of survey respondents had a favorable opinion of the mandate penalty (Kirzinger, Sugarman, and Brodie 2016). Despite its conservative origins, the mandate was also the target of repeated efforts by conservative organizations and states to undercut the ACA through the federal judiciary. Nonetheless, it was upheld by the US Supreme Court in 2012, in *NFIB v. Sebelius*, as a legitimate exercise of Congress's power to tax, only to have its enforcement stripped away in 2017.

The effects of the mandate have become less clear with experience. When the Congressional Budget Office and the Joint Committee on Taxation (CBO/JCT) estimated the impact of eliminating the shared responsibility payment in December 2016, it concluded that it would increase the number of uninsured by 16 million in 2026. The CBO/JCT's revised its estimates down to 4 million uninsured people in 2019 and 13 million in 2027. Then in May 2018 its estimates were reduced again to 8 million uninsured in 2027 (CBO 2017; JCT 2018).

Analysts outside the federal government have calculated varying predictions regarding the effects of the end of the individual mandate penalty. The Urban Institute, also using a simulation study, concluded that the end of the federal mandate was substantial; that if all states adopted their own individual mandates with penalties, the number of uninsured would be reduced by 7.5 million in 2022, and insurance premiums would decline by 11.8% in 2019 (Blumberg, Buettgens, and Holahan 2018). However, another simulation-based study found that estimates of the effects of individual mandates varied widely depending on hard to measure factors affecting consumer responses, such as a desire to comply with the law, beliefs about enforcement, and inertia in decision making (Eibner and Nowak 2108). One econometric analysis found that the mandate's effects on coverage was negligible, dwarfed by the effects of health insurance premium subsidies and Medicaid expansion (Frean, Gruber, and Sommers 2017).

The hostility of conservatives and the Republican Party toward the mandate, the general unpopularity of the provision, and the uncertainty regarding its impacts on the uninsured and health insurance premiums all suggest that many states may be reluctant to consider establishing their own, state-level mandate to compensate for the loss of the federal requirement. Nonetheless, New Jersey, the District of Columbia, and Vermont quickly joined Massachusetts in establishing such measures in 2018, while California and Rhode Island enacted state-level mandates in their 2019

legislative sessions. Four other states—Maryland, Connecticut, Hawaii, and Washington—formally considered mandates but have not enacted them. By comparing their reactions to one another and one other state, New York, which has not seen a legislative proposal for a mandate despite its strong support for the ACA, we can see some of the dynamics within the US federal system when a key component of a complex and politically salient national initiative is eliminated and states are left with many policy, political, and administrative questions of what to do next.[1]

Adopters

Two governments, New Jersey and the District of Columbia, quickly and fully embraced the idea of establishing their own individual mandates, enforced by financial penalties. New Jersey enacted an individual mandate in May 2018, just five months after the passage of TCJA (Keith 2018). The measure, which went into effect in January 2019, required state taxpayers subject to the mandate to have minimum essential coverage each month of the tax year. The New Jersey requirement closely follows the ACA mandate, often by reference to the federal law's penalties, coverage, and exemptions. It departs, however, from the federal provision in one respect. While revenues collected from the federal penalty are not designated for any specific purpose, revenues collected from enforcement of the New Jersey mandate finance a state-based reinsurance program, which was created in 2018 under separate legislation.

The District of Columbia also adopted an individual mandate just months after the enactment of the TCJA. In June 2018, the DC Council passed the Health Insurance Requirement, establishing a health insurance mandate that went into effect in 2019. Like the New Jersey law, the DC law was largely modeled on the federal provision. A tax penalty is assessed if the resident does not carry appropriate health insurance, with exemptions and coverage requirements mostly following federal law. But the DC law also diverged from the federal mandate in some respects. The tax penalty is determined by the DC government each year; and persons who appear to be eligible for Medicaid, based on their tax information, are automatically exempted from the penalty. Also, like New Jersey, revenues collected from

1. In addition to the sources referenced in this article, the authors relied on interviews with a variety of informants in the states discussed here. Interviewees included state agency officials, legislators and staff, advocacy organizations, insurance executives, and academic experts, including individuals in the Rockefeller Institute's ACA Implementation Research Network (rockinst.org/issue-areas/aca/).

the mandate are applied to health-related purposes, namely, support for healthcare affordability and outreach programs.

Vermont also enacted an individual mandate in 2018, scheduled to go into effect in 2020. However, details regarding the penalty, exemptions, coverage requirements, and administration were left to be addressed by the Individual Mandate Working Group, which would make recommendations to the state legislature in 2019. In November 2018, the Individual Mandate Working Group (composed of representatives of government agencies, insurers, and health advocacy groups) reported that it failed to agree on a financial penalty and appropriate affordability exemptions (Individual Mandate Working Group 2018). Some members were concerned that the penalty would fall most heavily on low-income individuals, based on analyses of who paid penalties under the federal mandate; the group only agreed to support public outreach, better monitoring, and timely data for the uninsured. In the 2019 session, legislation was introduced that included a financial penalty, modeled largely on the federal law, but that provision was struck in committee (Vermont Legislative Joint Fiscal Office 2019). Some legislators were concerned about its potential burden on low-income people, and others saw little reason to support a proposal that stood little chance of enactment, given Republican Governor Phil Scott's opposition to the penalty as a new tax.

Two states, Rhode Island and California, enacted state-level mandates and associated tax penalties in their 2019 legislative sessions. In April 2018, the Rhode Island state legislature established a Market Stability Workgroup charged with determining state-level solutions to keep the state's health insurance markets stable (HealthSource RI 2018). In June 2018, the workgroup recommended a state-based shared responsibility requirement as well as a reinsurance program and state regulation of short-term limited duration health plans. In its final January 2019 report, the workgroup confirmed its support for a state-level mandate based on the federal law, though it also recommended modifying the penalty to reduce its impact on low-income persons and dedicating revenues raised from the shared responsibility payment penalty to a state reinsurance program (Market Stability Workgroup 2019). Democratic Governor Gina Raimondo incorporated these recommendations in the 2020 executive budget (State of Rhode Island 2020), and the mandate and other workgroup recommendations were enacted in June 2019.

In California, a state mandate was discussed in 2018 in preparation for the 2019 budget process, yet no bill was introduced. Outgoing Governor Jerry Brown was not supportive; and some Democrats, who controlled

both the legislature and the executive, were concerned that the state's Republican Party might use an enacted mandate as a referendum issue, just as they had placed on the ballot and repealed a gas tax, a previous unpopular measure. California legislators instead responded in 2018 to the Trump Administration's efforts to weaken the ACA by enacting stricter regulations regarding association health plans, a ban on short-term plans, increased advertising budgets, a longer open enrollment period, and state codification of federal ACA and Medicaid laws to insulate against future federal changes.

In January 2019, however, newly elected Governor Gavin Newsom proposed, as his first act as governor, an individual mandate as part of a wide-ranging package of health care reforms (State of California, Office of Governor 2019). The mandate, which was modeled on the federal provision, was passed along with the other reforms and signed into law in June. Under the new legislation, California residents are required to have minimum essential coverage or pay a shared responsibility penalty, starting in 2020 (State of California, Legislative Analyst's Office 2019). The other reforms were intended to make health care premiums affordable for middle-class Californians. Individuals with a household income between 400% and 600% of the federal poverty level (FPL), who are not eligible for federal advanced premium tax credits, will now be eligible for state premium assistance. Undocumented immigrants between the ages of 19 and 25 will qualify for the state's Medi-Cal program. The state will also supplement federal assistance with state aid for persons with a household income between 139% and 400% of the FPL. A combination of an individual mandate and health care subsidies was estimated in a February 2019 report by Covered California, the state's health insurance marketplace, to increase new health insurance enrollment at the lowest amount of new state spending (Covered California 2019). The mandate was expected to add enrollees, while payments by uninsured individuals under the shared responsibility penalty would help finance the subsidies.

Concepts, Proposals, but No Adoptions

In Maryland, Connecticut, Hawaii, and Washington State, legislative proposals establishing state-level mandates were introduced in the legislature yet not enacted.

In 2017, Maryland's legislature established a group, the Maryland Health Insurance Coverage Protection Commission, to develop a "response to and in anticipation of efforts at the federal level to replace the ACA." The

commission's December 2017 report made no recommendations, though it discussed a state individual mandate, including an innovative pilot program to allow persons subject to the tax penalty to apply the payment toward the purchase of health insurance in the following year (Maryland Health Insurance Coverage Protection Commission 2017).

In the 2018 legislative session, that idea was incorporated in a proposal by Democratic legislators for the creation of a Health Insurance Down Payment Escrow Fund (Cousart 2018). Consumers without minimum essential coverage in the prior tax year would be subject to the mandate penalty; the payment, however, could serve as a down payment for health insurance in the current year. Individuals could apply their payment to the purchase of health insurance, or they could indicate on their tax forms that they wanted coverage. If they requested coverage, the state would calculate whether the payment plus available federal subsidies would cover the full costs of insurance; if so, the individual would automatically be enrolled in a plan. If the consumer chose not to purchase insurance, the money would be held in escrow for a year and remain available as a future down payment. If the funds were still not used, the revenues from the penalty would go into a state fund. The legislature, however, did not pass the bill. There were concerns about its administrative feasibility and a possible veto by Republican Governor Larry Hogan.

In late 2018, the Coverage Commission again released a report reviewing options for a state-based individual mandate while making no recommendation (Department of Legislative Services 2018); and though bills with a mandate penalty were again introduced in the 2019 state legislative session, none passed. Instead, the legislature passed the Maryland Easy Enrollment Health Insurance Program. Rather than mandating enrollment, the program would actively seek out and recruit new enrollees, using income tax information (Maryland General Assembly, Department of Legislative Services 2019). The state would identify uninsured individuals through state income tax returns and determine whether they wanted health insurance. If they did, state personnel would work with them to enroll in Medicaid, the state's children's health program, premium tax credits, cost-sharing reductions, or other insurance options and subsidies they might qualify for. The legislation also established an advisory work group charged with reporting back to the legislature on the program's implementation and effectiveness and, by December 2022, on whether it would recommend an individual mandate, enforced by a financial penalty, or automatic enrollment of individuals in a qualified health plan.

Connecticut also considered a state-level mandate that would have permitted consumers to apply their tax penalties toward the purchase of health insurance in a subsequent enrollment period. Two bills were introduced in 2018 that would have established an individual mandate penalty. One closely followed the federal mandate though with smaller fines; another would have deposited the fines into health savings accounts for the individuals penalized. The latter proposal resembled the Maryland plan, though it more directly targeted free riders and uncompensated care in the health care system by imposing penalties equal to what the individual would need to pay for insurance and depositing the fine into an account that the individual could use to pay health care bills or purchase insurance. However, neither bill passed in 2018 due to confusion over the two bills and the overriding focus of the session on the state's financial challenges, according to some observers.

In Connecticut's 2019 legislative session, a statewide individual mandate, like the federal law, was proposed in combination with the Connecticut Option, a subsidized health insurance option offered through insurance companies and available on the Connecticut Health Insurance Exchange (Hughes 2019). The mandate and public option, however, were stripped from the final bill; what remained was authority for state officials to seek permission from the federal government to import less expensive drugs from Canada.

Hawaii established a working group in 2017 to formulate proposals to preserve the ACA's consumer protections in the face of federal efforts to undermine the ACA. In January 2018, the working group produced a report that forecast the problems that could result from the elimination of the federal individual mandate, though the group did not recommend a state mandate. Nonetheless, several bills were introduced in the state legislature in 2018, including provisions for a mandate and reinsurance. The measures failed to pass though some ACA codifications were enacted, including limits on the sale of short-term insurance plans. Some observers suggested that the mandate garnered little support because Hawaii has, since 1974, required employers to provide health insurance to their employees (State of Hawaii 2018), and because the state already has one of the highest rates of insurance coverage in the US (about 96% in 2016).

A state-level mandate was also introduced in the Washington state senate in 2018, one closely aligned with the federal requirement. But the measure was complicated by the fact that Washington has no income tax. To address that obstacle, the bill would have established a task force to develop recommendations on how to implement a mandate. The bill passed in the

senate by a party-line vote but died in the house, in large part because of uncertainty about the mandate's practicality. This was not a new issue for Washington. The state passed an individual mandate to have health insurance coverage back in 1993 and established a task force to develop legislation to enforce it; yet, even after two years, the task force failed to devise a solution.

In lieu of the mandate, the state adopted several other measures in 2018 to counter the effects of the federal actions to undermine the ACA, including strict regulations regarding short-term duration insurance plans and state funding for outreach and enrollment support. Washington also created a form of a public/private option for health insurance purchasing. The state centralized school employee benefits by allowing employees to buy into the state government plan, which was served by private insurers. The new legislation, aimed at eliminating "bare counties," required insurers that provided benefits to school employees in a county to also offer services to other individuals in the county through the exchange (Riley 2018).

The Dog That Didn't Bark

Despite deep political support for comprehensive health care coverage in New York, it has not seen a formal proposal for a state-level individual mandate. There were discussions in the executive branch about including such a measure in the 2019 budget, and the state health department commissioned independent simulations estimating the effects on premiums and enrollment of the TCJA and other federal actions aimed at weakening the ACA. The analyses anticipated significant increases in premiums and decreases in exchange enrollments, with most of the reduction in participation occurring among younger, healthier people.

New York State officials, however, believed these effects could be mitigated by other means. For the 2019 open enrollment period, the Department of Financial Services held premium increases down to 8.5%, rejecting many rates proposed by insurers, who sought widely varying increases, some as high as 24%, half of which insurers justified by the loss of the mandate. New York also considered its Basic Health Plan (also called the Essential Plan), which only requires a $20 monthly premium for individuals between 138% and 200% of the FPL, to be so affordable that it would keep many lower-income families in health insurance despite the end of the mandate. The state also fully funded consumer outreach and assistance, compensating for the end of federal support for those activities.

In light of these measures and New York's already low level of uninsurance (less than 5%), executive officials took a wait-and-see approach

regarding a state mandate in the executive branch, while there was no discussion of the option in the legislature. New York's 2019 open enrollment period confirmed the continued strength of the market. Enrollment in the state's Qualified Health Plans and Essential Plans increased by 7% between 2018 and 2019, with little change in the distribution of enrollees by age (New York State of Health 2019).

Shifting Contexts, State Approaches to Individual Mandates, and Implications for Federalism

Enacting a state-level individual mandate is no easy task. That is not surprising given the national-level unpopularity of the mandate, but the mandate was viewed by many health policy experts to be an essential component of the ACA, and the act enjoyed political support in the states considered here. In Maryland, for example, polls put the ACA's support at 62%, and 52% favored a state-based mandate. However, after Congress zeroed out the penalty, and the question of personal responsibility for health insurance fell to the states, the issues and context changed, and those changes generally worked against widespread and rapid diffusion.

First, when considered on its own by the states, the mandate penalty was more distinctly viewed as a tax. Of course, it was a tax, administered by the Internal Revenue Service. But in its original, national frame, the mandate and the penalty were primarily treated as a pragmatic mechanism to enforce the goals of health insurance coverage, market stability, and personal responsibility, and the decision to implement the mechanism through the tax system was born of convenience. The ACA nowhere refers to the shared responsibility payment as a tax, and in *NFIB v. Sebelius* the IRS was barred from using its typical enforcement powers, such as criminal prosecutions and levies, in ensuring compliance.

When viewed as a tax, the mandate penalty gave rise to a new question: Who pays the tax, and how fair is the distribution of burdens? Vermont found that, as a tax, the penalty was highly regressive. Using 2016 federal income tax returns, the state's working group learned that 92% of the federal penalties fell on persons with adjusted gross incomes between $10,000 and $75,000, with about half of the penalized taxpayers in the $25,000 to $50,000 range (Individual Mandate Working Group 2018).[2] That finding contributed to the inability of the working group to reach

2. Levitis (2018) argues that analyses showing a disproportionate impact on low-income taxpayers may be incorrect, because many of the individuals who pay the penalty may be eligible for Medicaid or an exemption. He suggests that improved outreach, consumer assistance, and administration may minimize the problem (Levitis 2018).

consensus on the state-level mandate penalty. Other states also noted the regressive incidence of the penalty. Proposals in Maryland and Connecticut, for example, sought to reduce burdens on lower-income individuals by allowing them to apply the penalty toward the purchase of health insurance or health care.

Second, state implementation of the ACA increased uncertainty about the effects of the mandate, while other measures gained credibility as means of ensuring coverage. The research findings have been mixed: some estimated that the effects of subsidies and the Medicaid expansion have been much greater. Based on a consumer survey, New York State found that the most important factor for consumers in deciding to acquire insurance was cost, a finding consistent with the success of the state's Basic Health Plan in providing affordable insurance to lower-income individuals and households not eligible for Medicaid (Blumberg et al. 2018).[3] The states we examined cited several other means of maintaining or extending insurance coverage, including "silver loading," which maximizes federal subsidies to persons buying insurance on the exchanges; state insurance commissioners exercising their authority to reject large annual increases in premiums; and state funding of advertising and other consumer outreach and assistance programs.

In sum, the individual mandate has increasingly appeared as one tool among several to boost enrollment and stabilize markets rather than an indispensable pillar; and in some states, a state-level mandate was outflanked by more politically attractive measures. At the political center, several states found reinsurance proposals to be attractive, especially if federal 1332 waivers permitted estimated federal savings to be invested in the reinsurance programs. On the left, interest in single-payer systems in New York and, at least initially, California may have siphoned away some political support for reinstating the mandate. In Hawaii, the state's long-standing employer mandate and its effectiveness in ensuring widespread health insurance coverage was cited as one reason why an individual mandate was not adopted.

Third, implementation of the mandate appeared to be more difficult for state governments than for the federal government. The case of Washington State was obvious; without a personal income tax, the state

3. Blumberg and colleagues estimated that New York would see little impact from adopting a mandate penalty because of its Basic Health Plan. Minnesota also offers the very affordable Basic Health Plan to persons between 138% and 200% of the FPL. Interviews with Minnesota legislators also brought up the Basic Health Plan as a reason why a mandate may not be needed (Blumberg et al. 2018).

had no clear path to an enforceable requirement. Yet other states also faced challenges. Officials in several states indicated that their health and tax agencies had not shared information in the past, much less worked together, in ways that enforcement of the mandate would require. Vermont's working group concluded that the financial penalty would be costly to administer, and one of the reasons given by Rhode Island officials for doing more analysis before proposing an individual mandate was to find out whether the state tax agency could handle the responsibility for administering the requirement.

Considering these obstacles, it may be surprising that any states adopted an individual mandate. Yet some did, and others may eventually follow. How they did it and how other states are trying to do it reveal some interesting pathways for policy change.

New Jersey and the District of Columbia showed one approach by acting quickly and minimizing policy changes. By enacting measures that closely followed the federal mandate only months after Congress eliminated the tax penalty, these governments appeared to patch up what Congress and the president had taken away. A state-level mandate was thus enacted by retaining its place within the political frame of the locally popular federal ACA. Although both governments added a new dimension by designating revenues from the mandate penalty to a future reinsurance program (New Jersey) or other outreach and affordability measures (DC), these additions were left in general terms, with details to be worked out in future legislation.

Vermont did something similar. It quickly enacted a mandate yet put off decisions about the penalties, exemptions, and implementation by creating a working group to submit recommendations to the state legislature in its 2019 session. That delay, however, had the effect of shifting the political frame away from the quick-patch job and toward seeing the mandate as a distinct policy. Now viewed as a tax policy, and one that disproportionately burdened Vermonters with low to moderate incomes, it was a point of disagreement, along with exemptions for affordability and members of health care sharing ministries, that led to the failure of the state to enact a shared responsibility penalty in 2019.

A second approach was to create a new package around the state mandate, one that linked the mandate to more popular policies. California incorporated its mandate within a system of new premium subsidies. New Jersey and Rhode Island sought to use revenues from the tax penalty to finance reinsurance programs. Other, quite innovative approaches were proposed in Maryland and Connecticut, both of which addressed unfair tax burdens. The proposal in Maryland would have permitted individuals to use penalties levied against them to buy insurance. In Connecticut, one bill would

have channeled the mandate penalties, which were larger than the federal amounts, into a personal health care savings account that the individual could use to pay the cost of health care in current and future years. Of course, neither Maryland nor Connecticut enacted these reforms, so it is still unclear whether such packages would work as alternative approaches. It is also unclear whether such policies are sustainable, as they reflect an inconsistency regarding the purpose of the penalty: Is it expected to shape behavior and eventually wither away, or will it be an enduring source of financial support for health-related programs?

One general finding from these reactions is that states that strongly supported the ACA responded to the end of the shared responsibility payment not simply by reenacting it but by considering how to sustain key outcomes—increasing affordable and comprehensive health care coverage to nearly all state residents—in the absence of an enforceable federal mandate. The TCJA spurred state action, though the actions varied locally and included measures that went beyond efforts to replicate the federal payment at the state level. Of course, Republican Party opposition to the ACA limited the potential spread of state efforts to bolster the program, and the mandate's rationale as a *personal responsibility* to pay for health insurance may not be widely endorsed even in states with Democratic majorities.

This diversity of state responses to national actions to weaken the ACA may stem from these and other challenges in establishing a state-level mandate. Yet it is also true that states are drawing from their particular experiences and political situations to fashion responses aimed at achieving critical health insurance outcomes. This emphasis on results reflects a state-level endorsement of the basic goals of the Affordable Care Act, at least in these states. National policy retrenchment may repercuss through the federal system and generate compensatory action, though not necessarily replacing what the federal government took away.

Such reactions may be part of an important dynamic in US federalism. Some states will embrace the goals promoted by policies enacted by a national administration, and after institutionalizing those goals and policies, their commitments may strengthen. If party control of the national government changes, as it frequently has in recent decades, states with the strongest commitments to the policy goals may, if local politics permit, adopt policies that defend those goals against national-level policy reversals. However, states' defense of prior policy initiatives may be quite varied. A possible consequence of this sequence may be a growing division among states, manifested by an increase in policy innovation and implementation

capacity among a few states sufficiently motivated and politically and administratively able to sustain prior national initiatives in the face of national opposition, while other states continue to be buffeted by policy changes generated by a national government of increasingly uncertain control.

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Carolyn Hughes Tuohy. *Remaking Policy: Scale, Pace, and Political Strategy in Health Care Reform*. Toronto: University of Toronto Press, 2018. 717 pp. $101.25 cloth, $41.25 paper.

Recently, Rudolf Klein (2018) outlined the conceptual framework of Carolyn Hughes Tuohy's remarkable scholarly book, and described the work's four principal case studies of health care reform strategies, using historical portraits of reform changes and policy continuity in the Netherlands, England, Canada, and the United States. Tuohy's book examined reform windows of opportunity across these cases, and Klein asks how convincing are her explanations for the results? Klein's review concentrates, however, on the NHS cases, his area of greatest expertise.

In reviewing this masterful book I shall focus on the use and abuse of comparative cross-national evidence in the policy world of health and pensions. Accordingly, this brief commentary addresses the place of Tuohy's work in comparative scholarship more generally. Indeed, the question of how Tuohy goes about comparing the national cases she selected turns out to be a challenging scholary inquiry on its own. What explanations and policy lessons can we learn from these cases, however engaging they are as historical portraits?

Tuohy's stated ambition is to make sense of the scope and pace of reforms in each of the cases, rather than to explain how four health care systems fared over decades since the World War II. Some crucial distinctions are called for; the major one is between using cases to illustrate why

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particular policy episodes turned out as they did compared to drawing causal or theoretically important claims from those case studies. Her stated conceptual aim is to show how her theory of policy change improves on the approaches one finds in contemporary political science. As noted already, her work is about why decision makers pursue different strategies when embarking on policy change, rather than making cross-national generalizations. To be sure this book has comparative generalizations at various points, but those are not the conceptual point of the book.

Indeed, as Klein also suggests, this book illustrates in ample and readable detail how reform strategists in particular institutional contexts made consequential policy choices. The strategies selected—and the stories of how policy entrepreneurs pursued them—are analytical policy histories of great scholarly depth. The cloth edition, with 717 pages, provides extended and clear policy narratives. The Obamacare reforms of 2010 are one such such case, from the choice of the legislative strategy to the bitter political fights that strategy engendered before, during, and after the legislative enactment. Readers interested in the stable policy regime of Canadian Medicare over decades can find both clear examples of that continuity and details of how in the early 2000s a window of opportunity appeared for substantial changes in Canada's Medicare that was *not* taken up. One finds in Tuohy's chapters extended examples of other national reform debates. For example, the unfolding of reforms over decades in the Netherlands' medical care arrangements illustrate what Tuohy calls the blueprint mode of reform.

This case scholarship alone is a stunning achievement. No other health policy to my knowledge has tried to master four national accounts of reform over decades and it is doubtful anyone else will try on their own. The demands of detailed interviews, understanding other scholarly work on many topics in a major industry of all developed economies, and integrating these findings into coherent narratives is a task beyond all but the most determined and most able scholars in public policy work. It helps to explain both why so many comparative policy books have coauthors and why so many books marketed as comparative studies are about one country.

There is an irony here, however. The historical case studies are comparative in the sense of using comparative information. But they obviously differ from conventional, comparative policy analysis. Each country narrative in Tuohy's formulation illustrates a theoretical reform type. Tuohy engaged all of the four national cases; she proceeds with ideal typical formulations of the strategies followed in all the cases: illustrations from, for example, the United States in 2010, Canada in 2000, or England in 2007

and the Netherlands in the 2000s. The portrayals can be relatively complex or straightforward in imagery—a mosaic to capture the United States' strategic predilections, or incrementalism to portray Canada's stability beginning in the 1970s. Though table 11.1 on page 518 summarizes Tuohy's portraits coherently, the reader does not have a clear view of her conclusions regarding health care developments from the end of World War II to the present.

That is the case, in large part, because Tuohy did not have in mind the conventional aim of focusing on the content of policies themselves. She wants instead to provide a guide to how policy reformers responded to political opportunities and whether their strategies of pace and scope were or were not successful. In that way, Professor Tuohy's book is primarily about her complex theory of policy change, using cases from health care history in four nations. Her equally important purpose was to widen the scope of her study to the causes more generally of policy change in diverse contexts.

The question remains, however, as to how successful this book is in explaining the pace and scope through her theoretical lenses. How broadly does Tuohy approach the field of comparative scholarship, and does that make a difference? One missing element, for instance, is attention to other comparative theorizing. She uses comparative evidence to highlight how differently problems, policy proposals, and strategies appear cross-nationally. From this perspective one sees cases differently. They can offer sharp or nuanced observations, but not policy lessons or explanations. I have in other contexts called that policy illuminaton without transplantation. But that interpretation gets little attention, though the four cases could be used that way.

Another comparative option would be to explore case studies as natural experiments. The more similar the political, social, and economic institutions of the nation compared, the more plausible the conclusions about predictions of how a policy tried in a similar regime would likely operate in another, comparable jurisdiction. This analytical mode is always open to the criticism that two or more nations are in subtle and obvious ways different. According to many policy analysts, this weakens the use of a similar system design. But this alleged problem of comparative analysis is unavoidable. Inferences from other theoretical approaches, for example, face the same problem. Historical analogies describe policy contexts *then*, not *now*. So Tuohy does not face a distinctive conceptual barrier, but one common to theoretical applications as well (theories are at some distance from actual developments). The same is true for cross-industry analogies,

a prominent example of which is the sources of checklist reforms in modern surgery. If pilots can make sure the important preflight requirements have been checked, that makes air transport safer according to established research. But hospitals are not airplanes. Hospitals don't fly and their CEOs do not share the risks their clientele face. Inferences from other industries thus raise the problem of explanatory adaptation. So do historical cases, policy analogies, and inferences from most similar cases. If the same policy result occurs in very different medical care systems, that comparative finding is important for causal inquiry. Instances of uniform policy results are rare in any policy arena, but they are very important.

Tuohy's distinctive approach raises the question highlighted at the beginning of this review: how well does the theory employed support the conclusions drawn? My view is mixed: admiration for the scholarly depth of the cases and some skepticism about how successfully Tuohy's cases support her causal claims. Country experts in medical politics and policy will find examples of detail missed or misleading. To illustrate that claim, consider Tuohy's account of Obama's reform known widely as Obamacare. Through interviews and vast reading, Tuohy concludes that Obama's experience of reform constraints make sense when viewing US policy making as patches on patchworks, or mosaics as she makes the point. The explanation for the partial reform—despite the unified Democratic government that took office in 2008—is detailed, but incomplete in my view. Reporting how a reform process emerged is indeed aided by what strategies the reforming coalition employed. But knowing how the Obama administration proceeded does not answer what explains why the reform took place and why the program experienced the implementation problems it came to face. The strategy adopted, as Tuohy rightly notes, was to seek bipartisan reform, one involving expanding Medicaid to more poor Americans. It meant changing the rules of US health insurance to make commercial plans more like social insurance: attacking private health insurance firms that turned away those with preexisting health conditions. Obamacare further increased the scope of benefits insurers were required to cover beyond the minimal health care coverage offered by many private carriers.

What, one can ask, does this account leave out? First, the subject of the origins of the strategy is not given the weight it deserves. One can argue, for instance, that it is puzzling to pursue a model of US health reform that resembled the Massachusets legislation backed in 2006 by Republican Governor Mitt Romney. Outside of some northeastern states such as Massachusetts, bipartisan aspirations for the politics of public health insurance conflict with the moral as well as economic clashes on which US

parties differ profoundly. As with Obamacare, the battles almost never are matters of bipartisan cooperation. Indeed, as all US experts know, Obama's reform effort failed to get one Republican supporter in the House of Representatives. Here was an example of a strategy that failed to generate the expected support, took a form that should have predicted implementation problems, and certainly has had an unstable future. A key to understanding the patchwork approach is the powerful role played by veterans of the Clinton reform failure of 1993–94 during the Obama reform period. In my view, they overlearned the reasons for President Clinton's complete reform failure in 1993–94. The Congress then was nomimally Democratic, but without a firm health policy majority. The nine months spent preparing the Clinton reform proposal left out most of the key congressional actors with an interest in medical reform. The lack of clarity of the Clinton proposal—understandably opaque as "managed competiton within a budget"—was equally true for Obamacare. US polls showed more opposition than support throughout the legislative struggle of 2009–10, and they changed only after the Republican Congress sought to repeal and replace Obamacare.

Why this happened is not an easy question to answer. But a large causal element was the composition of the personnel in the White House and the US Department of Health and Human Services who worked on the Clinton reform. Former South Dakota Senator Tom Daschle—close to President Obama, having urged him to run for the presidency—was widely expected to take the lead in health reform and head the US Department of Health and Human Services that would administer any reform that emerged. Daschle had in fact provided a roadmap to reform in 2007. His 2007 book set out just how hard comprehensive reform had been to enact in his decades of congressional service and what that implied for reform strategies. His coauthor, Jeanne Lambrew, had been on Daschle's Senate staff and in 2009 moved to the White House and became one of the key architects of the reforms. Indeed, former Daschle staff were spread all over the new administration. Most critically, Daschle had concluded by 2007 that the lack of Republican support in 1993–94 largely explained Clinton's reform failure.

That conclusion is crucial in explaining Dachle's strategic premise. Moreover, Daschle was expected to lead the entire reform operation had he not removed himself from consideration just as the Obama cabinet was introduced. His departure from the leadership of health reform in 2009 was because of a problem with tax payments, not the strength of his health reform ideas. For this review's commentary, Daschle is central to understanding what was tried in Obama's reform and what was not. Tuohy's

mosaic metaphor for enacting Obamacare is helpful, but incomplete. Carolyn Hughes Tuohy's book will surely prompt serious challenge but that in itself is testimony of her scholary contribution. This book should stimulate interest in both the reform histories and the application of her theoretical approach to fields distant from the politics of health reform's scope and pace.

—Theodore R. Marmor, Yale University

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Amid Confusion over the Public Charge Rule, Immigrant Families Continued Avoiding Public Benefits in 2019

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The current administration's new "public charge" rule took effect in February 2020, significantly expanding the criteria for determining whether applicants for permanent residency, or green cards, may be denied based on past or potential use of government benefit programs. Even before the rule took effect, evidence shows the proposed rule produced widespread chilling effects nationally, meaning eligible immigrant families—including those who would not be subject to the rule—avoided enrolling in public benefit programs for fear of immigration consequences (Bernstein et al. 2019; Bernstein, McTarnaghan, and Gonzalez 2019; Straut-Eppsteiner 2020; Tolbert, Artiga, and Pham 2019).

This phenomenon has become even more alarming during the COVID-19 pandemic, in which many immigrant families are vulnerable to acute medical and economic hardship. Families may avoid medical care and public supports for fear of being deemed a public charge, despite formal clarification by the federal government that COVID-19 testing and treatment will not be considered. Given the economic and public health crisis, it is critical to understand how the rule is affecting immigrant families, where these families are getting their information about the rule, and which sources they trust to communicate accurate messages about the rule and its impacts.

This brief draws on unique data gathered from the Well-Being and Basic Needs Survey (WBNS), a nationally representative, internet-based survey conducted in December 2019. This survey round assessed awareness and knowledge of the public charge rule, sources of information on the rule, and chilling effects reported by adults in immigrant families who speak English or Spanish. The survey included 1,747 nonelderly adults who were born outside the US (foreign born) or live with one or more foreign-born family members (hereafter called adults in immigrant families), who make up about one-quarter of all nonelderly adults in the US, according to the 2018 American Community Survey. We find the following:

- The public charge rule's chilling effects on receipt of public benefits in 2018 persisted at similar levels into 2019. More than one in seven adults in immigrant families (15.6 percent) reported that they or a family member avoided a noncash government benefit program, such as Medicaid, the Children's Health Insurance Program (CHIP), the Supplemental Nutrition Assistance Program (SNAP), or housing subsidies, in 2019 for fear of risking future green card status. More than one in four adults in low-income immigrant families (26.2 percent) reported chilling effects during that period.
- Between 2018 and 2019, there was a statistically significant increase (from 21.8 percent to 31.0 percent) in chilling effects among adults in immigrant families where at least one member was not a permanent resident, the group most likely to be directly affected by the rule through future green card applications.
- Among adults reportedly avoiding noncash government benefit programs because of green card concerns, nearly half said their families avoided Medicaid/CHIP or SNAP and one-third avoided housing subsidies. Smaller but substantial shares of adults also reported spillover effects to public programs excluded from the public charge rule, including free or low-cost medical care programs for the uninsured (20.8 percent); the Special Supplemental Nutrition Program for Women, Infants, and Children, or WIC (16.3 percent); Marketplace health insurance coverage (14.1 percent); and free or reduced-price school lunches (13.0 percent).
- Two-thirds of adults in immigrant families (66.6 percent) were aware of the public charge rule, and 65.5 percent were confident in their understanding about the rule. Yet, only 22.7 percent knew it does not apply to citizenship applications, and only 19.1 percent knew children's enrollment in Medicaid will not be considered in their parents' public charge determinations.
- Adults in immigrant families were most likely to trust government agencies and legal professionals for information about how using public benefits would affect their or a family member's immigration status. US Citizenship and Immigration Services (USCIS) was the most trusted source (66.1 percent), followed by legal professionals (63.0 percent), state government agencies (55.6 percent), and local government agencies (50.7 percent). However, very small shares reported getting information on the public charge rule from these sources; most reported getting information on the rule from the media or personal networks, which they trust less.

Background

As part of a broader policy agenda to limit immigration, the administration has enacted significant changes to implementation of public charge determinations (box 1), part of the admissions process for permanent residency and temporary visas. The administration moved to significantly expand the rule in 2018. After circulating drafts of the new rule and a vigorous public comment period,[1] litigation efforts temporarily halted implementation of the final rule.[2] However, Supreme Court rulings in January and February allowed the administration to begin implementing the rule nationally while legal challenges continued in the lower courts. The rule took effect nationwide on February 24, 2020.[3]

BOX 1

What Is the New Public Charge Rule?

The new public charge rule vastly expands the criteria through which immigrant applicants may be denied admission to and residency in the US for having received public benefits or being deemed likely to receive public benefits in the future. Departing from past practice, where only primary reliance on cash benefits or long-term medical institutionalization were considered, the new rule redefined the "totality of circumstances" test to consider not only previous use of certain cash *and* noncash benefits but a wide range of personal characteristics, including income and assets, age, health, family size, and education and skills, like English proficiency.

The new rule expands the list of benefits to be considered in a public charge determination to include SNAP (formerly known as food stamps), nonemergency Medicaid for nonpregnant adults ages 21 and over, and Section 8 housing assistance or public housing. The revised public charge determination does not consider receipt of federally funded Medicaid for emergency care, pregnancy-related care, or care for children under age 21.

The rule applies to applications for green cards from within the US and abroad, applications for temporary visas from abroad, and changes or extensions to temporary visas from within the US (e.g., student visas). The rule does not apply to citizenship applications or green card renewals, though a green card holder who leaves the US for more than six months may be subject to a public charge test. Several humanitarian admission groups are exempted, including refugees and asylees; survivors of trafficking, domestic violence, or other serious crimes (T or U visa applicants and holders); Violence Against Women Act self-petitioners; and special immigrant juveniles (Protecting Immigrant Families 2020a).

Research has predicted the rule's implementation will exclude many applicants from Asia, Latin America, and Africa, reducing the number and demographic diversity of green card recipients.[4] Because most future green card applicants are not actually eligible for many of the benefits included in the rule, most admissions denials will not owe to applicants' prior benefit receipt but to other negative factors in the rule,[5] which some describe as a "wealth test."[6]

However, there is significant concern about the widespread chilling effects produced by the rule, as immigrant families avoid benefit programs and other resources for which they may be eligible for fear of

risking a potential public charge determination. Before the rule change, immigrant families already faced barriers to accessing public programs, such as language or cultural barriers, lack of information, fears about immigration consequences and future opportunities to naturalize, and varying program eligibility among family members in multiple-immigration-status households (Fix and Zimmerman 1999; Fortuny and Chaudry 2011).[7] The new public charge rule's complexity—along with the broader enforcement-oriented immigration policy climate—raises additional barriers and may have spillover effects on families and programs not targeted by the rule. More than 200 pages long, the new regulation is confusing to both families and service providers about who is subject to a public charge test, whose benefit receipt will be considered, and which programs will be considered. This confusion may explain why many families have opted out of programs to avoid potential risks to their immigration status despite suffering negative consequences to their health and well-being (Bernstein, McTarnaghan, and Gonzalez 2019; Greenberg, Feierstein, and Voltolini 2019; Protecting Immigrant Families 2020b; Straut-Eppsteiner 2020). In addition, legal professionals may advise extreme caution and avoidance of benefit programs because of potential immigration consequences (Bernstein, McTarnaghan, and Gonzalez 2019) and their limited understanding of benefits eligibility (Straut-Eppsteiner 2020).

Our previous analysis of survey data collected in December 2018, during the public comment period on the then-proposed rule, found that one in seven adults in immigrant families and one in five in low-income immigrant families reported chilling effects in the previous year (Bernstein et al. 2019). Qualitative follow-up interviews with survey respondents in spring 2019 highlighted their fear and confusion about the rule, a reliance on the media for information and little access to professional advice, and hardship for adults and children after losing supports (Bernstein, McTarnaghan, and Gonzalez 2019). This brief draws on new WBNS data collected from adults in immigrant families in December 2019, after release of the final rule but before implementation. These data reinforce and update our previous findings about the rule's chilling effects but also provide new insights into awareness and knowledge of the rule, where immigrant families are getting their information on public charge, and which sources they trust to provide helpful information about how using public benefits could affect their immigration status.

Findings

More than one in seven adults in immigrant families (15.6 percent) reported that they or a family member avoided a noncash government benefit program, such as Medicaid/CHIP, SNAP, or housing subsidies, in 2019 for fear of risking future green card status. More than one in four adults in low-income immigrant families (26.2 percent) reported chilling effects during that period.

Among all adults in immigrant families, 15.6 percent reported chilling effects on their participation in noncash public benefits programs in the previous year for fear of how it might affect future green card applications (figure 1). Reported chilling effects were higher (26.2 percent) among adults in low-income immigrant families (i.e., with family incomes below 200 percent of the federal poverty level; data not shown).

The overall share of adults in immigrant families reporting chilling effects in 2019 was not significantly different from the share reporting chilling effects in 2018 (15.6 percent in 2019 versus 13.8 percent in 2018), after controlling for the demographic characteristics of adults in each round of the survey.

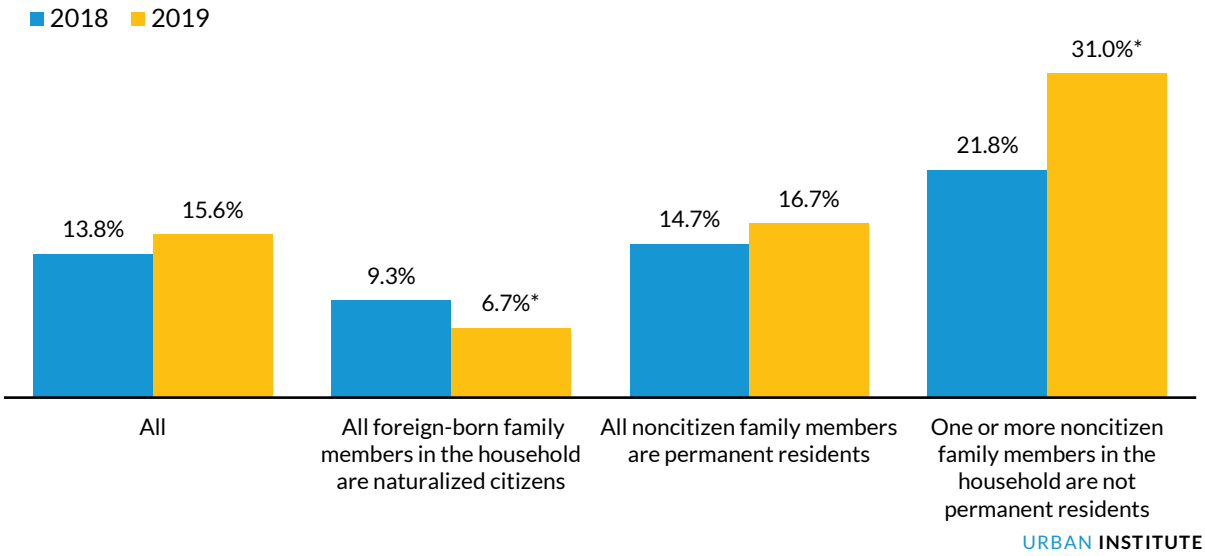
Between 2018 and 2019, there was a statistically significant increase (from 21.8 percent to 31.0 percent) in chilling effects among adults in immigrant families where at least one member was not a permanent resident, the group most likely to be directly affected by the rule through future green card applications.

Reported chilling effects increased among adults in households most likely to be directly affected by the public charge rule; adults in immigrant families in which at least one foreign-born family member is not a permanent resident reported higher rates of chilling effects in 2019 than in 2018 (31.0 percent versus 21.8 percent), a difference significant at the 0.10 level.

Additionally, adults in households in which no family members could be subject to the rule were the only group to report a small but statistically significant decline in chilling effects; the share of adults in households in which all foreign-born family members are naturalized citizens reporting chilling effects dropped from 9.3 percent in 2018 to 6.7 percent in 2019, also significant at the 0.10 level (figure 1).

FIGURE 1

Share of Adults in Immigrant Families Who Avoided Noncash Government Benefits in the Past Year Because of Green Card Concerns, Overall and by Household Citizenship and Immigration Statuses, December 2018 and 2019



Source: Well-Being and Basic Needs Survey, December 2018 and December 2019.

Notes: Adults are ages 18 to 64. Estimates are regression adjusted for a respondent's gender, age, race and ethnicity, educational attainment, family size, chronic health conditions, residence in an urban or rural area, internet access, homeownership status, citizenship status, family composition, census region, and family income as a percentage of the federal poverty level; the presence of children under age 19 in the respondent's household; whether the respondent participated in both the 2018 and 2019 survey rounds; and how long the respondent has been a member of the KnowledgePanel.

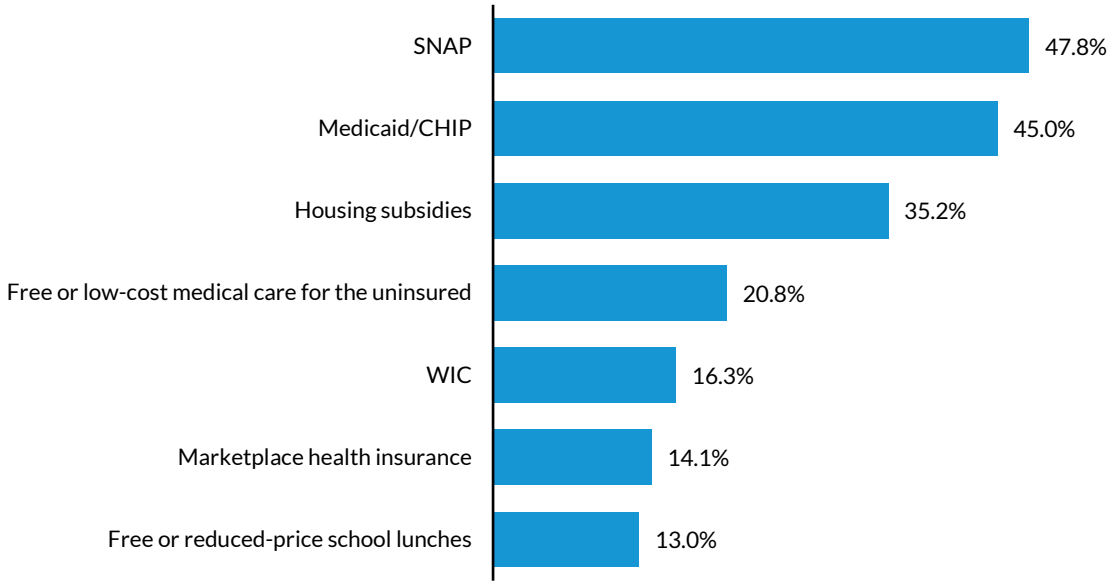
*/**/*** Estimate differs significantly from 2018 at the 0.10/0.05/0.01 level, using two-tailed tests.

Among adults reportedly avoiding noncash government benefit programs because of green card concerns, nearly half said their families avoided Medicaid/CHIP or SNAP and one-third avoided housing subsidies. Smaller but substantial shares of adults also reported spillover effects to public programs excluded from the public charge rule.

Among adults in immigrant families reporting chilling effects, 47.8 percent avoided SNAP, 45.0 percent avoided Medicaid or CHIP, and 35.2 percent avoided housing subsidies. Notably, about one in four adults (24.9 percent; data not shown) in these immigrant families reported avoiding a program not named in the final public charge rule, including free or reduced-cost medical care for the uninsured (20.8 percent), WIC (16.3 percent), health insurance purchased through the Marketplaces (14.1 percent), and free or reduced-price school lunches (13.0 percent; figure 2).

FIGURE 2

Benefits Avoided by Adults in Immigrant Families Who Reported Avoiding Noncash Government Benefits in the Past Year Because of Green Card Concerns, December 2019



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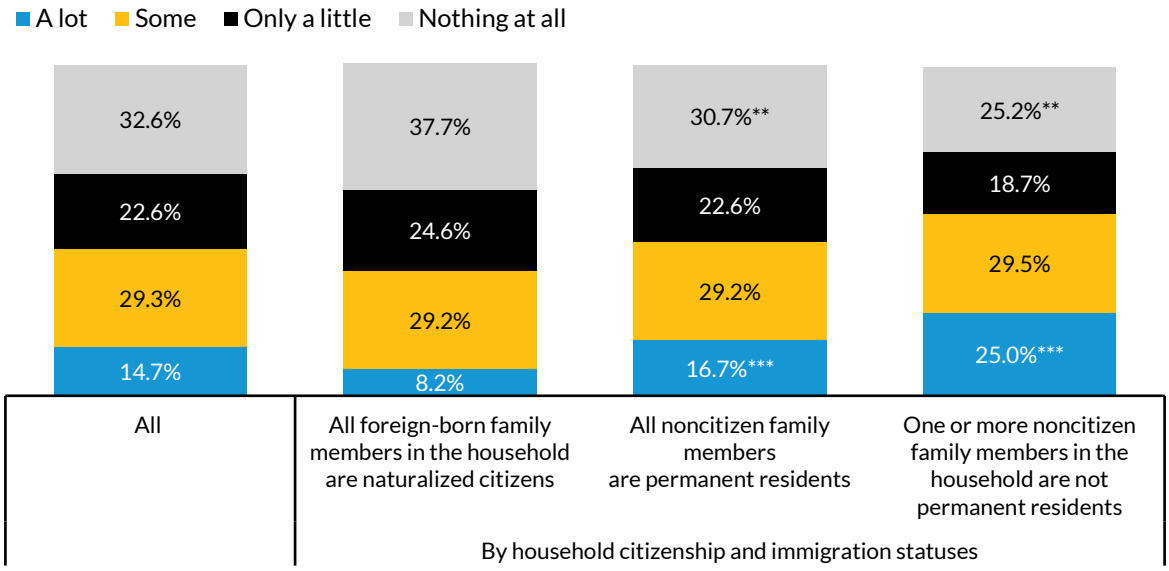
Source: Well-Being and Basic Needs Survey, December 2019.
Notes: Adults are ages 18 to 64. SNAP is the Supplemental Nutrition Assistance Program. CHIP is the Children's Health Insurance Program. WIC is the Special Supplemental Nutrition Program for Women, Infants, and Children.

Two-thirds of adults in immigrant families (66.6 percent) were aware of the public charge rule, and 65.5 percent were confident in their understanding about the rule. Yet, only 22.7 percent knew it does not apply to citizenship applications, and only 19.1 percent knew children's enrollment in Medicaid will not be considered in their parents' public charge determinations.

Among adults in immigrant families, 66.6 percent reported hearing "only a little," "some", or "a lot" about the public charge rule, and 32.6 percent reported hearing "nothing at all." Unsurprisingly, awareness of the rule was greatest among the group most likely to be directly affected by it, families in which a member may apply for a green card in the future. Nearly three-quarters of adults in households where one or more foreign-born family members are not permanent residents (73.2 percent) heard about the rule, compared with 68.6 percent of adults in households where all noncitizen family members are permanent residents and 62.0 percent of those in households where all foreign-born family members are naturalized citizens (figure 3).

FIGURE 3

How Much Adults in Immigrant Families Have Heard about the Public Charge Rule, Overall and by Household Citizenship and Immigration Statuses, December 2019



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Source: Well-Being and Basic Needs Survey, December 2019.

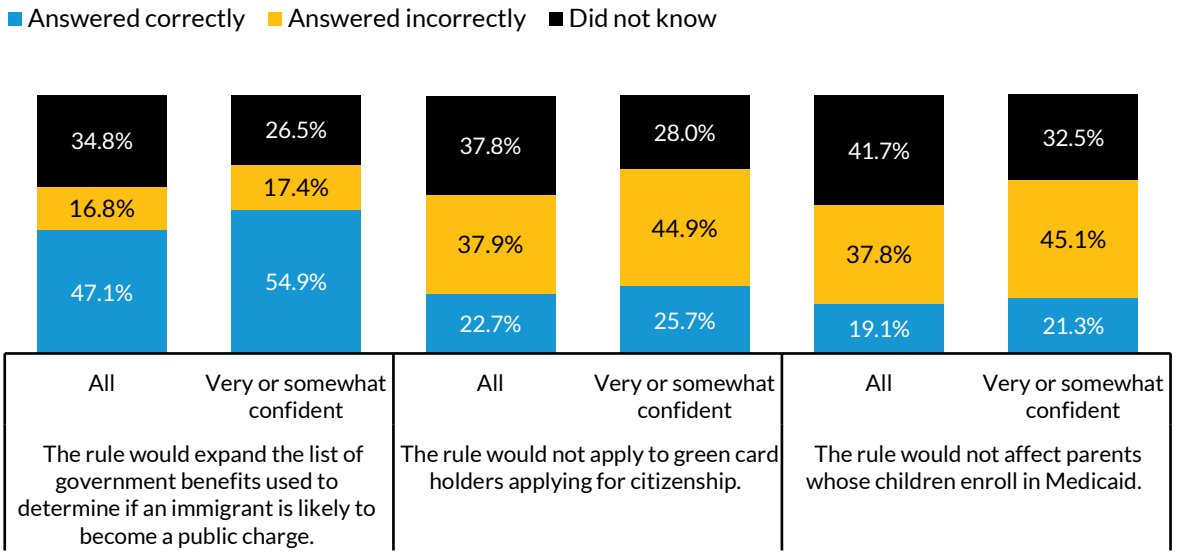
Notes: Adults are ages 18 to 64. Categories are based on the citizenship and immigration statuses of the foreign-born family members in the household, but each group may contain US-born family members, including the respondent. Estimates are not shown for 0.8 percent of adults in immigrant families who did not report how much they have heard about the public charge rule. */**/*** Estimate differs significantly from adults in households where all foreign-born family members are naturalized citizens at the 0.10/.05/.01 level, using two-tailed tests.

However, most adults in immigrant families who have heard about the rule (i.e., excluding those who have heard nothing about the rule) either do not know or do not understand what the rule does and who it applies to. Though 47.1 percent of that group knew the new rule expanded the list of benefits considered in public charge determinations, only 22.7 percent knew it does not apply to citizenship applications, and 19.1 percent knew children's enrollment in Medicaid will not be considered in their parents' public charge determinations (figure 4).

Misunderstanding and lack of knowledge about the rule is similarly high among people confident in their understanding of the rule. Two-thirds of adults in immigrant families who are familiar with the public charge rule (65.5 percent) reported being very or somewhat confident that they understand it (data not shown). Though most respondents (54.9 percent) who were very or somewhat confident about their understanding of the rule knew the rule expanded the list of government benefits considered in public charge determinations, only 25.7 percent knew the rule will not apply to green card holders applying for citizenship, and 21.3 percent knew it will not affect parents whose children are enrolled in Medicaid (figure 4).

FIGURE 4

Understanding of Key Parts of the Public Charge Rule among Adults in Immigrant Families Who Have Heard About the Rule, Overall and among Respondents Very or Somewhat Confident in Their Understanding of the Rule, December 2019



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Source: Well-Being and Basic Needs Survey, December 2019.
Notes: Adults are ages 18 to 64. Respondents were asked whether the above statements about the public charge rule were true or false. Respondents were randomly assigned to different wording for the second and third statements (e.g., "would apply" versus "would not apply" for the second statement). We present the true statements in this chart. Missing data are not presented, so totals do not add up to 100.

Adults in immigrant families were most likely to trust government agencies and legal professionals for information about how using public benefits would affect their or a family member's immigration status. However, very small shares reported getting information on the public charge rule from these sources; most reported getting information on the rule from the media or personal networks, which they trust less.

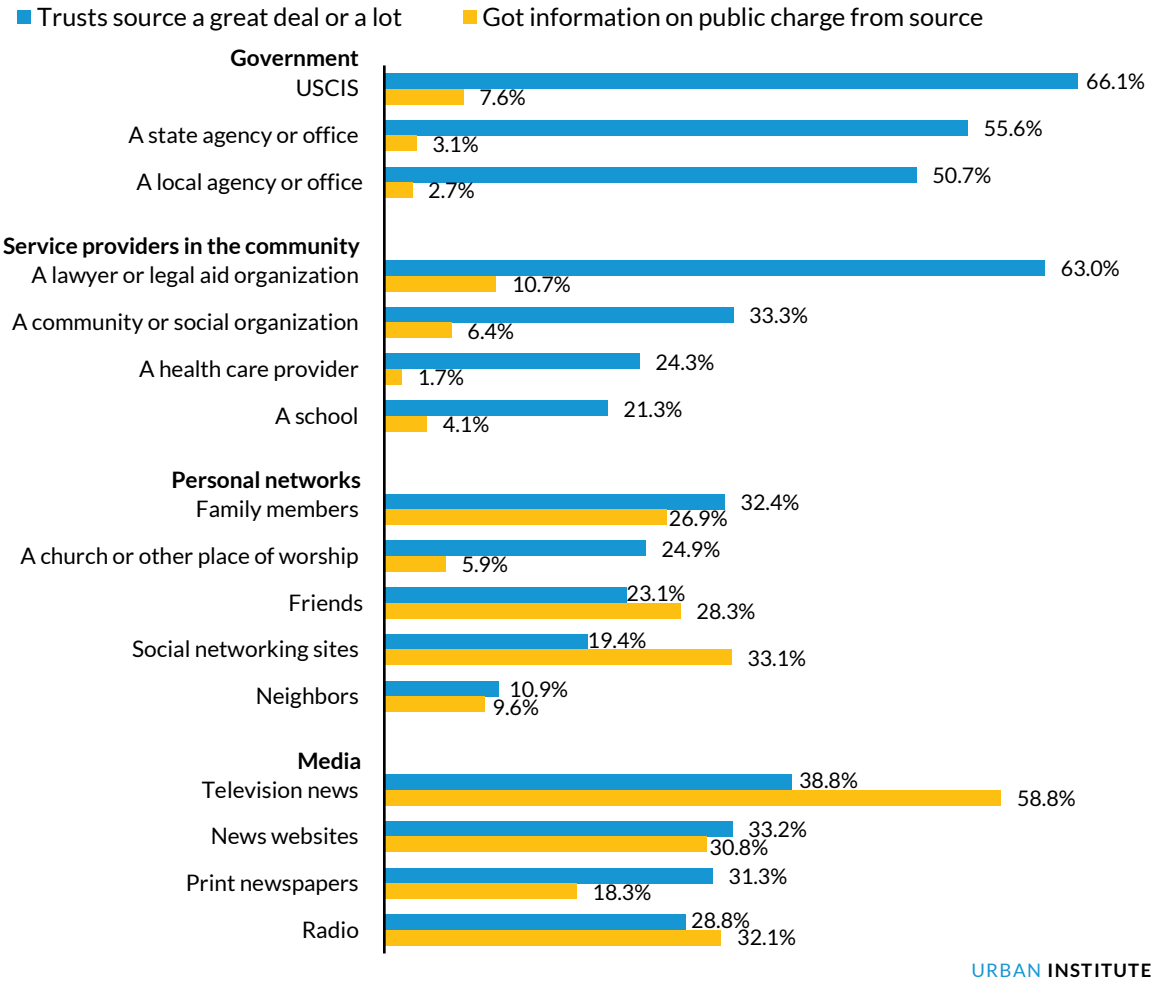
Adults in immigrant families who have heard about the public charge rule were most likely to report high levels of trust in government sources, like USCIS and state and local agencies, to provide helpful information if they had a question about how use of public benefits would affect their or their family member's immigration status. However, adults in immigrant families rarely reported getting information on the public charge rule from these trusted sources. Most adults reported trusting information from USCIS a great deal or a lot (66.1 percent), but only 7.6 percent reported hearing about the public charge rule from this source. This was similar for state agencies, which 55.6 percent of adults reported trusting but only 3.1 percent reported getting information from, and local agencies, which 50.7 percent of adults trusted but only 2.7 percent got information from. Similarly, 63.0 percent of respondents would trust the advice of a lawyer or legal aid organization, but only 10.7 percent heard about the rule through this source (figure 5).

Relatively low shares of adults in immigrant families reported receiving information on public charge from community or social organizations (6.4 percent), despite these sources having been a focus of many recent education and funding efforts related to the rule.

The sources from which adults in immigrant families were most likely to have received information on the rule were considered less trustworthy. Television news was the most common source of information about the rule (58.8 percent of respondents). However, only 38.8 percent of adults reported a high level of trust in television news as a source of information about public benefits use and immigration status. Similarly, 33.1 percent of respondents learned about the rule from social media, but only 19.4 percent placed a high level of trust in social media (figure 5).[8]

FIGURE 5

Trusted Sources of Information on How Using Public Benefits Affects Immigration Status and Sources of Information on the Public Charge Rule Consulted by Adults in Immigrant Families Who Have Heard About the Rule, December 2019



Source: Well-Being and Basic Needs Survey, December 2019.
Notes: Adults are ages 18 to 64. Health care providers include hospitals, doctor's offices, health clinics, or other health care providers. Social networking sites may include platforms such as Facebook, Twitter, WhatsApp, or WeChat.

Discussion

That chilling effects observed in 2018 among immigrant families persisted into 2019—and increased among families most likely to be affected by the public charge rule—is alarming in the unprecedented context of the COVID-19 pandemic. Given limited access to and fear of participation in public benefits programs and disproportionate exposure to the virus from working in the most directly affected industries, immigrant communities are particularly vulnerable to threats to health and well-being during the current crisis (Gelatt 2020; Gonzalez et al. 2020). USCIS released guidance on March 13 clarifying that seeking out testing for or treatment of COVID-19-related illness would not be considered in public charge determinations, but the implementation details remain unclear, and the fear and confusion swirling around the rule will be difficult to pierce. The Supreme Court also rejected requests to suspend implementation of the rule during the pandemic.[9] Many worry that immigrant families may be afraid to enroll in public programs that expand access to medical testing and treatment for COVID-19, putting into sharp relief the public health risks of these chilling effects.[10]

Though most adults in immigrant families reported being confident in their understanding of the rule, the vast majority either did not know or did not understand basic elements of the rule and who it applies to. Most people did not know that receipt of Medicaid by children (most of whom are US citizens and eligible for federal benefits) will not be considered in parents' applications for green cards. Most respondents also did not appear to know that citizenship applications do not include a public charge test. This suggests parents may pull their eligible US-citizen children out of crucial benefit programs, and current green card holders may choose not to enroll in safety net programs for which they may be eligible for fear of risking their citizenship prospects. Several other research studies, including our own work last year, have documented evidence of such spillover chilling effects in families beyond those directly affected by the rule (Bernstein, McTarnaghan, and Gonzalez 2019; Straut-Eppsteiner 2020) and to programs not listed in the rule (New York City Mayor's Office of Immigrant Affairs 2020). Given the large number of multiple-immigration-status families affected by the COVID-19 crisis, many US citizens and green card holders are at elevated risk of experiencing hardship. Excluding multiple-immigration-status families and those lacking Social Security numbers from federal relief measures like the Coronavirus Aid, Relief, and Economic Security, or CARES, Act risks leaving out many people in need (NILC 2020).

Our findings show that the sources from which immigrant families have been getting information about the public charge rule are not the sources they are most likely to trust on questions related to public benefits and immigration matters. They also uncover the lack of knowledge and the extent of misunderstanding about the public charge rule and who it applies to, suggesting chilling effects are likely to spill over not only to US citizen children and current green card holders but to programs not considered in public charge determinations, such as WIC and health insurance available through the Marketplaces.

Efforts to educate people about the public charge rule must account for the fact that though some people think they understand the rule—perhaps because of information they received through the

media—many are actually still unsure or misinformed about how the rule works. Disseminating accurate information through trusted messengers, mitigating barriers to trusted organizations, and improving media accuracy could help correct widespread misinformation and confusion about the rule and mitigate chilling effects.

As noted, in addition to USCIS, state and local agencies are highly trusted sources of information on how benefit receipt could affect immigration status, but very low shares of respondents got their information about the public charge rule from these sources. This suggests state, county, and municipal officials and agencies could play a more prominent role in sharing accurate information on the public charge rule. Given who immigrants reported trusting most, expanding state and local government outreach to complement a focus on community-based organizations is important. Many government agencies have responded to the current public health crisis quickly and tried to ensure COVID-19 information is accessible and understandable to multilingual populations.[11] To overcome chilling effects and prevent immigration concerns from becoming a barrier, those government agencies' messaging around COVID-19 has emphasized the imperative of seeking care. The effectiveness of such efforts is still to be seen.

Legal professionals are also highly trusted sources of information, but a very low share of respondents reported getting information on the public charge rule from lawyers. This reflects significant barriers to accessing such services: likely cost, but also potentially fear, lack of information, or language barriers. Given social distancing measures and economic hardship, legal assistance providers are even less accessible in the COVID-19 context. Ensuring immigrants have access to legal assistance continues to be important, and *pro bono* legal assistance hotlines and resources, such as have been developed in New York, could be leveraged as trusted sources during the pandemic.[12]

These survey results echo previous findings from qualitative interviews (Bernstein, McTarnaghan, Gonzalez 2019) and illustrate that most people get information on the new public charge rule from media sources and personal networks. Assisting journalists in mainstream media and media in other languages, to ensure accurate reporting and refer target audiences to trustworthy information could help families navigate life and death decisions about accessing health care and income and nutrition supports.

The COVID-19 pandemic has highlighted how a policy environment where immigrant families fear accessing critical health services for themselves or their children poses risks for all of our communities, where immigrant families reside and contribute, many in first-responder roles critical to sustaining society and fighting the pandemic. Chilling effects may deter immigrant families from partaking in health care and other supports family members may need during the current crisis. Immigrant families are also being disproportionately affected by the economic turmoil brought on by COVID-19, but so far the supports included in federal stimulus legislation are unavailable to all immigrant families (NILC 2020). Not only does excluding this group endanger many people suffering from economic and medical hardship, it also limits the impact of efforts to protect community well-being and boost the overall economy.

Data and Methods

Data and Sample

We draw on data from the December 2019 round of the Well-Being and Basic Needs Survey, a nationally representative, annual survey of adults ages 18 to 64 launched in December 2017. This analysis is based on the WBNS core sample and an oversample of noncitizens. For each round of the WBNS, the core sample is a stratified random sample of approximately 7,500 nonelderly adults drawn from Ipsos' KnowledgePanel, a probability-based online panel recruited primarily from an address-based sampling frame, and includes a large oversample of adults in low-income households.[13] The additional oversample of approximately 300 noncitizens is designed to support analyses of current policy issues affecting immigrant families. The panel includes only respondents who can complete surveys administered in English or Spanish, and adults without internet access are provided free internet access and web-enabled devices to participate.

To assess chilling effects and related issues, we constructed weights for analyzing nonelderly adults who are foreign born or living with a foreign-born relative in their household. The weights are based on the probability of selection from the KnowledgePanel and benchmarks from the American Community Survey for nonelderly adults in immigrant families who are proficient in English or primarily speak Spanish.[14] The language criterion is used in the weighting to reflect the nature of the survey sample, because the survey is only administered in English or Spanish. Our full analytic sample for this brief consists of 1,747 adults in immigrant families.

Measures

CHILLING EFFECTS WITHIN A FAMILY

We define chilling effects as either not applying for or stopping participation in a noncash government benefit program, such as Medicaid or CHIP, SNAP, or housing subsidies, within the previous 12 months because of concerns that the respondent or their family member could be disqualified from obtaining a green card.[15] We collected information on avoidance of these programs and programs not listed in the public charge rule, including WIC and Marketplace health insurance coverage.[16] A respondent could define family as both their immediate family and other relatives who may live with them or in another household. Respondents may have reported chilling effects for a program for which they may not have been eligible; some parents likely reported chilling effects on the program participation of a US-citizen child, or a higher-income respondent may have reported chilling effects on a relative with lower income. When assessing the types of programs for which respondents reported chilling effects, we limit the sample to the 304 adults in immigrant families who reported any chilling effect on participation in public programs.

AWARENESS OF THE PUBLIC CHARGE RULE

We asked all adults in immigrant families in our sample to report how much they had heard about the public charge rule:[17] a lot, some, only a little, or nothing at all.

GENERAL UNDERSTANDING AND CONFIDENCE IN UNDERSTANDING OF THE PUBLIC CHARGE RULE

For the following measures, we report estimates for the 1,210 adults in immigrant families who reported having heard at least a little about the public charge rule.

Confidence in understanding of the rule. For this measure, respondents could indicate they were very, somewhat, not too, or not at all confident in how well they understood the public charge rule.

Understanding of the public charge rule. To gauge understanding of key elements of the rule, we asked respondents to report whether three statements about the rule were true or false (respondents could also answer "don't know"). These statements cover (1) whether the rule would expand the list of government benefits used to determine if an immigrant is likely to become a public charge (true), (2) whether the rule would apply to green card holders applying for citizenship (false), and (3) whether parents could have a harder time getting a green card if their children enroll in Medicaid (false). Respondents were randomly assigned to affirmative or negative versions of the second and third statements. Figure 4 shows the true version of each statement.[18]

SOURCES OF INFORMATION AND TRUSTED SOURCES

The following two measures are also based on the 1,210 adults in immigrant families who reported having heard at least a little about the public charge rule.

Sources of information about the public charge rule. To understand where adults in immigrant families have been getting their information, we asked respondents who heard about the rule to report all the sources from which they had heard about it, listing options encompassing governments, service providers, personal networks, and media.

Trusted sources on public benefits use and immigration. We asked respondents to report how much they would trust various sources to provide helpful information if they had a question about how using public benefits could affect their immigration status or that of someone in their family, listing the same source options above. Respondents could report that they trusted each source a great deal, a lot, somewhat, not much, or not at all.

Analysis

We first compare chilling effects between 2018 and 2019 overall, by family income as a percentage of federal poverty level, and by the citizenship and immigration statuses of family members (including the respondent) living in the household. These estimated changes are regression adjusted to control for any changes in the demographic characteristics of the adults in immigrant families participating in each round of the survey. We control for a respondent's gender, age, race and ethnicity, educational attainment, family size, chronic health conditions, residence in an urban or rural area, internet access, homeownership status, citizenship status, family composition, census region, and family income as a percentage of the federal poverty level; the presence of children under age 19 in the respondent's household; whether the respondent participated in both the 2018 and 2019 survey rounds; and how

long the participant has been a member of the KnowledgePanel. For the group of adults in immigrant families who avoided any noncash government program, we also report the specific programs they avoided.

We then examine awareness of the public charge rule overall and by household citizenship and immigration statuses.[19] We assess knowledge of the rule overall and among those who reported being very or somewhat confident in their understanding of the rule. Finally, we compare respondents' sources of information about the rule with the sources they would trust most if they had a question about how using public benefits would affect their immigration status. All estimates are weighted to represent the national population of nonelderly adults in immigrant families (as described above) and account for the complex survey design.

Limitations

One limitation of the WBNS is its low response rate, which is comparable with that of other panel surveys accounting for nonresponse at each stage of recruitment. However, studies assessing recruitment for the KnowledgePanel have found little evidence of nonresponse bias for core demographic and socioeconomic measures (Garrett, Dennis, and DiSogra 2010; Heeren et al. 2008), and WBNS estimates are generally consistent with benchmarks from federal surveys (Karpman, Zuckerman, and Gonzalez 2018). WBNS survey weights reduce but do not eliminate the potential for errors associated with sample coverage and nonresponse, which are likely greater for the subgroup of adults in immigrant families. Though the weights are designed to produce nationally representative estimates for adults in immigrant families, the survey's design implies our analytic sample of 1,747 adults in immigrant families has precision comparable to a simple random sample of approximately 750 adults, increasing the sampling error around our estimates.

In addition, because the WBNS is only administered in English and Spanish, our analytic sample does not describe the experiences of the full spectrum of adults in immigrant families. Our study excludes adults with limited English proficiency whose primary language is not Spanish. We estimate that the excluded adults who do not speak English or Spanish represent between 5 and 15 percent of all nonelderly adults in immigrant households as defined for this brief; according to the 2018 American Community Survey, 5 percent of this group speaks English less than well[20] and speaks a primary language other than Spanish.

Last, some measurement error is likely for questions related to citizenship statuses of respondents and relatives in the household, particularly among adults who are undocumented or have been in the US for a short time (Van Hook and Bachmeier 2013).

Notes

1 Inadmissibility on Public Charge Grounds, 83 Fed. Reg. 51114 (Oct. 10, 2018).

2 Inadmissibility on Public Charge Grounds, 84 Fed. Reg. 41292 (Aug. 14, 2019).

3 The Supreme Court ruling on the national injunction in January did not apply to Illinois, which had a separate case before the court that was ruled on in February.

4 Jeanne Batalova, Michael Fix, and Mark Greenberg, "Through the Back Door: Remaking the Immigration System via the Expected 'Public-Charge' Rule," Migration Policy Institute, August 2018, https://www.migrationpolicy.org/news/through-back-door-remaking-immigration-system-expected-public-charge-rule.

5 Randy Capps, Julia Gelatt, and Mark Greenberg, "The Public-Charge Rule: Broad Impacts, but Few Will Be Denied Green Cards Based on Actual Benefits Use," Migration Policy Institute, March 2020, https://www.migrationpolicy.org/news/public-charge-denial-green-cards-benefits-use.

6 Adam Liptak, "Supreme Court Allows Trump's Wealth Test for Green Cards," *New York Times*, January 27, 2020, https://www.nytimes.com/2020/01/27/us/supreme-court-trump-green-cards.html.

7 Immigrant families often include various immigration, residency, and citizenship statuses, such as US-born and naturalized citizens, green card holders, and people who lack permanent residence. These families are often called mixed- or multiple-status families. We use multiple-status because mixed-status most commonly refers specifically to households including undocumented immigrants (Passel and Cohn 2009).

8 In this context, social media are platforms such as Facebook, Twitter, WhatsApp, or WeChat.

9 Lawrence Hurley, "US Supreme Court Refuses to Block Trump Immigration Policy during Pandemic," *Reuters*, April 24, 2020, https://www.reuters.com/article/us-usa-court-immigration-idUSKCN2263FQ

10 Catherine Kim, "Low-Income Immigrants Are Afraid to Seek Health Care amid the COVID-19 Pandemic," *Vox*, March 13, 2020, https://www.vox.com/identities/2020/3/13/21173897/coronavirus-low-income-immigrants.

11 "Resource Guide for State and Local COVID-19 Emergency Responses," New American Economy, April 1, 2020, https://www.newamericaneconomy.org/uncategorized/15553/?emci=2cfe09ee-7773-ea11-a94c-00155d03b1e8&emdi=2c4823b1-2874-ea11-a94c-00155d03b1e8&ceid=377678; "Resources in Languages Other Than English," Protecting Immigrant Families, February 2020, https://protectingimmigrantfamilies.org/know-your-rights/; "A Round-Up of Multilingual Resources on COVID-19," Switchboard, April 23, 2020, https://switchboardta.org/blog/a-round-up-of-multilingual-resources-on-covid-19/.

12 "City Announces Expansion of ActionNYC Outreach and Immigration Legal Services in Brooklyn, Manhattan, and Queens," New York City Mayor's Office for Economic Activity, March 28, 2018, https://www1.nyc.gov/site/opportunity/news/029/city-expansion-actionnyc-outreach-immigration-legal-services-brooklyn-.

13 For additional information on the design of and weighting in the WBNS, see Karpman, Zuckerman, and Gonzalez (2018).

14 We define adults with English proficiency as those who speak English at least well, as classified in the American Community Survey. Adults with limited English proficiency are those who speak English less than well. This is a broader measure than is commonly used to define English proficiency; in most analyses, a person must speak English very well to be classified as proficient in English (Wilson 2014). We use the following measures for weighting: gender, age, race and ethnicity, educational attainment, presence of children under age 18 in the household, census region, homeownership status, family income as a percentage of the federal poverty level, access to the internet, and family composition. We benchmark non-Hispanic respondents who are not white or black by two categories: (1) other race born in Asia and (2) multiple races or other race not born in Asia.

15 We drew on measures developed by researchers at the University of California, Los Angeles, for an immigrant follow-up survey to the California Health Interview Survey. For the exact wording of this and other questions on the WBNS, see the survey questionnaire at

https://www.urban.org/sites/default/files/wbns_2019_questionnaire.pdf.

We learned in follow-up interviews to the 2018 survey that some respondents did not understand the distinction between the two separate survey items measuring chilling effects: "not applying for a program" versus "stopping participating in a program." Consequently, we combined the responses to report on the items together: either not applying for or dropping out of a noncash assistance program. Follow-up interviews to the 2018 survey also suggested measurement error; because the survey is self-administered and internet based, it may have led some respondents to read questions too quickly and not fully process the information. Future cognitive testing will be needed to assess the extent of misunderstanding. We cannot disentangle this potential mode effect from other factors that could contribute to measurement error, such as recall bias and heightened social desirability bias in the context of a phone interview.

16 We asked about additional programs not listed in the public charge rule because of reports that families were avoiding such programs; see, for example, Emily Moon, "Why Is Participation in Food Assistance Programs Like WIC Declining?" *Pacific Standard*, May 8, 2019, https://psmag.com/news/why-is-participation-in-food-assistance-programs-like-wic-declining.

17 This question was asked later in the survey than the questions on chilling effects. For the exact wording of this and other questions on the WBNS, see the survey questionnaire at https://www.urban.org/sites/default/files/wbns_2019_questionnaire.pdf.

18 Respondents were randomly assigned to one of two versions of this question. For the exact wording of this and other questions on the WBNS, see the survey questionnaire at https://www.urban.org/sites/default/files/wbns_2019_questionnaire.pdf.

19 We allocate missing citizenship status data for respondents using their responses to the Ipsos panel profile question on citizenship; absent that information, we impute respondent citizenship status.

20 See endnote 14 for a definition of English proficiency.

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One in Six Adults in California Immigrant Families Reported Avoiding Public Benefits in 2019

Hamutal Bernstein, Dulce Gonzalez, Sara McTarnaghan, Michael Karpman, and Stephen Zuckerman

May 2020

California has moved proactively to support immigrant families in response to restrictive federal immigration and safety net policies, but policies like the new "public charge" rule still pose risks, especially in the context of the COVID-19 pandemic. The new rule significantly expands the criteria for determining whether applicants for permanent residency, or green cards, may be denied based on past or potential use of government benefit programs. Even before the rule took effect in February 2020, widespread chilling effects were evident. Nationwide, many immigrant families—including those who would not be subject to the rule—avoided enrolling in public benefit programs for fear of immigration consequences (Bernstein et al. 2019; Bernstein, McTarnaghan, and Gonzalez 2019; Straut-Eppsteiner 2020; Tolbert, Artiga, and Pham 2019).

This phenomenon has become even more alarming during the COVID-19 pandemic, in which many immigrant families are vulnerable to acute medical and economic hardship. Families may avoid medical care and public supports for fear of being deemed a public charge, despite formal clarification by the federal government that COVID-19 testing and treatment will not be considered. This issue is magnified in a state like California, where one in four people were born outside the US (foreign born) and nearly half of nonelderly adults live in families with at least one foreign-born member.[1] Thus, it is critical to understand how the rule is affecting immigrant families, where these families are getting their information about the rule, and which sources they trust to communicate accurate messages about the rule and its impacts.

This brief draws on unique data from California participants in the Well-Being and Basic Needs Survey (WBNS), a nationally representative, internet-based survey conducted in December 2019. This survey round assessed awareness and knowledge of the public charge rule, sources of information on the rule, and chilling effects reported by adults in immigrant families who speak English or Spanish. The California sample included 498 nonelderly adults born outside the US or living with one or more foreign-born family members (hereafter called adults in California immigrant families), who make up about 46 percent of all nonelderly adults in California and about one-quarter of all nonelderly adults in the US, according to the 2018 American Community Survey. We complemented survey findings with follow-up interviews with 17 adults in California immigrant families who reported experiencing chilling effects in the WBNS. We find the following:

- Chilling effects for adults in California immigrant families increased between 2018 and 2019.
  - » Of all adults in California immigrant families, 17.7 percent reported that they or a family member did not participate in a noncash government benefit program, such as Medi-Cal (California's Medicaid program), CalFresh (California's Supplemental Nutrition Assistance Program), or a housing program, in 2019 for fear of risking future green card status, up from 12.2 percent in 2018.
  - » Follow-up interviews described how these decisions to stop or avoid program participation were based on limited information and abundant caution.

- Awareness of and confidence in understanding of the public charge rule were widespread, but many adults in California immigrant families did not understand key aspects of the rule.
  - » Two-thirds of adults in California immigrant families (65.3 percent) were aware of the public charge rule and 69.9 percent were confident in their understanding of the rule. Yet, only 22.5 percent knew it does not apply to citizenship applications, and only 18.2 percent knew children's enrollment in Medi-Cal will not be considered in their parents' public charge determinations.
  - » Follow-up interviews also illustrated confusion and misunderstanding about the rule, including about who it applies to and when it takes effect.

- Adults in California immigrant families were most likely to trust government agencies and legal professionals for information about how using public benefits would affect their or their family member's immigration status, but very small shares reported getting information on the public charge rule from these sources.
  - » Legal professionals were the most trusted source (67.9 percent), followed by US Citizenship and Immigration Services (USCIS; 63.3 percent), state government agencies (55.4 percent), and local government agencies (50.4 percent), but most adults in California immigrant families reported getting information on the rule from the media or personal networks, which they trust less.
  - » Follow-up interviews confirmed a desire for official information from government sources, highlighted barriers to accessing legal assistance, and confirmed a reliance on personal networks and media for information on the rule, as well as mistrust of the media.

Background

As part of a broader policy agenda to limit immigration, the Trump administration has enacted significant changes to implementation of public charge determinations (box 1), part of the admissions process for permanent residency and temporary visas. The administration moved to significantly expand the rule in 2018. After circulating drafts of the new rule and a vigorous public comment period,[2] litigation efforts temporarily halted implementation of the final rule.[3] This included several lawsuits in California, including one led by California Attorney General Xavier Becerra in partnership with several other states.[4] However, Supreme Court rulings in January and February allowed the administration to begin implementing the rule nationally while legal challenges continued in the lower courts. The rule took effect nationwide on February 24, 2020.[5]

BOX 1

What Is the New Public Charge Rule?

The new public charge rule vastly expands the criteria through which immigrant applicants may be denied admission to and residency in the US for having received public benefits or being deemed likely to receive public benefits in the future. Departing from past practice, where only primary reliance on cash benefits or long-term medical institutionalization were considered, the new rule redefined the "totality of circumstances" test to consider not only previous use of certain cash *and* noncash benefits but a wide range of personal characteristics, including income and assets, age, health, family size, and education and skills, like English proficiency.

The new rule expands the list of benefits to be considered in a public charge determination to include SNAP (formerly known as food stamps), nonemergency Medicaid for nonpregnant adults ages 21 and over, and Section 8 housing assistance or public housing. The revised public charge determination does not consider receipt of federally funded Medicaid for emergency care, pregnancy-related care, or care for children under age 21, nor, in California, state-funded Medi-Cal for undocumented children and young adults ages 19 to 25 (ITUP 2019a).

The rule applies to applications for green cards from within the US and abroad, applications for temporary visas from abroad, and changes or extensions to temporary visas from within the US (e.g., student visas). The rule does not apply to citizenship applications or green card renewals, though a green card holder who leaves the US for more than six months may be subject to a public charge test. Several humanitarian admission groups are exempted, including refugees and asylees; survivors of trafficking, domestic violence, or other serious crimes (T or U visa applicants and holders); Violence Against Women Act self-petitioners; and special immigrant juveniles (Protecting Immigrant Families 2020a).

In addition to expectations that the rule will transform immigrant admissions by excluding many applicants from Asia, Latin America, and Africa,[6] there is significant concern about the chilling effects produced by the rule, as immigrant families avoid benefit programs and other resources for which they may be eligible for fear of risking a potential public charge determination. More than 200 pages long, the new regulation is confusing to both families and service providers about who is subject to a public

charge test, whose benefit receipt will be considered, and which programs will be considered. This confusion may explain why many families have opted out of programs to avoid potential risks to their immigration status despite suffering negative consequences to their health and well-being (Bernstein, McTarnaghan, and Gonzalez 2019; Greenberg, Feierstein, and Voltolini 2019; Protecting Immigrant Families 2020b; Straut-Eppsteiner 2020). In addition, legal professionals may advise extreme caution and avoidance of benefit programs because of the potential immigration consequences (Bernstein, McTarnaghan, and Gonzalez 2019) and their limited understanding of eligibility for benefits (Straut-Eppsteiner 2020).

Families across the US, including in California, have experienced increasing fear and insecurity around changes in federal immigration policies and heightened immigration enforcement over the last several years, which has led many to avoid engaging with public services and their communities (Ben-Porath et al. 2020; Children's Partnership and California Immigrant Policy Center 2018). Estimates of potential chilling effects in California produced during the public charge rule's formal comment period predicted that up to 2.2 million people could disenroll from Medi-Cal and CalFresh because of the rule, two-thirds of them children (Ponce, Lucia, and Shimada 2018). Half of children in California have at least one immigrant parent, and they make up 60 percent of children in families with incomes below 200 percent of the federal poverty level (Children's Partnership and Kidsdata.org 2018).

Though California is one of the most progressive states when it comes to immigrant eligibility for public benefits, residents are still experiencing chilling effects because of federal immigration policies. California has filled gaps in federal safety net eligibility rules in several ways. It was among the first states to expand Medicaid to a greater number of nonelderly, low-income adults under the Affordable Care Act.[7] Further, many lawfully present immigrants are barred from enrolling in federally funded Medicaid for five years after obtaining lawfully present status (known as the five-year bar), but California eliminates this five-year bar for lawfully residing pregnant mothers and children (Kaiser Commission on Medicaid and the Uninsured 2015). Unique in the US, California also extends Medi-Cal eligibility to undocumented children and young adults under age 26 (ITUP 2019b). California also uses state funds through its California Food Assistance Program to extend Supplemental Nutrition Assistance Program (SNAP) eligibility to qualified immigrants during the five-year bar.

Our previous analysis of survey data collected in December 2018, during the public comment period on the then-proposed rule, found that one in seven adults in immigrant families—and one in five adults in low-income immigrant families—nationwide reported chilling effects in the previous year (Bernstein et al. 2019). Qualitative follow-up interviews with survey respondents in spring 2019 highlighted their fear and confusion about the rule, a reliance on the media for information and little access to professional advice, and hardship for adults and children after losing supports (Bernstein, McTarnaghan, and Gonzalez 2019). This brief draws on new WBNS data collected from adults in immigrant families in December 2019, after release of the final rule but before implementation, and 17 follow-up telephone interviews with adults in California immigrant families conducted in February and March 2020, around the time of implementation. These data provide unique information on trends in chilling effects in California, as well as information on the level of awareness and knowledge of the

rule, where immigrant families are getting their information on public charge, and which sources they trust to provide helpful information about how using public benefits could affect their immigration status. This information is critical during this unprecedented health and economic crisis, when, like all families, immigrant families in California will need supports.

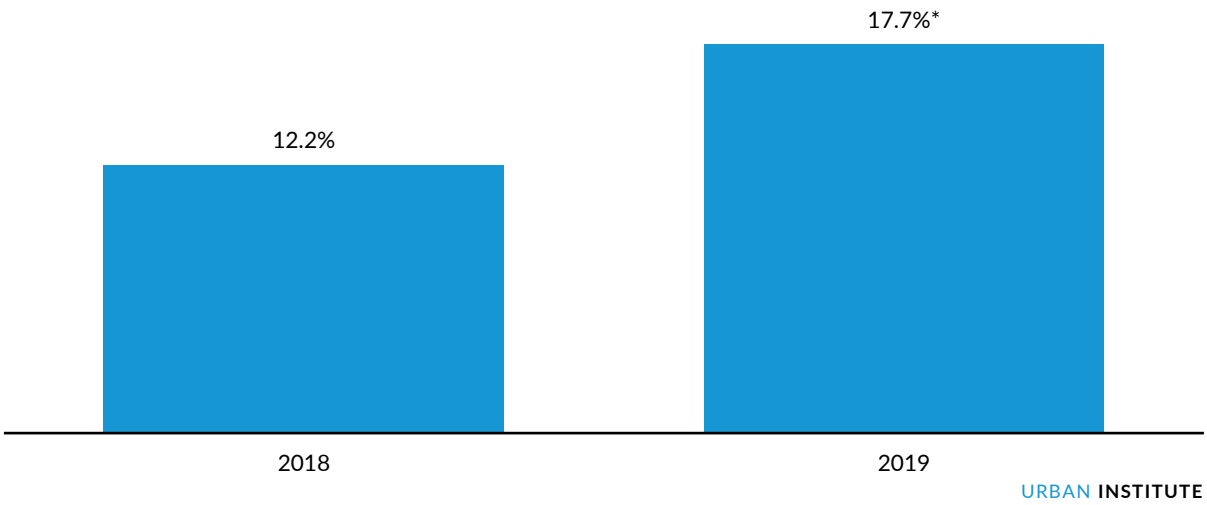
Findings

Chilling effects for adults in California immigrant families increased in 2019.

Controlling for the demographic characteristics of adults in each survey round, we find that chilling effects increased among adults in California immigrant families between 2018 and 2019 (figure 1). In 2019, 17.7 percent of adults reported that they or a family member avoided a noncash government benefit program (e.g., Medi-Cal/CHIP, CalFresh, or housing subsidies) for fear of risking future green card status, up from 12.2 percent in 2018. This change was statistically significant at the 0.10 level. Nationally, 15.6 percent of adults in immigrant families reported chilling effects in 2019, but we did not find a statistically significant increase from 2018 to 2019 (data not shown).[8]

FIGURE 1

Share of Adults in California Immigrant Families Who Avoided Noncash Government Benefits in the Past Year Because of Green Card Concerns, December 2018 and 2019



Source: Well-Being and Basic Needs Survey, December 2018 and December 2019.
Notes: Adults are ages 18 to 64. Estimates are regression adjusted for a respondent's gender, age, race and ethnicity, educational attainment, family size, chronic health conditions, residence in an urban or rural area, internet access, homeownership status, citizenship status, family composition, and family income as a percentage of the federal poverty level; the presence of children under age 19 in the respondent's household; whether the respondent participated in both the 2018 and 2019 survey rounds; and how long the respondent has been a member of the KnowledgePanel.
*/**/*** Estimate differs significantly from 2018 at the 0.10/0.05/0.01 level, using two-tailed tests.

If adults in California immigrant families avoid Medicaid or subsidized Marketplace health insurance coverage because of immigration concerns, they likely have few alternative coverage options. Nearly 4 in 10 adults in California immigrant families (39.6 percent) do not have access to employer-sponsored health insurance (data not shown).

Follow-up interviews suggested uncertainty and confusion about the rule had encouraged many respondents to avoid programs despite need. Interviewees noted that they avoided applying for or dropped out of programs out of an abundance of caution, a lack of understanding of how the public charge rule may affect them in the future, and the desire to avoid jeopardizing any future immigration processes. One interviewee said fear around the public charge rule was the reason she did not pursue CalFresh and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), even though she had experienced an illness and needed support:

El año pasado yo estuve enferma…y estuve a punto de aplicar para CalFresh pero me dio miedo. Me dio miedo porque yo dije, no, no quiero ser una carga pública, no quiero que me afecte. El WIC incluso. Están diciendo…que sería mejor no continuar en el WIC porque [toda] esa comida, leche, y los vales que le dan para jugo, esto y lo otro, pues, el gobierno es el que lo está pagando.	Last year I was sick…and I was about to apply for CalFresh, but I got scared. I got scared because I thought, no, I don't want to be a public charge, I don't want this to affect me. WIC even. They're saying…that it would be best not to continue with WIC because [all the] food, milk, and vouchers that they give you for juice, this and that, well, it's the government that's paying for it.

In many cases, interviewees reported making quick decisions about participating in benefit programs based on limited information. One person recalled withdrawing from programs after hearing a lawyer on television:

Nada más escuché el abogado en la televisión. Pensé que no era conveniente [continuar con los beneficios]. Si el gobierno lo considera como carga publica, no está bien que siga recibiendo ese servicio.	I just heard a lawyer speak on TV. And then I thought it wasn't a good idea [to continue receiving services]. If the government considers it a public charge, then it is not ok to continue receiving the program.

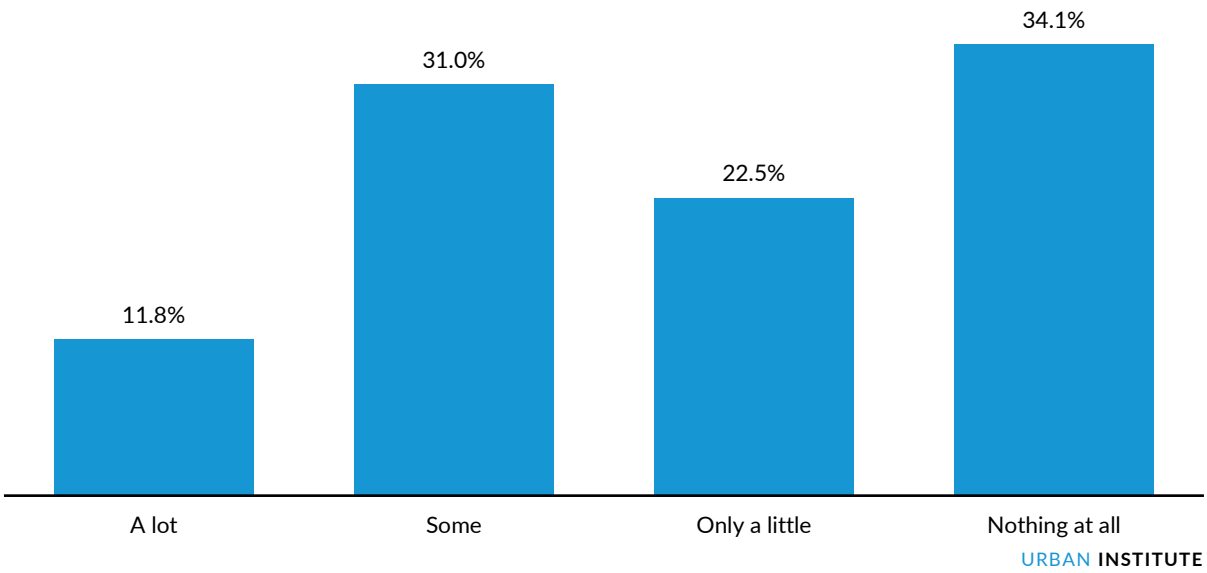
Awareness of and confidence in understanding of the public charge rule were widespread, but adults in California immigrant families did not understand key aspects of the rule.

Overall, nearly two-thirds of adults in California immigrant families reported hearing at least a little about the public charge rule (figure 2). Seven in 10 adults in California immigrant families who were familiar with the public charge rule (i.e., excluding those who have heard nothing about the rule) reported being very or somewhat confident in their understanding (data not shown).

However, most adults in California immigrant families who have heard about the rule either do not know or do not understand what the rule does and who it applies to. Though almost half (47.5 percent) knew the new rule expanded the list of benefits considered in public charge determinations, only 22.5 percent knew it does not apply to citizenship applications, and 18.2 percent knew children's enrollment in Medicaid will not be considered in their parents' public charge determinations (figure 3).

FIGURE 2

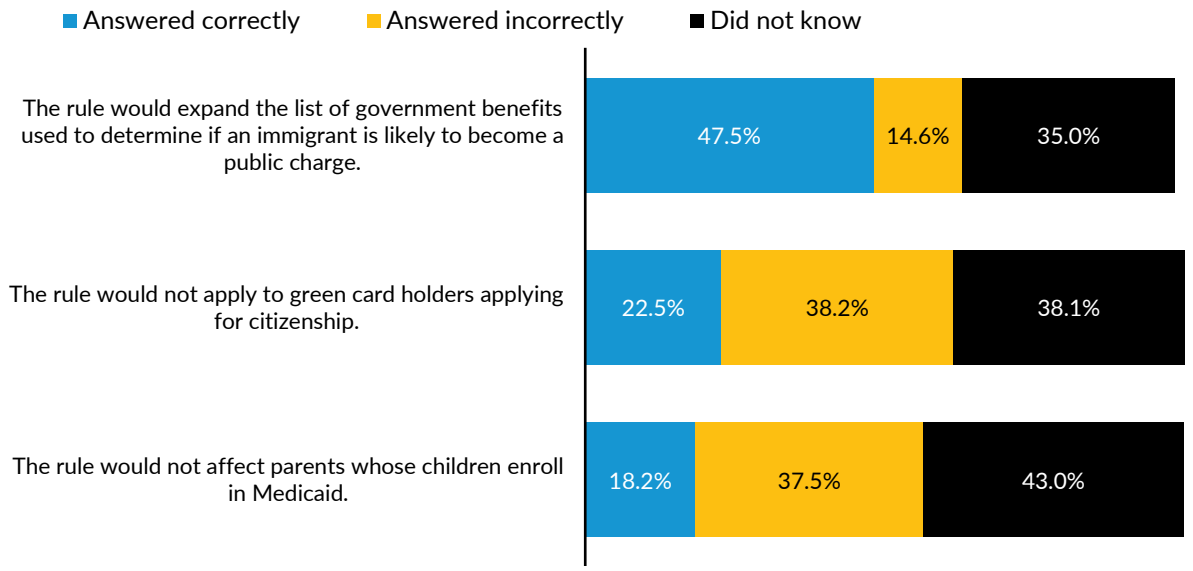
How Much Adults in California Immigrant Families Have Heard about the Public Charge Rule, December 2019



Source: Well-Being and Basic Needs Survey, December 2019.
Notes: Adults are ages 18 to 64. Data for this survey question are missing for 0.6 percent of the sample.

FIGURE 3

Understanding of Key Parts of the Public Charge Rule among Adults in California Immigrant Families Who Have Heard about the Rule, December 2019



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Source: Well-Being and Basic Needs Survey, December 2019.

Notes: Adults are ages 18 to 64. Respondents were asked whether statements about the public charge rule were true or false and were randomly assigned to different wording for the second and third statements (e.g., "would apply" versus "would not apply" for the second statement). We present the true statements here. Missing data are not presented, so totals do not add up to 100.

The follow-up interviews confirmed a lack of understanding of the rule: Most of the 17 interviewees recognized the term public charge and described it as a federal policy change that would make it difficult for immigrants to adjust their immigration status if they used public benefits. But interviewees were confused about which programs would be considered and who would be affected. Reinforcing the survey findings, some interviewees incorrectly believed the rule would apply to naturalized citizens and permanent residents and did not know which programs would be considered:

Si pides cualquier ayuda del gobierno, pueden negarte tu residencia. O incluso ciudadanía.	If you get any aid from the government, they can deny you your residency. Even citizenship.

Several interviewees noted that the rule has many exceptions, making it difficult for them to understand if it would apply in their specific cases and if they should change their benefit usage as a result. One respondent was advised not to cancel government benefits before the rule took effect. But with the rule now in place, she considered whether the rule's exceptions would include her case:

Me dijeron que…no debería de cancelar [el beneficio] por el momento, que…en ese tiempo, según [la norma] todavía no entraba en vigor. Ahora sí ya entró en vigor, pero yo tengo entendido que…aun así, hay excepciones, no es…parejo para todos, no lo es.	They told me that…I shouldn't cancel [benefits] for the moment, that…at that time, supposedly [the rule] was not in effect yet. Now that it is in effect, it is my understanding that…even so, there are exceptions, it isn't…one size fits all for everyone, it isn't.

Interviewees also expressed confusion about whether the rule was already in effect. Though they did not mention dates, some interviewees heard the rule had already taken effect early in 2020. Others believed the rule had been in effect since late 2019, and still others were unsure of the rule's status because they had heard about ongoing legal challenges. According to one interviewee, the confusion over the revised rule's implementation—including the status of various legal challenges—has caused people to stop receiving benefits:

Estaban diciendo, y que le he podido explicar a algunas personas, es que la ley va a entrar en vigencia el 24 de febrero, pero hay unos abogados que están en defensa…están demandando…Por ahorita [la norma] va a entrar en vigor, pero que no va a ser definitivo. Pero ahí donde dice—no va a ser definitivo o va a entrar en vigor—es donde empieza la confusión, porque muchas personas ya están parando de pedir la ayuda.	They were saying, and what I have been able to explain to some people, is that the rule will take effect on February 24, but there are some attorneys on the case…they're suing…For now [the rule] will be implemented, but it won't be definitive. But see, that there—that it's not definitive or that it will be implemented—is where the confusion starts, because already many people are not seeking out aid.

Interviewees seldom had accurate information about the rule, but a few interviewees had sought out information and confirmed whether they would be affected by the rule. One said she avoided SNAP because she heard it could affect her chance of obtaining a green card. But after researching the topic on her own, she realized the rule would not affect her immigration case because children's receipt of benefits is not included in parents' public charge determinations. Because her children—not she—received benefits, she decided to reenroll them.

Some interviewees understood which programs were included in the rule. As an undocumented immigrant, one interviewee knew she would be ineligible for the types of programs included in the rule, though her children were. She also knew which programs would be considered:

Pues, lo que he escuchado es…que inmigrantes que quieren arreglar sus papeles…Se me hace que [si durante] los últimos 12 meses han estado agarrando los beneficios de estampillas, Medi-Cal, Sección 8, les van a afectar. Pero…depende, no es para todos eso…A veces me siento un poco confundida. Sí entiendo la información que están diciendo, pero a la vez me siento un poco confundida. Lo que no entiendo es, ¿cómo es carga pública la persona? Por ejemplo, yo, aunque no quiera, yo agarro los beneficios de estampillas, pero son para mis hijos, no son para mí porque, aunque yo quiera…no me las dan a mí, no soy elegible. Igual, la Medi-Cal, tampoco. No la puedo yo tener. Entonces es lo que yo no entiendo. Cuando yo pregunté con un abogado eso me dijo: "No, eso no le afecta porque los beneficios que usted agarra no son para usted, son para sus hijos." Entonces por eso le digo, a veces me siento confundida de eso.

Well, what I've heard is that…for immigrants seeking to fix their papers…I believe that [if] they have been using food stamp benefits, Medi-Cal, Section 8 [during] the last 12 months, it will affect them. But…it depends, because it doesn't apply to everyone…I sometimes feel a bit confused. I do understand the information they're saying, but at the same time I feel a bit confused. What I don't get is, how can a person be a public charge? For example, I, even if I don't want to, I get food stamp benefits, but they're for my children, not for me, because even if I wanted them…I wouldn't get them, I'm not eligible. Same thing with Medi-Cal. I can't get that. So that's what I don't get. When I asked a lawyer, that's what he told me: "No, that won't affect you because the benefits you get are not for you, they're for your children." That's why I'm telling you, sometimes I feel confused about this.

Even interviewees with a more sophisticated understanding of the rule's details expressed general confusion and uncertainty about how to obtain concrete information about the rule.

Adults in California immigrant families were most likely to trust government agencies and legal professionals for information about how using public benefits would affect their or their family member's immigration status.

In addition to trusting lawyers and legal aid organizations, adults in California immigrant families who heard about the public charge rule were most likely to report high levels of trust in government sources, like USCIS and state and local agencies, to provide helpful information if they had a question about how public benefits use would affect their or their family member's immigration status. But among adults in California immigrant families who heard about the rule, the most trusted sources were also least likely to have been a source of information on the public charge rule. For instance, most adults would trust information from USCIS a great deal or a lot (63.3 percent), but only 8.3 percent reported hearing about the public charge rule from this source. This was similar for state agencies, which 55.4 percent of adults reported trusting but only 2.4 percent got information from, and local agencies, which 50.3 percent of adults reported trusting but only 1.2 percent reported getting information from (figure 4).

Consistent with this finding, none of the 17 interviewees reported receiving information about the public charge rule through any government agency. However, several strongly desired information from official government sources, especially their county government. One interviewee described how government would be trustworthy, and they would prefer to hear directly from those entities rather than by word of mouth:

Me gustaría que viniera directamente del estado, del que impone las leyes. Del gobierno, o del county o del estatal. Yo no quiero escuchar de la bodeguita o de fulanita de tal. Yo quiero escucharlo de una institución confiable.

I'd like it to come directly from the state, from those in charge of the law. From the government, whether county or state. I don't want to hear from the *bodeguita* or from so-and-so. I want to hear it from a reputable institution.

A few interviewees specifically noted that social workers in government benefits offices could be well positioned to provide answers and are a trusted source of information. In one respondent's opinion, staff at government benefits offices should be informed about new rules, laws, and policies and could help inform people about how they may affect immigration processes:

Yo pienso que a las diferentes oficinas de esos programas—CalFresh, WIC, Medi-Cal—e ir a cada oficina y tener unas ciertas preguntas específicas de migración…Yo pienso que los trabajadores de estos programas podrían ayudarlos mejor y si están enterados de las noticias, de las nuevas reglas, nuevas politicas, leyes, y cómo podrían estar informados.

I think to the different program offices—CalFresh, WIC, Medi-Cal—and going to each office and having specific questions about immigration…I think that the staff in those programs could help more if they are up to date on the news, new regulations, new political developments, laws, and how they could be more informed.

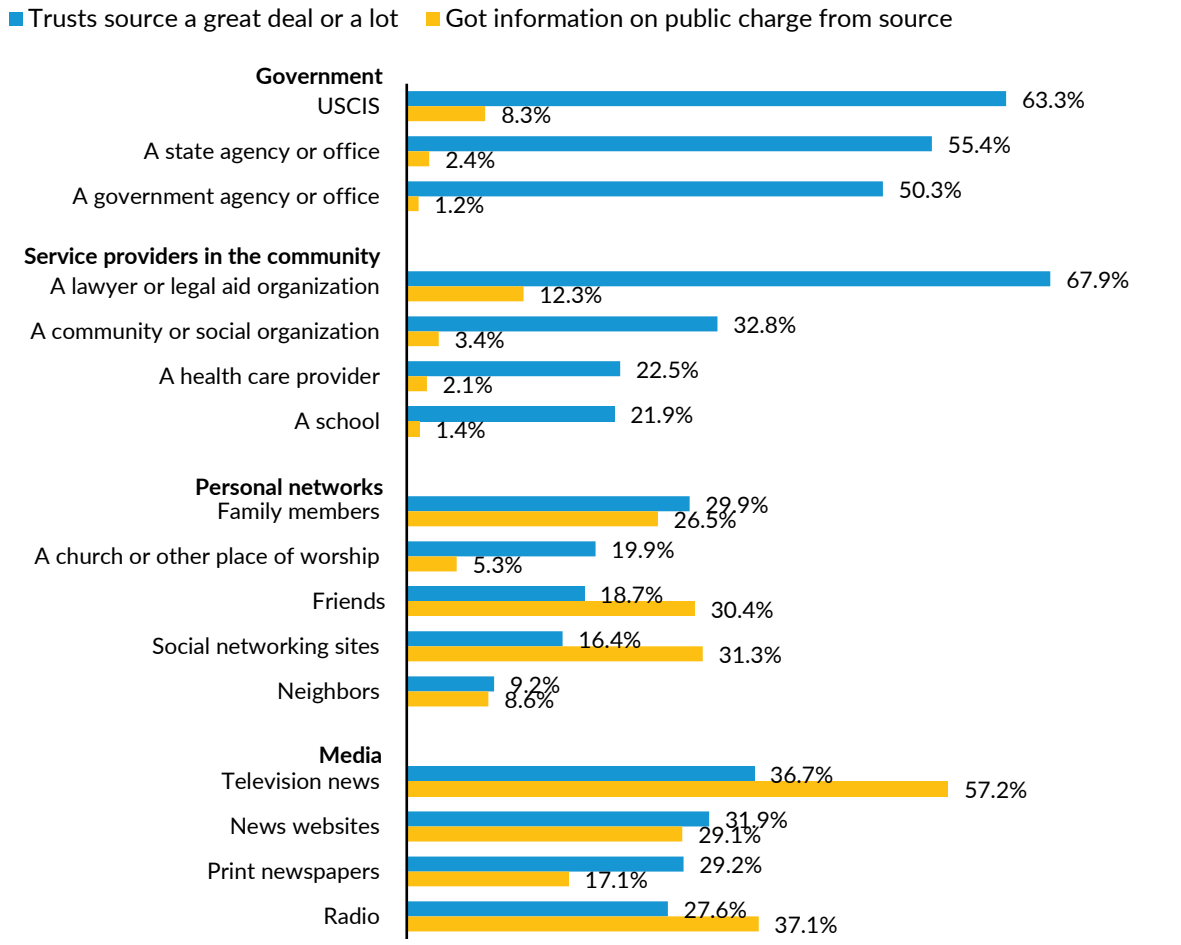
The survey results show adults in California immigrant families also have high levels of trust in lawyers and legal aid organizations, but low shares actually received information on the public charge rule from legal professionals: 67.9 percent of adults in California immigrant families who heard about the rule would trust the advice of a lawyer or legal aid organization, but only 12.3 percent got information about the rule through this source (figure 4).

The follow-up interviews shed some light on this discrepancy. Most interviewees volunteered lawyers as one source they would most trust for information about the rule. However, interviewees cited barriers to getting legal assistance, including not being able to afford private legal services, not knowing how to access *pro bono* legal services, and concerns that long wait times for appointments for *pro bono* legal services would make it impossible to get a timely response.

A relatively low share of adults in California immigrant families reported receiving information on public charge from community or social organizations (3.4 percent). In the follow-up interviews, no interviewees reported receiving information from community-based organizations, even though some interviewees had previously accessed information about government programs through organizations like community health clinics or home visiting programs.

FIGURE 4

Trusted Sources of Information on How Using Public Benefits Affects Immigration Status and Sources of Information on the Public Charge Rule Consulted by Adults in California Immigrant Families Who Have Heard About the Rule, December 2019



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Source: Well-Being and Basic Needs Survey, December 2019.
Notes: USCIS = United States Citizenship and Immigration Services. Adults are ages 18 to 64. Health care providers include hospitals, doctor's offices, health clinics, or other health care providers. Social networking sites are platforms such as Facebook, Twitter, WhatsApp, or WeChat.

The sources from which adults in California immigrant families were most likely to have received information on the rule were considered less trustworthy. Television news was the most common source of information about the rule (57.2 percent). However, only 36.7 percent of adults reported a high level of trust in television news as a source of information about public benefits use and immigration status. Similarly, 31.3 percent of adults learned about the rule from social media, but only 16.4 percent placed a high level of trust in social media as a source of helpful information.[9]

The follow-up interviews also confirmed that personal networks and television news are immigrant families' primary sources of information on the public charge rule, despite interviewees having reservations about the quality of information from these sources. Interviewees cited television, friends, and family as key sources of information about the public charge rule, but they also expressed doubt that the information they received from those sources was reliable. With television media specifically, interviewees were concerned that coverage of the rule was producing fear in the audience. One interviewee said she relies on major Spanish-language media networks and trusts they provide full and accurate details, but she also believed they tend to exaggerate:

Sinceramente, hay dos medios latinos… A veces he visto también que exageran, pero dan como una información precisa. Últimamente lo han dicho…por ejemplo…de las personas que pueden aplicar para estos programas, no son todos, pero algunos, con excepción—no van a tener problemas a la hora de arreglar un documento.	Honestly, there are two Latino media outlets… Sometimes I've also seen them exaggerate, but they [can] give precise information. Lately they've said that…for example…of the people who apply for these programs, not all of them, but some of them, with exceptions, are not going to have trouble when it comes time to fix their papers.

Most interviewees reflected that their decisions to stop participating in or avoid applying for a benefit program were solely based on information from television news, social media, or conversations with friends. Additionally, most interviewees did not fully understand whether or how the rule would apply in their particular case. One interviewee said people like herself need more information to make better decisions about whether to avoid or participate in benefit programs:

Sería bueno tener…más información sobre eso de la carga pública, principalmente para todas las personas que necesitan o están en trámite de arreglar su situación migratoria. Porque ya conociendo los pros y los contras de tener esas ayudas o no tenerlas, ya uno buscaría la forma de vivir sin ellas…Y si realmente no afectan [los beneficios]…que la sigan utilizando.	It would be good to have…more information about public charge, especially for those who need to or are in the process of fixing their immigration status. Because knowing the pros and cons of getting that aid or not, one could find a way to live without it…And if the [benefits] really won't affect [one's immigration status]…to continue using them.

Discussion

These findings echo those in our companion brief focused on adults in immigrant families nationally (Bernstein et al. 2020). They show that chilling effects expanded among California immigrant families between 2018 and 2019, as the public charge rule was finalized and entered litigation and as its status remained unclear to the public. These results are alarming in the unprecedented context of the COVID-19 pandemic. Given limited access to and fear of participation in public benefits programs and disproportionate exposure to the virus from working in the most directly affected industries, immigrant communities are particularly vulnerable to threats to health and well-being during the current crisis (Gelatt 2020; Gonzalez et al. 2020). USCIS released guidance on March 13 clarifying that seeking out testing for or treatment of COVID-19-related illness would not be considered in public charge determinations, but the implementation details remain unclear, and the fear and confusion swirling around the rule will be difficult to pierce. The Supreme Court also rejected requests to suspend implementation of the rule during the pandemic.[10] Many worry that immigrant families may be afraid to enroll in public programs that expand access to medical testing and treatment for COVID-19, putting into sharp relief the public health risks of these chilling effects.[11]

These results show where California immigrant families have been getting information about the public charge rule, which is not consistent with the sources they are most likely to trust on questions related to public benefits and immigration matters. They suggest a desire for more information from government sources and a need to reduce barriers to legal assistance. Our findings also uncover details on the lack of knowledge and the extent of misunderstanding about the public charge rule and who it applies to. They suggest that decisions to drop out of benefit programs are being made amid confusion about the rule.

Though California has moved far beyond other states in expanding eligibility for benefit programs to support multiple-immigration-status families and undocumented residents, federal policies like the public charge rule are still leading immigrant families to fear program participation because of concerns about immigration consequences. California government agencies must continue educating and reassuring families struggling to understand the rule, which has become even more urgent during the COVID-19 crisis. Our results suggest state, county, and city government agencies have significant roles to play in educating the public and disseminating accurate information about the rule, as noted in recent research (Vision Strategy and Insights 2020). Messaging efforts from state officials, who have been outspoken in their defense of immigrant rights and protections against excessive federal immigration enforcement, can be particularly important in localities where immigrants feel less welcome. Communications from government agencies may be more powerful than those from community-based organizations.

Families have questions about the specifics of their own situations, and individual legal assistance is needed to complement broader public education efforts. Free and low-cost legal services, like those funded by the state in California,[12] could also bridge divides between legal assistance providers and social workers, who have different areas of expertise and may offer conflicting advice to families

weighing program participation decisions with potential immigration consequences. Though workers in benefit program offices should not necessarily advise clients on the potential immigration consequences of program participation, they should be equipped to refer clients to accessible legal assistance.

Excluding multiple-immigration-status families and those lacking Social Security numbers from federal relief measures, like the Coronavirus Aid, Relief, and Economic Security, or CARES, Act, risks leaving out many people in need (NILC 2020). Not only does excluding this group endanger many people suffering from economic and medical hardship, it also limits the impact of efforts to protect community well-being and boost the overall economy. In California, state and local efforts to fill the gaps left by the federal government have so far included clarification that emergency Medicaid covers COVID-19 testing and treatment, a $75 million emergency relief fund for undocumented immigrants, an executive order to protect continuous access to safety net services, creation of multilingual educational materials, supports for immigrant-owned businesses, and protections from evictions and utilities shut-offs for renters.[13] To both weather and recover from the current crisis, California immigrant families need wider eligibility for federal relief and coordinated efforts among state, county, and city government agencies and their partners to mitigate chilling effects and ensure access to health care and supports.

Data and Methods

Data

SURVEY DATA

We draw on data from the December 2019 round of the Well-Being and Basic Needs Survey, a nationally representative, annual survey of adults ages 18 to 64 launched in December 2017.[14] Our analysis is based on the WBNS core sample and an oversample of noncitizens. To assess chilling effects and related issues specific to California, we constructed a set of weights for analysis of the California population of nonelderly adults who are foreign born or living with a foreign-born relative in their household. The weights are based on the probability of selection from the KnowledgePanel and benchmarks from the American Community Survey for nonelderly adults in immigrant families in California who are proficient in English or primarily speak Spanish.[15] The language criterion is used in the weighting to reflect the survey sample, because the survey is only administered in English or Spanish. Our full analytic sample for this brief consists of 498 adults in California immigrant families.

SEMISTRUCTURED INTERVIEW DATA

To learn more about where families get their information on eligibility for and use of public benefits and related implications for immigration status, our research team conducted follow-up telephone interviews with adults in California immigrant families who (1) reported chilling effects on the survey, meaning they or a family member avoided participating in noncash public programs (e.g., Medicaid/CHIP, SNAP, or housing assistance) in 2019 because of worries about future green card

status and (2) were willing to be contacted about participating in a follow-up interview. The interview recruitment pool consisted of 45 adults in California immigrant families.[16]

All but one interview was conducted in Spanish, and interviews generally lasted 20 minutes. The interviews included questions on knowledge about, sources of information on, and access to information on government benefit programs and the public charge rule; decisionmaking related to the rule; and experiences of chilling effects. The 17 interviewees were diverse in regions of residence, ages, citizenship/immigration statuses, and other demographic characteristics (table 1).

TABLE 1

Interviewees' Demographic Characteristics

	Number of interviewees
Interview language	
Spanish	16
English	1
Respondent citizenship and immigration status	
Naturalized citizen	3
Noncitizen	12
Permanent resident	5
Not a permanent resident	7
US-born	2
Age	
25–34	4
35–44	4
45–54	6
55–64	3
Race/ethnicity	
Hispanic	15
Non-Hispanic, other or multiple races	1
Non-Hispanic white	1
Marital status	
Married	13
Living with a partner	2
Not married and not living with a partner	2
Educational attainment	
Less than high school	3
High school graduate	5
Some college	7
Bachelor's degree or higher	2
Number of people in the household	
1	1
2–4	11
5–6	5
Household citizenship and immigration status	
All foreign-born family members are naturalized citizens	4
All noncitizens are permanent residents	5
One or more noncitizens are not permanent residents	8

Sources: Interview language was collected in the December 2019 round of the Well-Being and Basic Needs Survey. All other characteristics come from Ipsos' panel profile questions, which respondents complete when they first join the KnowledgePanel and is updated annually.
Note: Permanent residents are green card holders; we use the latter term in this brief.

Survey Measures

CHILLING EFFECTS WITHIN A FAMILY

For all 498 adults in California immigrant families in our sample, we define chilling effects as either not applying for or stopping participation in a noncash government benefit program, specifically Medicaid or CHIP, SNAP, or housing subsidies, within the previous 12 months because of concerns that the respondent or a family member could be disqualified from obtaining a green card.[17] We also collected information on avoidance of additional programs not listed in the public charge rule, including WIC and Marketplace health insurance coverage.[18] A respondent could have defined family as both their immediate family and other relatives who may live with them or in another household. Respondents may have reported chilling effects for a program for which they may not have been eligible; for instance, some parents likely reported chilling effects on the program participation of a citizen child, or a higher-income respondent may have reported chilling affecting a relative with lower income.

AWARENESS OF THE PUBLIC CHARGE RULE

We asked all adults in immigrant families in our sample to report how much they had heard about the public charge rule:[19] a lot, some, only a little, or nothing at all.

GENERAL UNDERSTANDING AND CONFIDENCE IN UNDERSTANDING OF THE PUBLIC CHARGE RULE

For the following measures, we report estimates for the 367 adults in California immigrant families who reported having heard at least a little about the public charge rule.

Confidence in understanding of the rule. This measure indicates whether respondents reported that they were very, somewhat, not too, or not at all confident in how well they understood the public charge rule.

Understanding of the public charge rule. To gauge understanding of key elements of the rule, we asked respondents to report whether they thought three statements about the rule were true or false (respondents could also answer "don't know"). These statements included (1) whether the rule would expand the list of government benefits used to determine if an immigrant is likely to become a public charge (true); (2) whether the rule would apply to green card holders applying for citizenship (false); and (3) whether parents could have a harder time getting a green card if their children enroll in Medicaid (false). Respondents were randomly assigned to affirmative or negative versions of the second and third statements. Figure 3 shows the true version of each statement.[20]

SOURCES OF INFORMATION AND TRUSTED SOURCES

The following two measures are also based on the 367 adults in California immigrant families who reported having heard at least a little about the public charge rule.

Sources of information about the public charge rule. To understand where adults in immigrant families have been getting their information, we asked respondents who heard about the rule to report

all the sources from which they had heard about it, listing options encompassing government sources, service providers, personal networks, and media.

Trusted sources on public benefits use and immigration. We asked respondents to report how much they would trust various sources to provide helpful information if they had a question about how using public benefits affects their immigration status or that of someone in their family, providing the same options listed above. Respondents could report trusting each source a great deal, a lot, somewhat, not much, or not at all.

ACCESS TO EMPLOYER-SPONSORED HEALTH INSURANCE

Finally, we define access to employer-sponsored health insurance as having health insurance coverage through an employer or, for those without such coverage, whether their or a family member's employer *offers* health insurance.

Analysis

We first compare chilling effects between 2018 and 2019 for adults in California immigrant families overall. These estimated changes are regression adjusted to control for any changes in the demographic characteristics of the adults in immigrant families participating in each survey round. We control for a respondent's gender, age, race and ethnicity, educational attainment, family size, chronic health conditions, residence in an urban or rural area, internet access, homeownership status, citizenship status, family composition, and family income as a percentage of the federal poverty level; presence of children under age 19 in the respondent's household; whether the respondent participated in both the 2018 and 2019 rounds of the survey; and how long the respondent has been a member of the KnowledgePanel.

Next, we examine awareness of the public charge rule among adults in California immigrant families.[21] We assess knowledge of the rule overall and among those who reported being very or somewhat confident in their understanding of the rule. We then compare respondents' sources of information about the rule with the sources they would trust the most if they had a question about how using public benefits affects their immigration status. All estimates are weighted to represent the population of nonelderly adults in California immigrant families (as described above) and account for the complex survey design.

The findings presented in this brief are primarily drawn from the survey data. We also incorporate quotes and themes from the follow-up interviews with adults in California immigrant families who reported chilling effects. The qualitative results do not provide a representative sample, but they complement the quantitative results by shedding light on people's experiences on the ground. We include direct quotations spoken in Spanish and English translations.

Limitations

One limitation of the WBNS is its low response rate, which is comparable with that of other panel surveys accounting for nonresponse at each stage of recruitment.[22] WBNS survey weights reduce but do not eliminate the potential for error associated with sample coverage and nonresponse, which are likely larger for the subgroup of adults in immigrant families.[23]

In addition, because the WBNS is only administered in English and Spanish, our analytic sample does not describe the experiences of the full spectrum of adults in California immigrant families. Our study excludes adults with limited English proficiency whose primary language is not Spanish. We estimate these excluded adults represent between 5 and 15 percent of all nonelderly adults in California immigrant households as defined for this brief; according to the 2018 American Community Survey, in California, about 5 percent of this group speaks English less than well[24] and speaks a primary language other than Spanish.

Some measurement error is likely for questions related to citizenship statuses of respondents and relatives in the household, particularly among adults who are undocumented or have been in the US for a short time (Van Hook and Bachmeier 2013).

During the follow-up interviews, six interviewees indicated they or their family members had *not* decided to avoid participation in noncash public programs because of immigration concerns. There are several possible explanations for a mismatch between what respondents reported on the survey and what they shared during the follow-up interview, including potential misunderstanding of the original survey question, as well as mode effects, whereby respondents may have been less likely to reveal sensitive information in a one-on-one interview than an online survey.

Notes

1 "State Immigration Data Profiles: California," Migration Policy Institute, accessed April 30, 2020, https://www.migrationpolicy.org/data/state-profiles/state/demographics/CA.

2 Inadmissibility on Public Charge Grounds, 83 Fed. Reg. 51114 (Oct. 10, 2018).

3 Inadmissibility on Public Charge Grounds, 84 Fed. Reg. 41292 (Aug. 14, 2019).

4 State of California Department of Justice, "Attorney General Becerra Leads Coalition of Five Attorneys General, Files Suit Challenging Trump Administration Public Charge Rule," news release, August 16, 2019, https://oag.ca.gov/news/press-releases/attorney-general-becerra-leads-coalition-five-attorneys-general-files-suit.

5 The Supreme Court ruling on the national injunction in January did not apply to Illinois, which had a separate case before the court that was ruled on in February.

6 Jeanne Batalova, Michael Fix, and Mark Greenberg, "Through the Back Door: Remaking the Immigration System via the Expected 'Public-Charge' Rule," Migration Policy Institute, August 2018, https://www.migrationpolicy.org/news/through-back-door-remaking-immigration-system-expected-public-charge-rule.

[7] "Status of State Action on the Medicaid Expansion Decision," Henry J. Kaiser Family Foundation, last updated April 27, 2020, https://www.kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act.

[8] Though impossible to assess in California given the limited sample size, chilling effects increased nationally among families most likely to be directly affected by the rule, rising from 21.8 percent to 31.0 percent for adults in immigrant families in which at least one member was not a permanent resident. See Bernstein and colleagues (2020).

[9] In this context, social media are platforms such as Facebook, Twitter, WhatsApp, or WeChat.

[10] Lawrence Hurley, "US Supreme Court Refuses to Block Trump Immigration Policy during Pandemic," *Reuters*, April 24, 2020, https://www.reuters.com/article/us-usa-court-immigration-idUSKCN2263FQ.

[11] Catherine Kim, "Low-Income Immigrants Are Afraid to Seek Health Care amid the COVID-19 Pandemic," *Vox*, March 13, 2020, https://www.vox.com/identities/2020/3/13/21173897/coronavirus-low-income-immigrants.

[12] "Immigration Services," California Department of Social Services, accessed May 5, 2020, https://www.cdss.ca.gov/immigration-services.

[13] "Resource Guide for State and Local COVID-19 Emergency Responses," New American Economy, last updated April 1, 2020, https://www.newamericaneconomy.org/uncategorized/15553/?emci=2cfe09ee-7773-ea11-a94c-00155d03b1e8&emdi=2c4823b1-2874-ea11-a94c-00155d03b1e8&ceid=377678; "Up-to-Date COVID-19 Information," Western Center on Law and Poverty, May 1, 2020, https://wclp.org/covid-19-coronavirus-information-response-and-considerations/; "COVID-19 Guidance for Immigrant Californians," State of California, accessed May 4, 2020, https://covid19.ca.gov/img/wp/covid-19-immigrant-guidance-final-accessible-1.pdf

[14] For each round of the WBNS, the core sample is a stratified random sample of approximately 7,500 nonelderly adults drawn from Ipsos' KnowledgePanel, a probability-based online panel recruited primarily from an address-based sampling frame, and includes a large oversample of adults in low-income households. The additional oversample of approximately 300 noncitizens is designed to support analyses of current policy issues affecting immigrant families. The panel includes only respondents who can complete surveys administered in English or Spanish, and adults without internet access are provided free web-enabled devices and internet access to facilitate participation.

[15] We define adults with English proficiency as those who speak English at least well, as classified in the American Community Survey. Adults with limited English proficiency are those who speak English less than well. This is a broader measure than is commonly used to define English proficiency; in most analyses, a person must speak English very well to be classified as having English proficiency (Wilson 2014). We use the following measures for weighting: gender, age, race and ethnicity, educational attainment, presence of children under age 18 in the household, census region, homeownership status, family income as a percentage of the federal poverty level, access to the internet, and family composition. We benchmark non-Hispanic respondents who are not white or black by two categories: (1) other race born in Asia and (2) multiple races or other race not born in Asia.

[16] Using a recruitment script developed by the Urban team, Ipsos staff called 45 Spanish- and English-speaking respondents to invite them to participate in a qualitative telephone interview. Of the 45 respondents, 3 (7 percent) refused to participate in the study. Twenty-two could not be reached for reasons such as disconnected calls, a wrong or unavailable phone number, or unreturned voice messages. Ipsos successfully scheduled 20 respondents for an interview, and of those, Urban successfully reached and interviewed 17.

[17] We drew on measures developed by researchers at the University of California, Los Angeles, for an immigrant follow-up survey to the California Health Interview Survey. For the exact wording of this and other questions on the WBNS, see the survey questionnaire at https://www.urban.org/sites/default/files/wbns_2019_questionnaire.pdf.

We learned in follow-up interviews to the 2018 survey that some respondents did not understand the distinction between the two separate survey items measuring chilling effects: "not applying for a program"

versus "stopping participating in a program." Consequently, we combined responses to report on the questions together: either not applying for or dropping out of a noncash assistance program.

Because of the insufficient sample size of adults in California immigrant families who reported a chilling effect, we do not report what specific programs were avoided. For national estimates of avoidance of specific programs, see the accompanying brief, Bernstein and colleagues (2020).

[18] We asked about additional programs not listed in the public charge rule because of reports that families were avoiding such programs; see, for example, Emily Moon, "Why Is Participation in Food Assistance Programs like WIC Declining?" *Pacific Standard*, May 8, 2019, https://psmag.com/news/why-is-participation-in-food-assistance-programs-like-wic-declining.

[19] This question was asked later in the survey than the questions on chilling effects. For the exact wording of this and other questions on the WBNS, see the survey questionnaire at https://www.urban.org/sites/default/files/wbns_2019_questionnaire.pdf.

[20] Respondents were randomly assigned to one of two versions of this question. For the exact wording of this and other questions on the WBNS, see the survey questionnaire at https://www.urban.org/sites/default/files/wbns_2019_questionnaire.pdf.

[21] We allocate missing citizenship status data for respondents using their responses to the Ipsos panel profile question on citizenship; absent that information, we impute respondent citizenship status.

[22] However, studies assessing recruitment for the KnowledgePanel have found little evidence of nonresponse bias for core demographic and socioeconomic measures (Garrett, Dennis, and DiSogra 2010; Heeren et al. 2008), and WBNS estimates are generally consistent with benchmarks from federal surveys (Karpman, Zuckerman, and Gonzalez 2018).

[23] Though the weights are designed to produce nationally representative estimates for adults in immigrant families, the survey's design implies our analytic sample of 498 adults in California immigrant families has precision comparable to a simple random sample of approximately 196 adults, increasing the sampling error around our estimates.

[24] See endnote 15 for a definition of English proficiency.

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HEALTH VS. WEALTH? PUBLIC HEALTH POLICIES AND THE ECONOMY DURING COVID-19

Zhixian Lin
Christopher M. Meissner

Working Paper 27099
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Health vs. Wealth? Public Health Policies and the Economy During Covid-19
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ABSTRACT

We study the impact of non-pharmaceutical policy interventions (NPIs) like "stay-at-home" orders on the spread of infectious disease. NPIs are associated with slower growth of Covid-19 cases. NPIs "spillover" into other jurisdictions. NPIs are not associated with significantly worse economic outcomes measured by job losses. Job losses have been no higher in US states that implemented "stay-at-home" during the Covid-19 pandemic than in states that did not have "stay-at-home". All of these results demonstrate that the Covid-19 pandemic is a common economic and public health shock. The tradeoff between the economy and public health today depends strongly on what is happening elsewhere. This underscores the importance of coordinated economic and public health responses.

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Health vs. Wealth? Public Health Policies and the Economy During Covid-19

April 27, 2020

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Abstract: We study the impact of non-pharmaceutical policy interventions (NPIs) like "stay-at-home" orders on the spread of infectious disease. NPIs are associated with slower growth of Covid-19 cases. NPIs "spillover" into other jurisdictions. NPIs are not associated with significantly worse economic outcomes measured by job losses. Job losses have been no higher in US states that implemented "stay-at-home" during the Covid-19 pandemic than in states that did not have "stay-at-home". All of these results demonstrate that the Covid-19 pandemic is a common economic and public health shock. The tradeoff between the economy and public health today depends strongly on what is happening elsewhere. This underscores the importance of coordinated economic and public health responses.

1. Introduction

We study the health and economic impacts of non-pharmaceutical public health interventions (NPIs) to mitigate the spread of Covid-19. Since emerging in December 2019, Covid-19 has spread to nearly all countries in the world. Every state and territory in the USA has reported at least one case to date. Theoretical and empirical literature in epidemiology and public health has argued that NPIs can be important in decreasing peak mortality and cumulative mortality.[1,2,3,4] Countries, states, and cities recently imposed a

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number of NPIs to enhance social distancing with the aim of mitigating the spread of Covid-19. Have these had benefits for public health but at the cost of the economy?

The economic consequences of public health policies during global pandemics is challenging. Global pandemics are rare events.[5,6] New insights combining economic and epidemiological modeling is emerging with new theoretical predictions. The key tradeoff is between public health and the economy.[7] Aggressive NPIs benefit public health and help manage the pandemic with limited medical capacity. NPIs may however damage the economy and create high levels of unemployment. But, even without policy, people pay attention to news and events elsewhere reacting with spontaneous social distancing.[8,9,10] There may also be important economic spillovers to NPIs.[11]

A pandemic can impact an economy in many ways: reductions in people's willingness to work, dislocations in consumption patterns and lower consumption, added stress on the financial system, and greater uncertainty leading to lower investment. These are respectively referred to as (labor) supply shocks, demand shocks, financial shocks and uncertainty shocks. Connected economies and epidemiological communities also move in synch. Even a healthy economy, or an economy that has not mandated a shutdown, may feel the impact of external events. With the exception of the 1918 influenza, recent pandemics have neither had as large of a global impact, nor has there been as much real time data available to empirically assess the economic and public health impact of NPIs. We study outcomes during the Covid-19 pandemic.

We have three main results. First, our analysis shows NPIs may have been effective in slowing the growth rate of confirmed cases of Covid-19 but not in decreasing the growth rate of cumulative mortality. Second, we find evidence of spillovers. NPIs may have impacts on other jurisdictions. Finally, there is little evidence that NPIs are associated with larger declines in local economic activity than in places without NPIs.

The reason we fail to find evidence consistent with a macro-health/economy tradeoff is that epidemiological and economic shocks have been common to the US and indeed to the world. Our results parallel those of a recent contribution which shows that US cities that applied more intensive NPIs in 1918-19 did not suffer greater economic mis-fortune than other cities without such policies.[12] Moreover, economic policies may have un-even impacts on certain economic sectors and types of jobs. We find states with a larger share of employment in jobs that can be done at home have lost fewer jobs after stay-at-home.

We also address the issue of spillovers in NPI policy and public health: do local policies have effects on other jurisdictions and territories? We find they do, at least within the United States. This is not true across borders. In light of this, delaying implementation of NPIs may have little extra economic benefit when significant trade partners have already implemented such policies and when information and disease travels rapidly. This new evidence can account for the lack of a tradeoff between health and the economy.

A relevant comparison to the Covid-19 pandemic is the 1918 influenza pandemic. A significant strand of the literature has developed unique data from this historical pandemic in the United States. In 1918 and 1919, NPIs significantly lowered peak mortality rates. Some weaker evidence shows that these may have reduced total cumulative mortality in US cities.[13] The recent Covid-19 pandemic and associated implementation of NPIs allows us to gauge whether such policies have been effective for public health and if there are economic costs to these policies.

2. Methods

2.1 Data collection

For public health data in US states, we rely on confirmed cases and deaths of Covid-19 reported by the *New York Times* on a daily basis. These data are based on reports from state and local health agencies. Confirmed cases and deaths across countries are from the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University representing a compilation of data reported by the WHO and various countries' public health authorities. We use country and US state-level data beginning in January 2020 up to April 2020. We have data for over 70 countries and 50 US States + the District of Columbia.

Data on NPIs at the country level come from the Oxford Covid-19 Government Response Tracker.[14] These data cover seven policy responses: School closures, workplace closures, cancellation of public events, closure of public transport, public information campaigns, restrictions on internal movement, and international travel bans. This source reports data from over 100 countries. Data on "stay-at-home" orders for US states is from the official orders or announcements made by public health authorities at each state.

Real-time data that helps understand the macro economy is relatively scarce and has only become available in recent decades. Recent research uses real time data from

private financial (fin-tech) companies to track consumer spending as well as movement based on privately collected GPS signals from mobile phones. Such data is subject to measurement error, reports for limited and small samples, and cannot be considered as fully indicative of the macroeconomic situation.[15]

We use initial claims for unemployment insurance published by the US Department of Labor (i.e., initial jobless claims) at the state level on a weekly basis. Each state's data are as of the end of the week (i.e., Saturday). We use data which are not seasonally adjusted and which are subject to revision. Initial jobless claims represent a consistent and reliable indicator of the US labor market at the local level, are of reasonable quality, and are often used as a leading indicator for macroeconomic forecasts. These data exclude the self-employed. We also supplement the economic data with information on the employment shares in selected industries we believe may be hardest hit in the recent months such as oil and gas extraction, retail, food processing/restaurants, wholesale and arts, recreation and leisure. We also use information on the share of jobs in a state that can be carried out by telecommuting.[16]

2.2 Data Analysis

Our main dependent variables are the daily growth rates of the (natural) logarithm of cumulative confirmed cases or deaths of Covid-19. We acknowledge considerable debate about measurement error due to variable testing rates across localities. Potential for measurement error also exists for the mortality data. There have been cases of deaths at home from those not admitted to nor tested in hospitals. Using excess mortality is an option but systematic data is not readily available nor directly comparable.

We also use the logarithm of initial jobless claims at the state-level as a dependent variable. Data are not seasonally adjusted since such adjustments apply to all cross-sectional units (i.e., states) and are captured in period/day intercepts. Initial jobless claims are subject to revision. Our data end with information on the week ending 4 April. The latest revisions apply to weeks before and including the week ending 28 March, 2020.

Country-level NPIs are reported on a scale of 0/1/2. A value of 0 is for "no measure in place". A value of 1 indicates the NPI is recommended, and a value of 2 is the most stringent. We re-code data to take the values of 0 and 1. Here 0 represents both 0 and 1 in the raw data, and 1 is a raw value of 2 the most stringent NPI possible.

State-level NPIs are for so-called "stay-at-home orders". Such rules vary in their particular prescriptions. They typically mandate that people refrain from meeting in groups, limit physical social interaction to within households, and that people frequent only essential businesses. In person work is allowed only for "essential" businesses.

Throughout our paper, we assume that NPIs and their timing are exogenous and uncorrelated with unobservables especially expectations about the future path of mortality and the expected path of economic and social variables of interest. We also allow for leads of NPIs to deal with the issue of reverse causality from mortality to NPIs.

We allow for policy spillovers by measuring the level of policies in all other states. In our international sample, we look at policies of other countries that share a border. Each policy in another state (or country) is divided by the centroid-to-centroid distance. For robustness we also population weighted each other state's distance weighted policy. States with closer proximity to the observation have a bigger potential spillover since we assume economic and social interactions are roughly linear in the log of physical distance with an elasticity of -1. The measure for state i of all other states' NPI policies is $S_{i,-i} = \sum_{j \neq i} \frac{1(\text{Stay-at-Home}_j = 1)}{\text{distance}_{ij}}$. We also introduce the sum of policies in the states which share a border with state i, $S'_{i,-i} = \sum_n 1(\text{Stay-at-Home}_n = 1)$ where n indexes states in the set N of i's neighboring states. Similarly, we can control for the confirmed cases of other states with distance weighting and in neighboring states. For countries we focus on policies only in bordering countries.

In all models we include controls for calendar weeks, state-level fixed effects and event-time trends (linear, quadratic and cubic terms were tested). The event is defined either as the number of days elapsed between the current date and the date a state reached the first death or first confirmed case of Covid-19. We also cluster standard errors of estimated coefficients at the state level.

2. Results

3.1 Policies and Public Health

As of this draft, there were over 2.4 million confirmed cases of Covid-19 worldwide. The United States (765,000), Spain (200,000), Italy (178,972), France (152,000) and Germany (145,000). Reported deaths stood at over 164,000 making this pandemic one of the worst in the last 120 years. The average growth rate of global cases since 1/22/2020

(555 cases) and 4/13/2020 (82 days) was 10.43%. Other reported statistics and information such as case fatality rates and overall infection rates are either too preliminary or mis-measured to be reliable at this stage.

On the international scene, the first countries to impose containment and mitigation strategies were in East Asia near the epicenter of the first outbreak. Mainland China imposed a near total lockdown on Hubei province from late January 2020 and severely limited domestic movement in nearly all other provinces from then until the first week of April. Singapore, South Korea, Hong Kong, and Taiwan all maintained strict international border controls, high levels of contract tracing and testing, and monitoring or closure of international borders.

Western European nations, first with Italy (March 9th), and successively other nations, implemented strict bans on public gathering and domestic and international movement. In the United States, states initiated stay-at-home orders progressively beginning on 19 March (California) through the first week of April. Iran waited 16 days after its first case to put limits on internal/domestic movement. India announced a national shelter-in-place order on 24 March, 53 days after its first official case, and this was initially intended to have a three week duration.

We first test NPIs as determinants of the growth rate of cumulative cases or death rates across countries. On the international scene, in a sample of 73 countries for which we have complete and balanced data, we find that various NPIs had a negative and statistically significant association on the growth rate of (log) confirmed cases. Table 1 column 7 shows that the ordinal sum of the six international NPIs we use could lower the growth rate by about 2 log points (-0.0207, p-value=0.007, 95% C.I. -0.03 to -0.005).

The policies most strongly and statistically significantly associated with slowing the growth rate of (log) confirmed cases in order of magnitude of impact were public transport closures (-0.09, p-value = 0.014, 95% C.I. -0.17 to -0.02), enforced workplace closures (-0.0784, p-value =0.004 , 95% C.I. -0.131 to -0.025), limited domestic travel (-0.-650, p-value = 0.060, 95% C.I. -0.132 to 0.003), and restrictions on international travel (-0.0639, p-value = 0.009, 95% C.I. -0.11 to -0.016). School closures (p-value = 0.387) and limits on public events (p-value = 0.342) are negatively related to growth rates of confirmed cases but were not found to be statistically significant.

For the international sample, five of the six NPIs as well as the cumulative sum of all NPIs are not statistically significant determinants of the growth rate of the cumulative

number of deaths. The only NPI that is significant is the closure of public transportation (point estimate: -0.09, p-value = 0.042, 95% C.I. -0.177 to -0.003). In addition the sum of all policies has a negative point estimate of -0.0123 (p-value = 0.226 95% C.I. -0.03 to 0.008), but it is not significant at conventional levels. Since we are recording event time as days since the first death in this table, the sample of countries decreased to 58 from 73 in the sample for confirmed cases. The lack of significance here could be due to our short sample and long lags between implementation of NPIs and effects on death rates.

We also tested for spillovers. Are foreign NPIs associated with lower growth rates of confirmed cases and death rates? We use the total sum of an NPI indicator across countries that share a border as a control in the same regressions as above. We find little evidence of an association for the NPIs of neighboring countries. Six of the seven NPIs, and the summed value of all NPIs in the international data set, are not statistically significant determinants of own-country outcomes for cases and deaths. The only foreign NPI that is a statistically significant of growth in cases is the limitation on internal movement in neighboring countries (point estimate: -0.043, p-value =0.003 , 95% C.I. -0.068 to -0.015).

NPIs enacted by US states are negatively correlated with the growth rate of confirmed cases of Covid-19. Table 3 shows our regression results. Column 1 of Table 3 shows that a state's own policy was associated with a reduction of the growth rate of 16.9 log points (p-value = 0.000, 95% C.I. -0.20 to -0.13). Figure 1 and Figure 2 show the dynamics. We compare the change in the growth rate in log confirmed cases in each day after the first day of the policy (25 coefficients) and by five-day periods to the pre-policy growth rate. The point estimates are progressively larger in absolute magnitude over time. None of the point estimates for changes in the growth rate of deaths is statistically significant. We also checked for pre-trends and reverse causality by allowing for leads of the NPI. Point estimates of the leads were not individually statistically significant.

We continue our analysis by allowing for policy spillovers between states. Figure 3 shows the path of confirmed cases for five groups of states corresponding to their calendar time adoption of stay-at-home policies. The first group is the first set of states that implemented such a policy during the week ending 21 March, 2020.[17] The following three groups are states that rolled out their stay-at-home orders during the weeks ending 28 March, 4 April, or 11 April. The fifth group (group 0) consists of states that did not have such an order as of April 13, 2020.

Next we demonstrate graphically how NPIs in group 1 and 2 might have affected other groups by plotting changes in trend growth rates of confirmed cases. Figure 3 plots the total confirmed cases within a group against event time (event day 0 is the day of the first confirmed case). We include two trend lines. This first is the average growth rate of confirmed cases since day 0. The second trend is the average growth rate of confirmed cases prior to the week in which the first group, group 1, implemented stay-at-home. If group 1 has an impact on other groups the trend could break here.

Confirmed cases decelerated following the week in which group 1 acted (groups 0, 2, and 3) or after both group 1 and group 2 had acted (groups 1, 4). From these charts, it would appear that there are spillovers, and they may be cumulative. NPI policies in group 1 and group 2 seem to be especially important for determining growth rates of new cases not only in their own states but also in other groups (i.e., 0, 3, and 4).

We test this more carefully in a linear regression in Table 3. In these regressions, we allow for stay-at-home policies in all other states to matter for state *i*. Policies in other states are population and distance weighted. We also allow for differential effects of policies in neighboring states NPIs in other states with a border state indicator dummy variable, and we allow for the level of confirmed cases in other states to affect growth of cumulative cases.

Own state policies are still associated with lower growth rates of confirmed cases after controlling for other state policies. The point is estimate is -0.034 (p-value =0.005, 95% C.I. -0.057 to -0.011). This is one-fifth of the magnitude of the own-state policy in Table 3 when we did not control for other state policies.

Spillovers matter. Policies in other states dating from the week ending March 21st are negatively associated with mortality even in states that had yet to impose a stay-at-home policy. The association between local growth rates of confirmed cases and the first states' policies is the largest. Column 4 shows the point estimate is -14.77 (p-value = 0.056 95% C.I. -29.93 to 0.379). An extra policy (in the first week ending 21 March) at the median distance between states is associated with a decline of about one log point or -0.009 (-0.009 = (1/1688) x -14.777). A new policy by a neighboring state, with the median in-sample centroid-to-centroid distance is associated with a decline of -0.034 (-0.034 = (1/441)*-14.777). This is about the same magnitude as the own-state point estimate. There is no statistically significant differential in the marginal impact of bordering states versus more distant states after accounting for distance between state centroids.

The association for NPI policies in weeks 2, 3 and 4 declines in absolute magnitude and statistical significance in columns 2-4. By the fourth week, the marginal effects of policies in other states are not statistically significant. This is suggestive of the idea that the first wave of stay-at home policies had a bigger impact than later waves.

We also cannot reject the hypothesis that the level of deaths in other cities (weighted by distances between cities) has no relationship with own-city growth rates of deaths *ceteris paribus*.

2.2 Policies and the Economy

Policy has been theoretically predicted to matter for the economy. A high intensity and duration of NPIs is predicted to lower cumulative mortality and peak mortality, but this comes (theoretically) at a greater cost to the economy than had NPIs not been imposed. We find no evidence of this. In

Table 4 we show that applications for unemployment insurance (i.e., jobless claims) rose at the same rate in states that adopted stay-at-home policies as in states without stay-at-home. The point estimate is -0.309 (p-value = 0.108 95% C.I. -0.675 to 0.069). Based on this, there is no evidence that stay-at-home policies led to stronger rises in jobless claims.

The results show some interesting dynamics as well showing in fact that stay-at-home was potentially associated with lower unemployment. In columns 2 (not population weighted) and 3 (population weighted regressions) the association between stay at-home policies and jobless claims is statistically significant and negative two and three weeks after implementation. The coefficient on the first week is not highly statistically significant. We also use six leads of the indicators for stay-at-home. None of these leading marginal effects is statistically significant implying that pre-policy trends are unlikely to account for the post-policy rises in initial jobless claims.

We also interact state-fixed effects with the stay-at-home policy which allows for heterogeneous impacts by state. A potential concern is that the adoption of stay-at-home was economically less costly, and therefore adopted sooner in places where the occupational structure allowed telecommuting or where the structure of employment was less sensitive to the stay-at-home demand shock. This would bias the impact of such policies downwards. For instance, restaurants, retail and other 'in-person' services may have been more vulnerable to the drop in demand from stay-at-home and states that rely on these industries

more heavily may have delayed. Figure 4 shows that the association between jobless claims and stay-at-home varies by state. It is difficult to see a clear pattern here however.

We attempt to see where stay-at-home mattered most by checking for a relationship between stay-at-home and industry-level employment-to-population shares as well as an interaction for the share of jobs in a state that were "telecommutable".[18] We include separate effects for industries that are most likely to be "in-person". For the main effects, we find jobless claims grew most strongly in states with higher shares of employment in the leisure and recreation industry and in wholesale distribution and smaller where employment shares in retail were higher.

In terms of interactions between industry and stay-at-home there are interesting findings. Stay-at-home had a smaller impact on jobless claims where oil and petroleum sectors were more prevalent and where arts and recreation had a higher share of employment. Other sectors like food preparation, retail sales and wholesale were not differentially affected by stay-at-home orders. This suggests common shocks and cross-state trade may matter. At the very least, there is little straightforward evidence linking stay-at-home to industries that are most obviously in-person like retail, food and leisure.

We do however find a more straightforward interaction with stay-at-home and telecommuting. Stay-at-home has a smaller impact I proportion to the share of jobs that can be done remotely. When we include a control for this and an interaction effect, the un-interacted stay-at-home main effect is associated with higher jobless claims with a point estimate of 2.55 (p-value = 0.064, 95% C.I. -0.159 to 5.27). However, the interaction with the share of jobs that can telecommute is large and negative at -4.93 (p-value = 0.063, 95% C.I. -10.15 to 0.28). The average share of telecommutable jobs is 0.38 implying that states above average and near the top, at a share of say 0.48, felt an impact on jobless claims from stay-at-home roughly 1/3 as large as states at the mean.

3. Discussion and comment

We have studied a range of Non-Pharmaceutical Interventions in the early stages of the global Covid-19 pandemic. We assess the epidemiological and economic implications of these policies. NPIs reduce growth rates of confirmed cases of Covid-19. The reductions apply to local jurisdictions but also "spillover" to geographically proximate units. Spillovers

in policy seem to work more strongly domestically (according to US data) than across international borders.

On average, stay-at-home policies are not associated with higher joblessness in the US states that imposed them than in states that did not. We interpret this as evidence that the negative economic shocks were national and not local. There is however some evidence that stay-at-home has sectoral and occupational impacts. States with more jobs that can be done remotely seem to have lost fewer jobs after implementing stay-at-home than states with fewer such jobs.

During Covid-19, NPIs appear to spillover across states in the US data. These spillovers could arise due to direct limitations on contact with infected individuals from other jurisdictions. However, it could also be because of a psychological or expectational effects. We find evidence that policies in the first-moving states matter more for other states than policies from later-moving states. This implies that part of the impact is due to reaction to news of NPIs in other states. Such news may indicate the severity of an outbreak or a pandemic leading to decreases in labor supply and reactive social distancing even without policies in the locality. Reduced demand for other states products and services from places with stay-at-home could spillover to states without policy too. State-to-state trade or shipment data would be required to verify and validate this channel.

The association between own-state policy and growth of new cases of Covid-19 is weakened once accounting for neighboring state policies. This does not imply that local policy is un-necessary or fruitless. Indeed, the opposite may be true. Neighbors of states not implementing NPIs evidently face greater challenges containing and mitigating disease. This implies there is justification for policy coordination if the objective is to mitigate the spread of disease and to reduce mortality. Externalities imply coordination as per standard economic theory.

In terms of the tradeoff between the economy and public health, similar lessons apply. There is no "free lunch" in a connected and open economy. Once a pandemic is underway and some states have implemented NPIs, then the economic spillover is likely to be strong. This occurs as NPIs in one state, region or country reduce local demand as well as demand for goods and services from other localities. NPIs also disrupt supply chains and contribute to a generalized supply shock in an open-economy setting. Information flows between localities means non-local policies could limit economic participation and labor supply even in localities without NPIs.

Could a state or locality do better by not implementing an NPI while others did? Free-riding is tempting, but it may have un-intended impacts. Assume people can move between places. States with NPIs, realizing that the pandemic could be more severe globally due to non-compliance with public health recommendations may be forced to keep their own NPIs in place longer or more intensively. These NPIs reduce the demand for services and products from the non-complier for longer or in greater proportion. The negative impact is in proportion to the level of trade and economic inter-dependence between the two areas. International retaliation with travel bans on non-NPI territories could also limit the economic opportunities of non-complying states. The economic effects would spillover as well. Finally, agents in the non-complying locality may react to information coming from other localities. These reactions will have to be stronger and more intense since the local outbreak would be more intense than if the locality had implemented an NPI.

Table 1 Mitigation Policies and the Growth Rate of Confirmed Cases of Covid-19: Cross Country Evidence

	(1) School Closures	(2) Workplace Closures	(3) Public Events Limits	(4) Public Transportation Closed	(5) Public Information Campaign	(6) Domestic Travel Limited	(7) International Travel Limited	(8) Sum of all policies
Policy	-0.0230	-0.0784***	-0.0233	-0.0953**	-0.0274	-0.0650*	-0.0639***	-0.0207***
	(0.0264)	(0.0267)	(0.0244)	(0.0376)	(0.0357)	(0.0339)	(0.0236)	(0.00751)
Event time	-0.00611**	-0.00563**	-0.00625**	-0.00585**	-0.00633***	-0.00590**	-0.00524**	-0.00452*
	(0.00259)	(0.00239)	(0.00249)	(0.00248)	(0.00234)	(0.00236)	(0.00257)	(0.00247)
(Event time)^2	0.0000984***	0.0000997***	0.000101***	0.0000924***	0.0000991***	0.000101***	0.0000926***	0.0000926***
	(0.0000345)	(0.0000343)	(0.0000342)	(0.0000345)	(0.0000335)	(0.0000341)	(0.0000343)	(0.0000337)
Constant	0.253***	0.251***	0.254***	0.252***	0.270***	0.251***	0.265***	0.269***
	(0.0318)	(0.0311)	(0.0319)	(0.0316)	(0.0434)	(0.0313)	(0.0315)	(0.0307)
Observations	2346	2346	2346	2346	2346	2346	2346	2346
R^2	0.108	0.115	0.108	0.112	0.108	0.112	0.112	0.115
Countries	73	73	73	73	73	73	73	73

Notes: Dependent variable is the daily change in the logarithm of deaths from Covid-19. Estimation is by OLS. All models include country fixed effects and calendar day dummies. Event time is defined as number of days since the first official case of Covid-19. Standard errors in parentheses are clustered at the country level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 2 Mitigation Policies and the Growth Rate of Deaths from Covid-19: Cross Country Evidence

	(1) School Closures	(2) Workplace Closures	(3) Public Events Limits	(4) Public Transportation Closed	(5) Domestic Travel Limited	(6) International Travel Limited	(7) Sum of all policies
Policy	0.0340	-0.000391	0.0156	-0.0900**	-0.0496	-0.0414	-0.0123
	(0.0320)	(0.0264)	(0.0279)	(0.0432)	(0.0553)	(0.0315)	(0.0101)
Event time	-0.124**	-0.119**	-0.122**	-0.108*	-0.118**	-0.117**	-0.103
	(0.0581)	(0.0587)	(0.0576)	(0.0563)	(0.0573)	(0.0575)	(0.0624)
(Event time)^2	0.0000110	0.00000252	0.00000533	-0.0000169	-0.00000419	-0.000000779	-0.0000230
	(0.0000289)	(0.0000322)	(0.0000282)	(0.0000299)	(0.0000321)	(0.0000289)	(0.0000356)
Constant	2.107**	2.058**	2.086**	1.897**	2.080**	2.049**	1.864*
	(0.906)	(0.918)	(0.902)	(0.887)	(0.896)	(0.901)	(0.962)
Observations	948	948	948	948	948	948	948
R^2	0.303	0.302	0.302	0.306	0.302	0.303	0.303
Countries	58	58	58	58	58	58	58

Notes: Dependent variable is the daily change in the logarithm of deaths from Covid-19. Estimation is by OLS. All models include country fixed effects and calendar day dummies. Event time is defined as number of days since the first official death from Covid-19. Standard errors in parentheses are clustered at the country level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3 Change in (log) Confirmed Cases versus Stay-at-Home Orders and Neighboring States' Stay-at-Home Policies.

	(1)	(2)	(3)	(4)
S_i = Stay-at-home	-0.170***	-0.0284**	-0.0335**	-0.0338***
	(0.0197)	(0.0124)	(0.0155)	(0.0114)
$S_{i,-i}$ = (Stay-at-home$_{-i}$) x week ending 21 Mar.		-4.020	-8.018	-14.78*
		(2.952)	(4.909)	(7.538)
$S_{i,-i}$ = (Stay-at-home$_{-i}$) x week ending 28 Mar.		-2.045**	-3.099***	-4.226***
		(0.941)	(0.997)	(1.109)
$S_{i,-i}$ = (Stay-at-home$_{-i}$) x week ending 4 Apr.		-1.527*	-1.684*	-2.385**
		(0.832)	(0.894)	(1.040)
$S_{i,-i}$ = (Stay-at-home$_{-i}$) x week ending 11 Apr.		-0.486	-0.673	-1.379
		(0.892)	(0.935)	(1.070)
$S_{i,-i}$ = (Stay-at-home$_{-i}$) x week ending 18 Apr.		-0.273	-0.532	-1.294
		(0.878)	(0.892)	(1.035)
$S'_{i,-i}$ = (Stay-at-home- border states) x week ending 21 Mar.			0.0452	0.0552
			(0.0457)	(0.0464)
$S'_{i,-i}$ = (Stay-at-home- border states) x week ending 28 Mar.			0.0115*	0.0148**
			(0.00573)	(0.00576)
$S'_{i,-i}$ = (Stay-at-home- border states) x week ending 24 Mar.			0.00222	0.00551
			(0.00563)	(0.00579)
$S'_{i,-i}$ = (Stay-at-home- border states) x week ending 11 Apr.			0.00344	0.00556
			(0.00671)	(0.00729)
$S'_{i,-i}$ = (Stay-at-home- border states) x week ending 18 Apr.			0.00516	0.00712
			(0.00657)	(0.00687)
ln (confirmed cases$_{-i}$/distance)				0.0516
				(0.0461)
ln (confirmed cases, border states)				-0.00881
				(0.0393)
Observations	2175	2175	2175	2175
R^2	0.213	0.282	0.316	0.322
States	49	49	49	49
Week Dummies	NO	YES	YES	YES

Notes: Dependent variable is the daily change in the logarithm of confirmed cases of Covid-19. Estimation is by OLS. All models include state fixed effects. Event time trend and a quadratic term in event time are included. Event time is defined as number of days since the first official case of Covid-19. Week indicators for all weeks after the week ending 28 March are included. The week ending March 21 is the policy reference group. All regressions are weighted by state population. Standard errors in parentheses are clustered at the country level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0$.

Table 4 Initial jobless claims and the Dynamics of Own-State Stay-at-Home Orders

	(1)	(2)	(3)
Stay-at-home	-0.309*		
	(0.179)		
Stay-at-home (3 weeks after)		-0.629***	-0.494***
		(0.230)	(0.164)
Stay-at-home (2 weeks after)		-0.427**	-0.398***
		(0.166)	(0.121)
Stay-at-home (initial week)		-0.304	-0.166**
		(0.188)	(0.0782)
Stay-at-home (2 weeks before)		-0.00315	-0.00453
		(0.124)	(0.122)
Stay-at-home (3 weeks before)		-0.0176	0.0286
		(0.0907)	(0.105)
Stay-at-home (4 weeks before)		0.0356	0.0409
		(0.117)	(0.0853)
Stay-at-home (5 weeks before)		-0.0400	-0.00228
		(0.0509)	(0.0651)
Stay-at-home (6 weeks before)		-0.0658*	-0.0571
		(0.0385)	(0.0448)
N	459	459	459
Number of States + DC	51	51	51
R^2	0.975	0.976	0.977

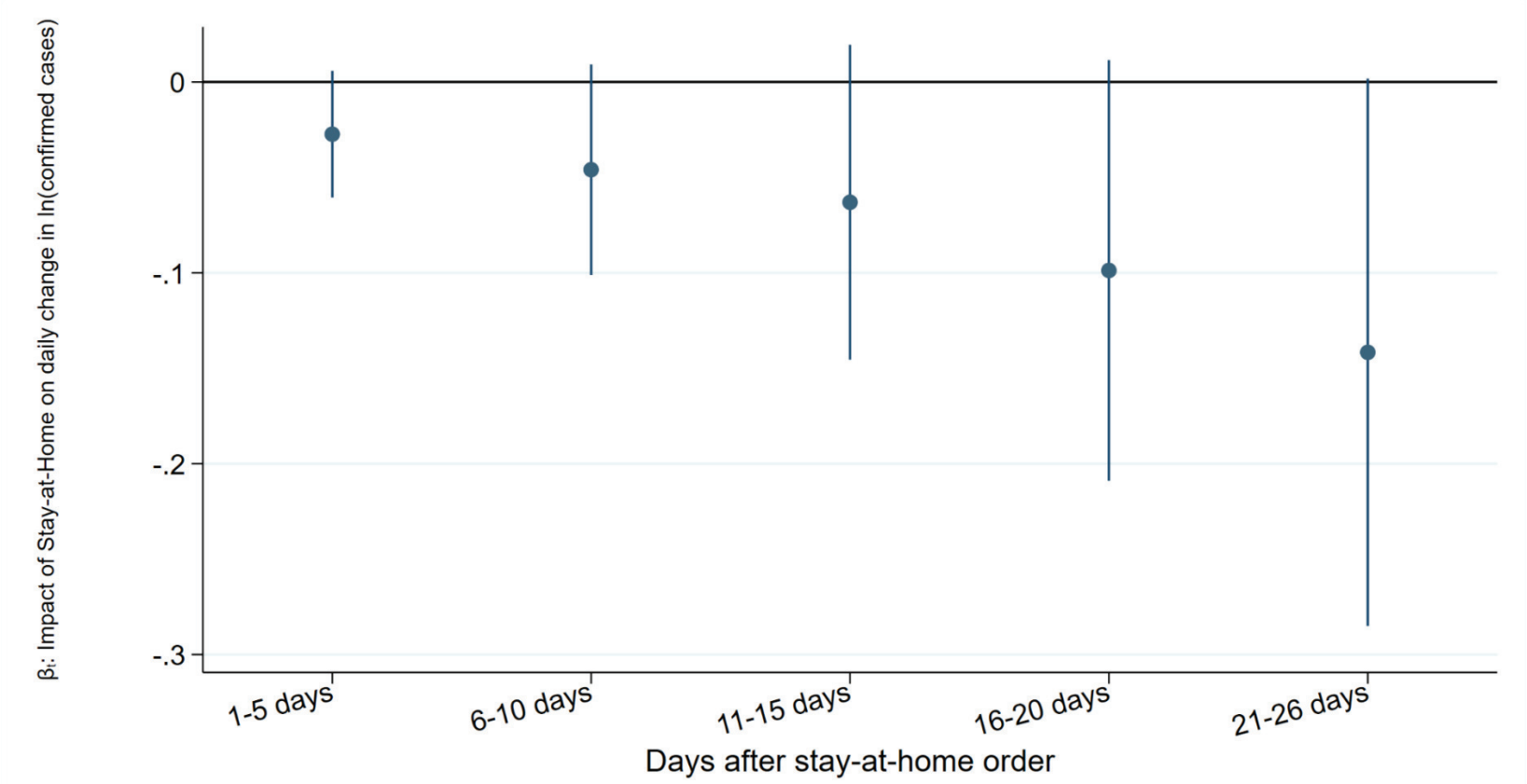
Notes: Dependent variable is the logarithm of initial jobless claims in the previous week (not seasonally adjusted). Estimation is by OLS. Data is a panel of states + District of Columbia by week. All models include state fixed effects and calendar week fixed effects. Regressions (1) and (2) are weighted by state population. Column (3) is an unweighted regression. In columns (2) and (3) week t is the first week for the stay-at-home order. Week t – 3 denotes three weeks after stay-at-home was initiated, t – 2 two week etc. The week prior to initiation of the stay-at-home order is the reference group. Standard errors in parentheses are clustered at the country level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5 Initial jobless claims, Stay-at-Home Orders and Sectoral Employment

	(1)	(2)	(3)	(4)
Stay-at-home	-0.303	0.537	2.403*	2.559*
	(0.185)	(0.367)	(1.355)	(1.353)
Average Share of Jobs-at-home		4.644	6.315	0.0706
		(3.689)	(3.974)	(4.373)
Stay-at-home x Average Share of Jobs-at-home			-4.927	-4.937*
			(3.559)	(2.599)
Share of Jobs in Oil & Gas				55.43
				(169.0)
Share of Jobs in Arts, Rec. and Entertainment				255.8***
				(86.32)
Share of Jobs in Food & Accommodation				-10.73
				(17.72)
Share of Jobs in Retail				-189.4***
				(38.91)
Share of Jobs in Wholesale				149.9***
				(41.93)
Share of Jobs in Oil & Gas x Stay-at-home				-316.3***
				(89.42)
Share of Jobs in Arts, Rec. and Entertainment x Stay-at-home				-124.7**
				(55.04)
Share of Jobs in Food & Accommodation x Stay-at-home				-2.579
				(10.13)
Share of Jobs in Retail x Stay-at-home				9.512
				(17.31)
Share of Jobs in Wholesale x Stay-at-home				-6.138
				(27.31)
N	267	267	267	267
R^2	0.971	0.662	0.663	0.849

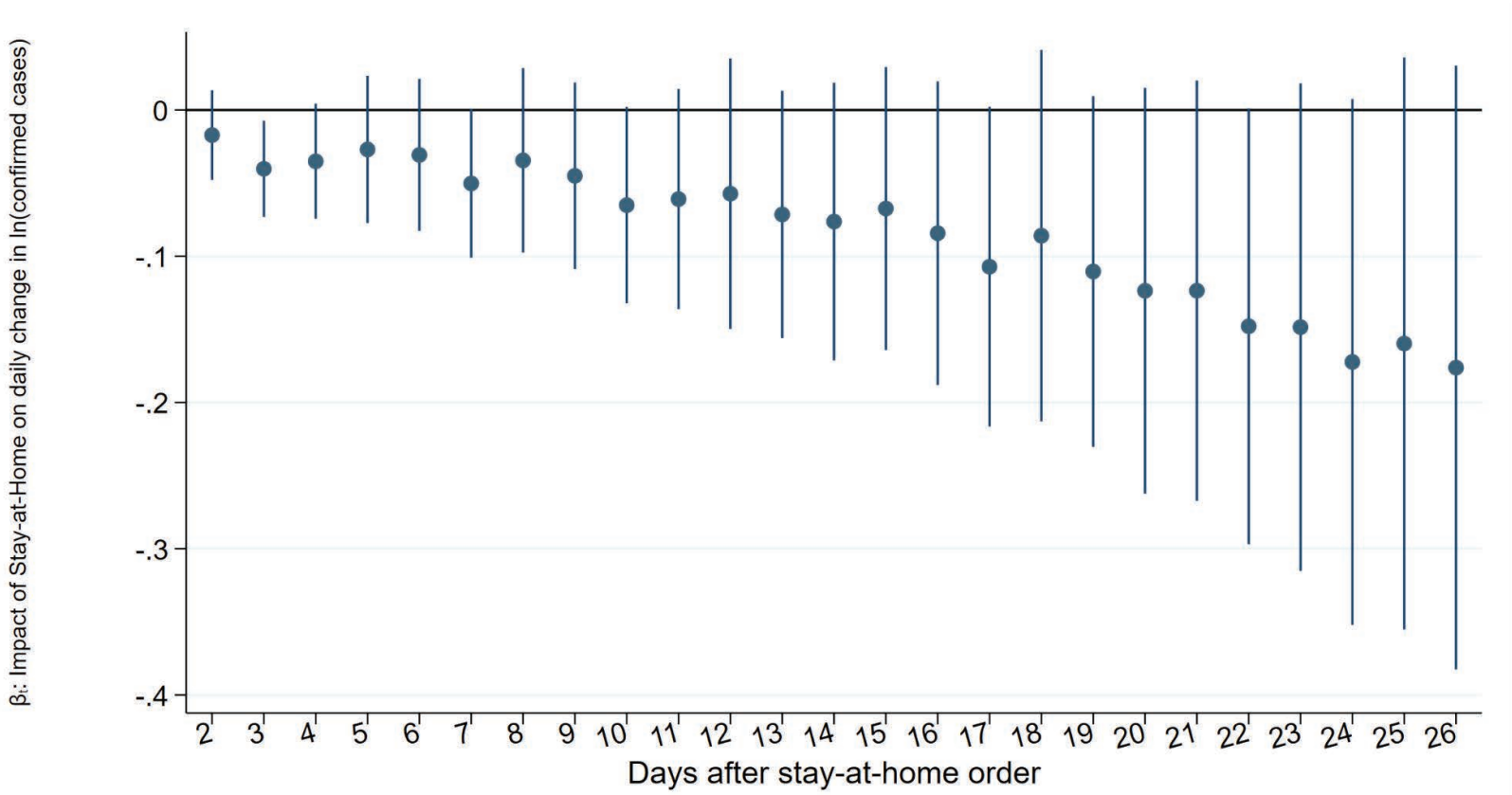
Notes: Dependent variable is the log of initial jobless claims (not seasonally adjusted). Estimation is by OLS. Data is a panel of states + District of Columbia by week. Column (1) includes state fixed effects and all models have calendar week fixed effects. Regressions are weighted by state population. Standard errors in parentheses are clustered at the country level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figure 1 Stay-at-Home and the Growth Rate of Cumulative Cases of Covid-19: Dynamics Post-Policy



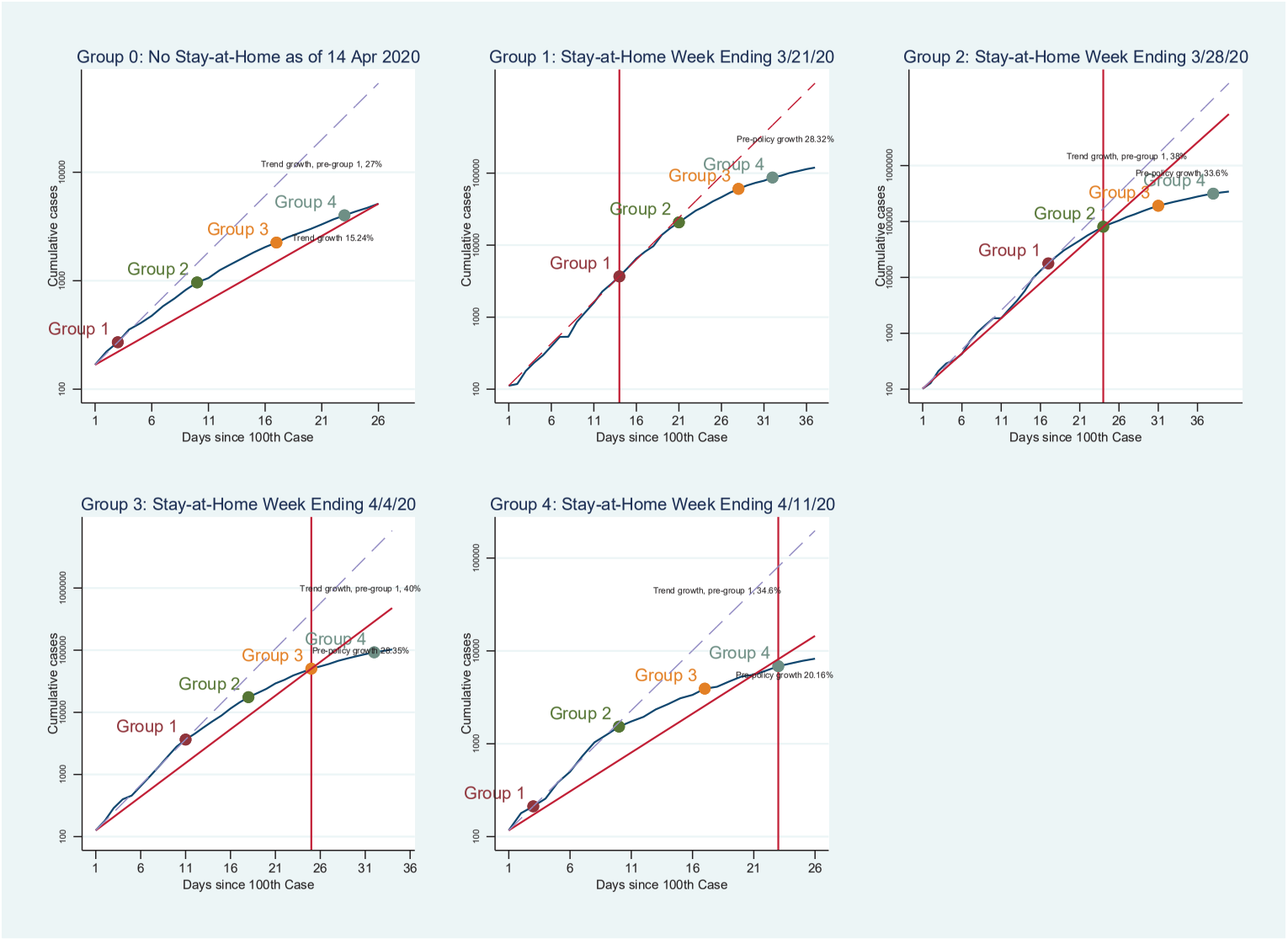
Notes: Chart shows the average level of the daily change in the log of confirmed cases of Covid-19 in periods after implementing a stay-at-home order with 95% confidence bars. The levels (dots) are the coefficients from OLS regressions where the dependent variable is the logarithm of confirmed cases. Regressions include state fixed effects, event time trend and quadratic effect and calendar day dummies. Event time is counted in days since the first case of Covid-19 within a state. Standard errors are clustered at the state level.

Figure 2 Stay-at-Home and the Growth Rate of Cumulative Cases of Covid-19: Daily Dynamics Post-Policy



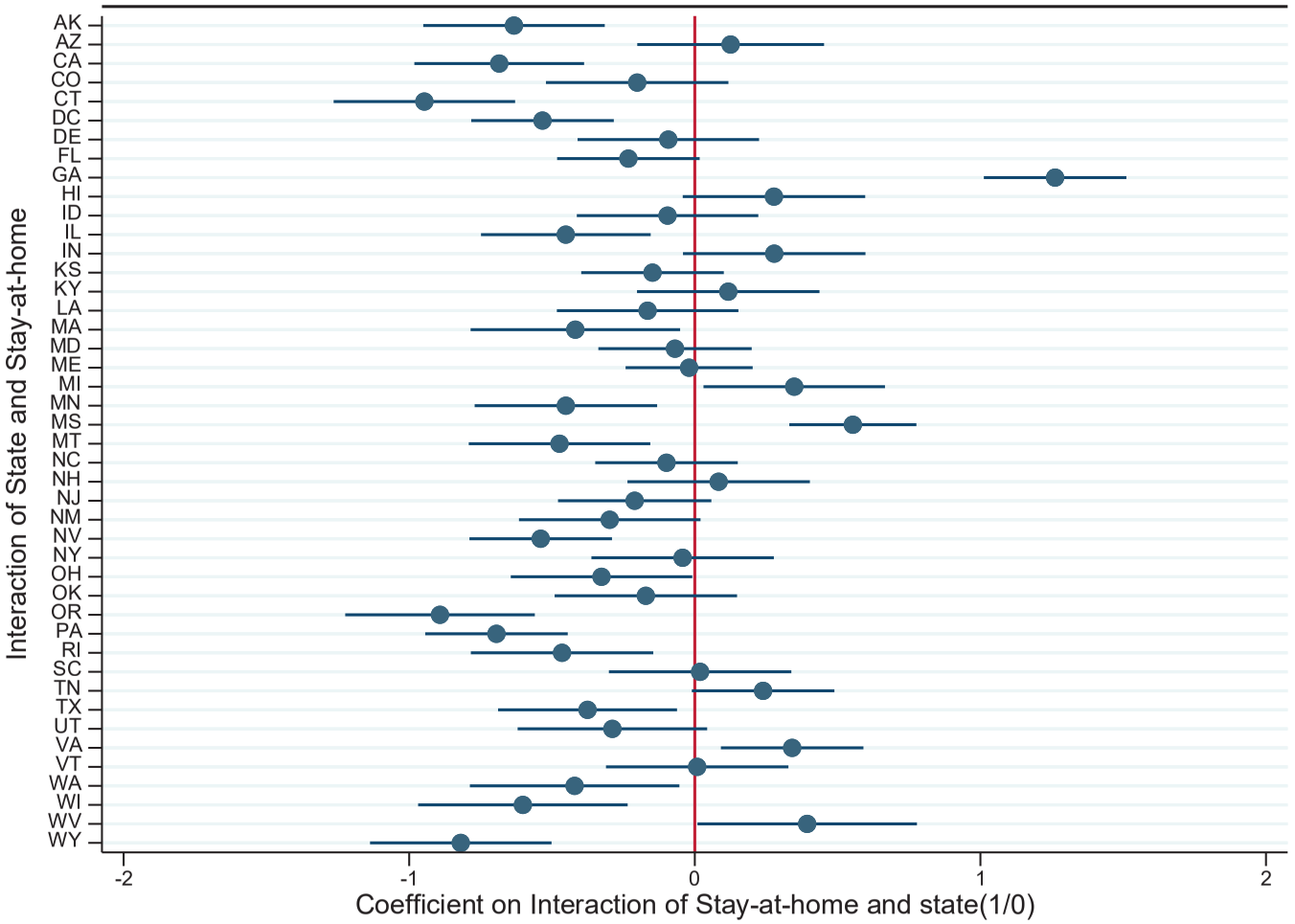
Notes: Chart shows the average level of the daily change in the log of confirmed cases of Covid-19 in days after implementing a stay-at-home order with 95% confidence bars. The reference category is the first day of the stay at home order. The levels (dots) are the coefficients from OLS regressions where the dependent variable is the logarithm of confirmed cases. Regressions include state fixed effects, event time trend and quadratic effect and calendar day dummies. Event time is counted in days since the first case of Covid-19 within a state. Standard errors are clustered at the state level.

Figure 3 Cumulative Cases of Covid-19 and Stay-at-Home Orders



Notes: Figures plot cumulative cases of Covid-19 for five groups of states. Group 1 -4 implemented stay-at-home orders in successive weeks. Group 0 did not initiate stay-at-home within the sample. Data are plotted on a logarithmic scale. Vertical line denotes the end of the week in which all states in the group implemented stay-at-home. Dotted trend line is the average rate of growth of conformed cases prior to week ending 3/21. Solid line is the trend growth rate prior to implementation of own-group policies.

Figure 4 Impact on Initial Jobless claims of Stay-at-Home Orders by State



Notes: Chart shows the average level of the log of initial jobless claims after implementing a stay-at-home order with 95% confidence bars. Data is a panel of states + District of Columbia by week. All models include state fixed effects and calendar week fixed effects. The regression is weighted by state population. Standard errors are clustered at the state level.

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[17] A data appendix available upon request shows the timing for each state and their group. Group 1 includes California, Illinois, New Jersey and Maryland. Group includes 27 states including New York, Washington, Louisiana, Massachusetts , and Michigan. Group 3 includes 13 states such as Florida and Texas. Group 4 includes Alabama and Missouri. The non-adopters were: Arkansas, Iowa, Nebraska, and the Dakotas.

[18] These data are from Dingel and Neiman downloaded from https://github.com/jdingel/DingelNeiman-workathome on April 17, 2020.

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Five Key Questions State Health Officials Can Ask Right Now to Advance Health Equity During COVID-19 Response Efforts

Tekisha Dwan Everette and Karen Siegel, Health Equity Solutions

Health equity ensures that everyone has the ability to attain optimal health without barriers and without regard to social demographic characteristics such as race, gender, socioeconomic status, or geography. Early evidence suggests there are health disparities based on race, gender, and geography in both the contraction of COVID-19 and deaths related to the virus.[1],[2] People of color and those who live in urban centers are faring worse from this pandemic.[3],[4] These higher rates of illness and death are rooted in longstanding, structural inequities in our country (i.e. structural racism, sexism, and differential investment in urban/suburban/rural areas).[5] While these inequities cannot be fixed overnight, states can begin to foster a more equitable and just COVID-19 response, relief, and recovery effort by employing a few key

guidelines**.** Asking a series of core questions and immediately responding with appropriate action can strengthen initial responses and lay the foundation for broader reforms to advance health equity.

Five Key Questions State Health Officials Can Ask Right Now to Advance Health Equity During COVID-19 Response Efforts

1. Have we identified a person or team of people to apply an equity lens to all our COVID-19 response and recovery efforts?

Embedding an equity monitor in your COVID-19 response ensures that the needs of underserved communities are considered in policy discussions and inform policy decisions. States that have applied an equity frame to their efforts by establishing an official or workgroup focused on equity and/or including a focus on equity in their reopening efforts include Michigan[6], New Jersey[7], and Washington[8]. Effective workgroups leverage community partnerships to ensure policy responses meet the goals and needs of all residents. If your state has not taken this crucial step, identify who can you add to the COVID-19 response, relief, and recovery team(s) to lead this effort. Consider existing positions focused on equity such as: Health Equity Officer/Director, Office of Minority Health, or Statewide Public Health Association.

2. Have we identified vulnerable populations and targeted outreach and interventions specifically to those populations, employing national culturally and linguistically appropriate services standards (CLAS)?[9]

This may seem obvious, but it is often overlooked. How well are communication and outreach strategies reaching all of the state's residents? Language access and sources of trusted information vary by community. For example, outreach to immigrant communities might focus on allaying fears about seeking testing or treatment.[10] Further, some communications tools may fail to reach certain populations: e.g. people who do not have access to cars are less likely to see highway billboards. Tailoring messages to address language needs, literacy levels, and community-specific concerns are important considerations to ensure effective dissemination of information to all communities.

3. Have we issued any guidelines that foster health inequity?

Guidance on treatment and testing may inadvertently exacerbate inequities. For example, risk assessments that are used to target care and are based on claims data or comorbidities exacerbate disparities in access to care because groups with less access have fewer claims and higher rates of chronic disease.[11] For example, state

issued guidelines regarding who gets ventilator treatment in a time of scarce resources may have civil rights implications for communities that are already at higher risk of death from comorbidities.[12],[13] Further, testing structures that are not fully accessible or equitable in distribution of resources can limit testing of people who have limited mobility, who live far from testing sites, or who lack transportation.

4. Are we collecting, analyzing, reporting, and using demographic data for COVID-19 testing, hospitalizations, and deaths?

Consistently disaggregating data by race, gender, and geography provides the best view of who, how, and where individuals and communities are experiencing the COVID-19 pandemic. Disaggregated data illuminates disproportionate impact, unmet needs, and provides a pathway to equitable strategies to address the needs accordingly. The disaggregated data should be publicly reported and used in decision-making and it should include all testing data (i.e. test issued and positive tests), hospitalizations, and deaths.[14] Reporting this data regularly provides state residents, philanthropy, and community-based organizations timely information on how to target their response efforts. It is most helpful to present the data in easily accessible and digestible formats such as data dashboards and other visualizations (https://www.shadac.org/news/state-covid-19-data-dashboards-state-health-value-strategies).

5. Have we maximized existing community health and lay health worker mechanisms and funding strategies to address gaps in outreach to vulnerable populations?

Successful contact tracing requires access to hard-to-reach communities. In Massachusetts,[15] community health workers, who are often from the communities they serve, are being engaged in the state's contact tracing strategy. Other existing work forces such as peer support providers and census workers could also be mobilized to engage in contact tracing in communities that may be hesitant to interact with government or health systems.

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Larger, Longer-Lasting Increases in Federal Medicaid Funding Needed to Protect Coverage

By Aviva Aron-Dine, Jessica Schubel, Judith Solomon, Matt Broaddus, and Kyle Hayes

Medicaid is central to the health care system's response to the current public health and economic crises. Millions more people will likely enroll in Medicaid in coming months because of the recession, the large majority of whom would otherwise become uninsured. For example, Urban Institute researchers estimate Medicaid enrollment will increase by 8 to 14 million people (16 to 29 percent) if unemployment climbs to 15 percent, consistent with estimates from the Congressional Budget Office (CBO) and other forecasters. Medicaid programs are also incurring other additional costs because of COVID-19, including new investments to protect enrollees and help physicians, hospitals, and other health care providers respond to the crisis.

The growing need for Medicaid coverage and services coincides with an unprecedented state budget crisis. Based on current economic forecasts, state budget shortfalls will total about $650 billion over the next several years, even larger than during the Great Recession. During past budget crises, states restricted Medicaid eligibility, including for seniors, people with disabilities, and pregnant women; made it harder for eligible people to get and stay covered; eliminated or cut key benefits; and cut payments to physicians, hospitals, nursing homes, and other providers. Under current circumstances, such cuts would not only worsen low-income people's access to care, health, and financial security, but also would undermine the response to COVID-19.

To protect health coverage, policymakers need to substantially increase the federal government's share of total Medicaid costs (the federal medical assistance percentage, or FMAP). The Families First Coronavirus Response Act took a useful first step, modestly raising the FMAP for the duration of the official public health emergency and incorporating maintenance-of-effort (MOE) protections that keep states from imposing new eligibility restrictions or terminating coverage while receiving the extra federal funds. But the Families First provision is inadequate in three respects:

- **It provides far less funding than states need.** Its 6.2 percentage-point FMAP increase is much less than federal policymakers provided during the Great Recession and too small to significantly discourage Medicaid cuts or encourage investments to address COVID-19. Together, the Families First FMAP funding and other flexible state fiscal relief in the subsequent Coronavirus Aid, Relief, and Economic Security (CARES) Act will fill only a small fraction of projected state shortfalls.

- **It will end too soon.** The downturn will likely continue well beyond the official public health emergency, with CBO now projecting that unemployment will still stand at 9.5 percent at the end of 2021. That means states will likely still face large budget shortfalls — and intense pressure to cut Medicaid — when the Families First funding and coverage protections end.
- **It does not apply to enrollees covered through the Affordable Care Act (ACA) Medicaid expansion.** That's a serious problem because states that have expanded Medicaid will see much larger enrollment increases during the downturn and will likely incur higher costs related to COVID-19.

In its next COVID-19 response bill, Congress should include additional FMAP increases that, as the bipartisan National Governors Association has urged: (1) automatically adjust to meet need based on the depth of the downturn; (2) continue until the labor market (and thus state budgets) have truly recovered; and (3) apply to costs incurred for people covered through Medicaid expansion. Additional FMAP increases should also incorporate strong MOE protections for beneficiaries. The FMAP proposal in the Take Responsibility for Workers and Families Act (H.R. 6379), which House leaders introduced on March 23, meets all these principles; Congress should quickly adopt this or a similar policy.

Additional FMAP increases are needed even if Congress also provides other forms of state fiscal relief, as it should. Unlike other federal aid to states, FMAP increases protect health coverage by reducing states' cost per dollar of Medicaid spending, incorporating MOE protections, and automatically providing more funding when Medicaid enrollment or costs increase more than expected. So while Congress can address state budget shortfalls using a variety of mechanisms, a substantial portion of the needed assistance should come in the form of additional FMAP increases.

Medicaid Is Crucial to COVID-19 Response

Strong and effective state Medicaid programs are crucial to addressing COVID-19. But Medicaid programs are under strain, incurring additional costs due to the economic and public health crises.

Medicaid Will Cover Millions Who Would Otherwise Become Uninsured

As people lose their jobs or experience income declines in coming months, Medicaid will grow to meet need, preventing millions of people from becoming uninsured. Sharp spikes in uninsured rates would be harmful at any time — creating financial hardship, keeping people from accessing needed care, and costing lives. But under current circumstances, rising uninsured rates would also undermine the public health response to the virus, since uninsured people with COVID-19 symptoms may be afraid to seek testing or treatment that they worry they cannot afford, delaying detection of new cases.[1]

[1] The Trump Administration has proposed to cover hospital costs for uninsured people receiving COVID-19 treatment using a portion of the $100 billion in hospital funding Congress provided in the CARES Act. For a discussion of why this is no substitute for comprehensive coverage, see Christen Linke Young *et al.,* "Responding to COVID-19: Using the CARES Act's Hospital Fund to Help the Uninsured, Achieve Other Goals," *Health Affairs,* April 11, 2020, https://www.healthaffairs.org/do/10.1377/hblog20200409.207680/full/.

Bipartisan State Calls for Additional Medicaid Funding

State policymakers on a bipartisan basis have urged Congress to provide additional FMAP increases, on top of the modest increase in the Families First Act.

- National Governors Association. "As noted in our previous supplemental request letter, governors continue to seek a temporary increase in Federal Medical Assistance Percentages (FMAP) from 6.2 percent to 12 percent, to help address the needs of Americans who have lost their jobs and employer-sponsored health insurance due to COVID-19. This increase should apply to states and territories that expanded Medicaid. The temporary 6.2 percent FMAP increase in the Families First Coronavirus Response Act (Pub. L. 116-127), is half of the average 12 percent FMAP increase states received from the 2009 Recovery Act. Governors request that the 12 percent FMAP be retroactive to Jan. 1, 2020, and remain until Sept. 30, 2021, regardless of unemployment conditions. After Sept. 30, 2021, the 12 percent FMAP increase should not be reduced until the national unemployment rate falls below 5 percent. Governors also request additional FMAP increases be determined based on the increase in a state's unemployment rate" [emphasis added].[a]
- National Association of State Medicaid Directors. "The 6.2 percentage point FMAP increase in the Families First Coronavirus Response Act (FFCRA) is a helpful step for bringing fiscal relief to states. . . . However, states will experience unprecedented increases in enrollment applications as newly unemployed individuals turn to Medicaid for health insurance. States have never experienced as sudden shock in unemployment in such a short timeframe as they are experiencing today. . . . An additional FMAP enhancement is necessary to provide states with the fiscal support necessary to meet these increased demands on the Medicaid program. . . . These enhancements should extend beyond the COVID-19 national emergency, as the program's heightened needs will not be directly tied to COVID-19."[b]
- American Public Human Services Association (association representing state and local health and human services agencies). "Increase the Federal Medical Assistance Percentage (FMAP) up to at least 12% and extend the increase beyond the public health emergency to absorb increased demand for services during the economic recovery . . . and phase out the increase gradually over time based on economic conditions."[c]

a National Governors Association, April 21, 2020, https://www.nga.org/policy-communications/letters-nga/governors-letter-regarding-covid-19-aid-request/.

b National Association of Medicaid Directors, April 13, 2020, https://medicaiddirectors.org/wp-content/uploads/2020/04/NAMD-Medicaid-Requests-for-COVID-19-Legislation.pdf.

c American Public Human Services Association, April 10, 2020, https://files.constantcontact.com/391325ca001/7e59b34b-1e83-433e-82bd-4522dff54285.pdf.

CBO projects that the unemployment rate will peak at 16 percent in the third quarter of this year, while Goldman Sachs projects it will reach 15 percent.[2] Urban Institute researchers project that an unemployment rate of 15 percent would result in an additional 8 to 14 million people enrolling in

[2] Phill Swagel, "CBO's Current Projections of Output, Employment, and Interest Rates and a Preliminary Look at Federal Deficits for 2020 to 2021," Congressional Budget Office, April 24, 2020, https://www.cbo.gov/publication/56335 and Goldman Sachs, "Reopening the Economy," April 15, 2020.

Medicaid, a 16 to 29 percent increase.[3] Over 40 percent of the additional enrollees are expected to be children.

Individual states are already seeing large increases in Medicaid applications or enrollment, even though Medicaid applications typically lag behind applications for unemployment benefits (which started surging in mid-March). Arizona, Hawaii, Nevada, Ohio, Utah, and Washington have reported spikes in applications or enrollment in late March or early April.[4]

A large body of research finds that most people who enroll in Medicaid, even when the economy is stronger, would otherwise have been uninsured.[5] This is likely even more true during a deep recession, when fewer people have coverage available through an employer.

Medicaid Covers Many of Those at Elevated Risk From COVID-19

While Medicare is the primary source of acute care coverage for seniors, Medicaid still covers many of those at greatest risk from COVID-19. As of 2019, it provided health coverage to about 10 million adults aged 50 to 64, and it covers millions of younger people with underlying health conditions that increase their risk from COVID-19.

Medicaid also covers Medicare premiums and cost sharing, nursing home care, and/or home- and community-based services (HCBS), such as home health aides and personal care assistants, for millions of seniors. HCBS are especially important during the current public health crisis since they help seniors and people with disabilities remain in their homes, where they are generally safer from the virus than in nursing homes. But providing these services is also unusually challenging under current circumstances, with health care workers struggling to keep themselves, their clients, and their families safe.[6]

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[3] Bowen Garrett and Anuj Gangopadhyaya, "How the COVID-19 Recession Could Affect Health Insurance Coverage," Urban Institute, May 2020, https://www.rwjf.org/en/library/research/2020/05/how-the-covid-19-recession-could-affect-health-insurance-coverage.html.

[4] See Arizona Health Care Cost Containment System, "AHCCCS Population Highlights: April 2020," https://www.azahcccs.gov/Resources/Downloads/PopulationStatistics/2020/Apr/AHCCCSPopulationHighlights.pdf; Shefali Luthra, Phil Galewitz, and Rachel Bluth, "'The pandemic is like a punch in the mouth:' Medicaid faces new challenges amid US coronavirus outbreak," Kaiser Health News, April 3, 2020, https://www.usatoday.com/story/news/health/2020/04/02/coronavirus-medicaid-storm-unemployed-us-money-health/5119126002/; Hawaii News Now, "Applications for food stamps, Medicaid soar as layoffs mount in Hawaii," April 9, 2020, https://www.hawaiinewsnow.com/2020/04/06/applications-food-stamps-medicaid-soar-layoffs-mount-hawaii/; Catherine Candisky, "Coronavirus puts Ohio's safety nets to the test," *Columbus Dispatch,* April 6, 2020, https://www.dispatch.com/news/20200406/coronavirus-pandemic-puts-ohiorsquos-safety-nets-to-test; and Simone Del Rosario, "State Medicaid agency expecting tidal wave of applicants in coming weeks," Q13 Fox, April 8, 2020, https://q13fox.com/2020/04/08/state-medicaid-agency-expecting-tidal-wave-of-applicants-in-coming-weeks/.

[5] Aviva Aron-Dine, "Eligibility Restrictions in Recent Medicaid Waivers Would Cause Many Thousands of People to Lose Coverage," Center on Budget and Policy Priorities, August 9, 2018, https://www.cbpp.org/research/health/eligibility-restrictions-in-recent-medicaid-waivers-would-cause-many-thousands-of.

[6] See, for example: Alice Miranda Ollstein and Joanne Kenen, "Disabled, elderly going without home care amid shortage of protective gear and tests," *Politico,* May 2, 2020, https://www.politico.com/news/2020/05/03/home-care-coronavirus-229723.

Medicaid Programs Are Responding to COVID-19

Many state Medicaid programs are proposing or implementing new policies to respond to COVID-19 and maintain access to physical and behavioral health care during the public health crisis. While some of these policies are low cost, others are expensive to implement. States are:[7]

- **Expanding or strengthening HCBS for seniors and people with disabilities,** for example by temporarily expanding services and supplies such as home-delivered meals and adaptive technology (19 states); expanding settings where HCBS may be provided, such as hotels, schools, churches, and temporary shelters (34 states); increasing payment rates (19 states); providing retainer payments to help keep HCBS providers from reducing services (30 states); waiving service limits and prior authorizations (27 states); and paying family caregivers (25 states).
- **Making it easier to enroll in coverage during the public health crisis,** for example by accepting self-attestation for all eligibility criteria (11 states); allowing people living temporarily out of state due to the public health emergency to retain state residency (8 states); adopting a simplified/streamlined application (3 states); and expanding presumptive eligibility (which lets providers and other qualified entities temporarily enroll people who appear eligible for Medicaid) to seniors and people with disabilities (5 states).
- **Making coverage and care more affordable,** for example by eliminating copayments and other cost-sharing charges (14 states) as well as premiums (13 states).
- **Making it easier for people to get their prescription drugs,** for example by allowing early refills (34 states); increasing the maximum supply or quantity limit of certain drugs (34 states); and making changes to preferred drug lists (12 states).
- **Allowing beneficiaries to skip unnecessary trips to the doctor,** for example by suspending (42 states) or extending (36 states) prior authorizations for health care services and items through the end of the public health emergency.
- **Expanding telehealth capacity for physical and behavioral health care,** for example by conducting virtual HCBS evaluations and person-centered planning meetings (35 states); paying some telehealth services at the same rate as face-to-face visits (39 states); waiving or reducing copayments for telehealth services (20 states); and giving providers more flexibility to provide telehealth services (all states, including the District of Columbia).
- **Expanding or strengthening their health workforce,** for example by increasing payment rates and supplemental payments to certain providers (11 states); making it easier for out-of-state providers to enroll in their Medicaid programs (48 states); and allowing providers to offer health care services in alternative settings, including unlicensed facilities (40 states).

Without More Federal Help, Many States Will Likely Cut Medicaid

[7] For a list of approved state policies, see Kaiser Family Foundation, "Medicaid Emergency Authority Tracker: Approved State Actions to Address COVID-19," accessed on May 4, 2020, https://www.kff.org/medicaid/issue-brief/medicaid-emergency-authority-tracker-approved-state-actions-to-address-covid-19/.

Without additional, longer-lasting federal assistance, many states will likely cut Medicaid or shortchange needed investments to respond to COVID-19, leading people to lose coverage or access to critical services during the public health and economic crises.

Growing Medicaid Needs Coincide With Unprecedented State Budget Crisis

Forecasters now project that the current downturn will be deeper than the Great Recession, and the labor market will likely take several years to recover. CBO, for example, projects that unemployment will reach 16 percent in the third quarter of this year, average 10 percent in 2021, and remain at 9.5 percent at the end of 2021.[8] Goldman Sachs projects that the unemployment rate will reach 15 percent later this year and remain elevated into 2022.[9]

A downturn this severe will create massive budget challenges for states. Based on the historical relationship between unemployment and state revenues and safety net program costs, a 1-percentage-point increase in the national unemployment rate corresponds to a roughly $45 billion deterioration in state budgets.[10] That means states would expect to see shortfalls of about $650 billion through state fiscal year 2022, based on the CBO and Goldman Sachs forecasts — a budget crisis even worse than they faced during the Great Recession and much worse than following the 2001 recession.[11] (See Figure 1.)

[8] Swagel, *op. cit.*

[9] Goldman Sachs, *op. cit.*

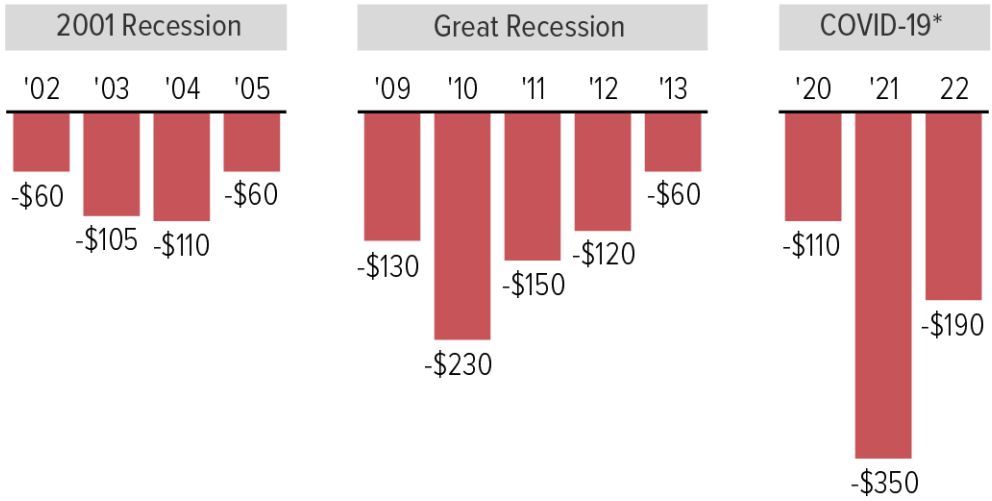
[10] Matthew Fiedler and William Powell III, "States Will Need More Fiscal Relief: Policymakers Should Make That Happen Automatically," Brookings Institution, April 2, 2020, https://www.brookings.edu/blog/usc-brookings-schaeffer-on-health-policy/2020/04/02/states-will-need-more-fiscal-relief-policymakers-should-make-that-happen-automatically/.

[11] In most states, fiscal year 2022 ends June 30, 2022. Michael Leachman, "New CBO Projections Suggest Even Bigger State Shortfalls," Center on Budget and Policy Priorities, April 29, 2020, https://www.cbpp.org/blog/new-cbo-projections-suggest-even-bigger-state-shortfalls.

FIGURE 1

COVID-19 State Budget Shortfalls Could Be Largest on Record

Total shortfall in each fiscal year, in billions of 2020 dollars



* Estimates based on CBPP calculations using Congressional Budget Office and Goldman Sachs unemployment estimates. Does not reflect use of rainy day funds or federal aid already enacted.

Source: CBPP survey of state budget offices (through 2013); CBPP calculations (2020-2022)

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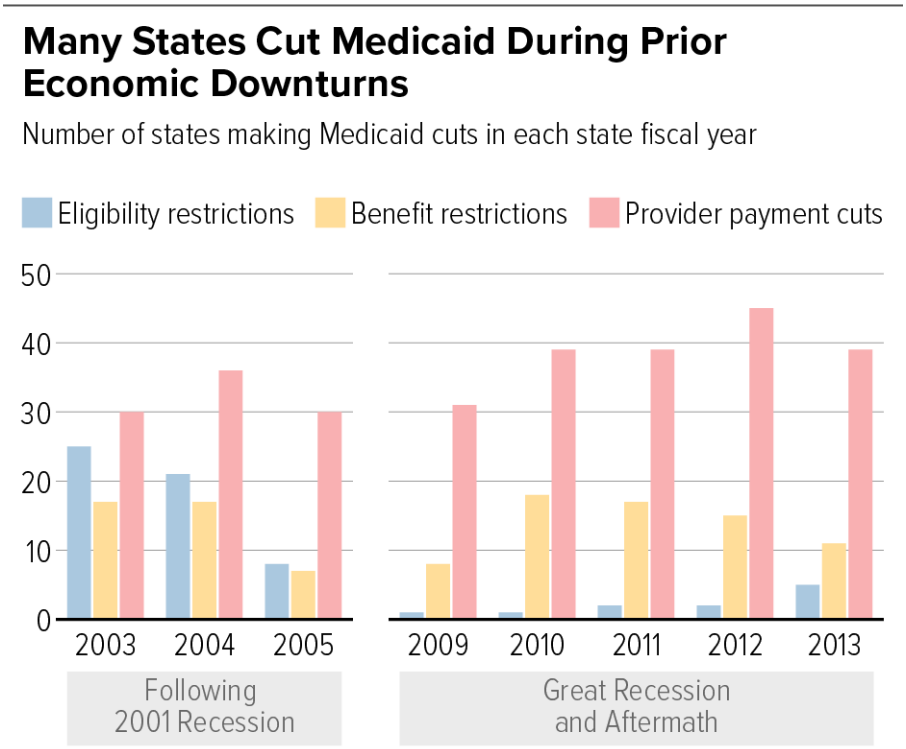
Moreover, these estimates are based on the relationship between unemployment and state budgets during prior recessions. They do not include the additional costs states will incur to respond to COVID-19, and they may understate the drop in sales tax revenues states will see in this recession due to social distancing.

Past Budget Shortfalls Led to Harmful Medicaid Cuts

During past downturns, states have responded to shortfalls in part through harmful Medicaid cuts. Even states that usually are strongly committed to maintaining and expanding health coverage have cut Medicaid when they faced severe budget pressures. Notably, however, states made many fewer Medicaid eligibility cuts during the Great Recession than in the much smaller 2001 downturn, largely due to timely, significant FMAP increases that included MOE protections. (See Figure 2.)[12]

[12] Data on number of states making cuts to benefits and provider payments are from Laura Snyder and Robin Rudowitz, "Trends in State Medicaid Programs: Looking Back and Looking Ahead," Kaiser Family Foundation, June 21, 2016, https://www.kff.org/medicaid/issue-brief/trends-in-state-medicaid-programs-looking-back-and-looking-ahead/view/print/. Data on number of states restricting eligibility are from annual Kaiser Family Foundation Medicaid budget surveys, https://www.kff.org/medicaid/report/medicaid-budget-survey-archives/.

FIGURE 2



Note: Graph shows years in which states faced significant budget shortfalls during and following recessions; data for 2002 are not available.

Source: Kaiser Family Foundation

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Many States Cuts Eligibility, Benefits, and Provider Payments During Early 2000s

Following the 2001 downturn, the federal government did not provide additional Medicaid funding or other state fiscal relief until almost two years into the state budget crunch; even then, the assistance was modest. As Figure 1 shows, state budget shortfalls in the early 2000s were far smaller than those now projected for the next few years. Still, states made significant Medicaid cuts, including:[13]

- **Eliminating coverage for "optional" enrollees states were not required to cover under federal law.** For example, Colorado and Texas restricted eligibility for pregnant women; Connecticut, Kansas, Kentucky, Massachusetts, Missouri, Nebraska, New Jersey, North Carolina, North Dakota, South Carolina, and Texas restricted eligibility for parents; Florida, Kentucky, Louisiana, Massachusetts, North Dakota, Oklahoma, Oregon, and Wisconsin

[13] Examples of state Medicaid cuts in the early 2000s are from Leighton Ku and Sashi Nimalendran, "Losing Out: States Are Cutting 1.2 to 1.6 Million People from Medicaid, SCHIP, and Other State Health Insurance Programs," Center on Budget and Policy Priorities, December 22, 2003, https://www.cbpp.org/sites/default/files/atoms/files/12-22-03health.pdf; and Vernon Smith *et al.,* "States Respond to Fiscal Pressure: State Medicaid Spending Growth and Cost Containment in Fiscal Years 2003 and 2004," Kaiser Commission on Medicaid and the Uninsured, September 2003, https://www.kff.org/wp-content/uploads/2013/01/states-respond-to-fiscal-pressure-state-medicaid-spending-growth-and-cost-containment.pdf.

restricted eligibility for seniors and people with disabilities; and Alabama, Alaska, Colorado, Florida, Maryland, Montana, Tennessee, and Utah restricted eligibility for children covered through Medicaid or the Children's Health Insurance Program (CHIP).[14]

- **Imposing additional premiums and cost sharing.** For example, Arkansas, Kentucky, Maryland, Massachusetts, Oregon, Rhode Island, Texas, Vermont, and Wisconsin imposed or increased premiums for adults or children covered through Medicaid or CHIP. Many states also imposed new or higher copayments. Extensive research has shown that premiums significantly reduce low-income people's participation in health coverage, while cost sharing deters use of needed care.[15]
- **Making it harder for eligible people to get or stay covered.** For example, Arizona, California, Connecticut, Indiana, Nebraska, Texas, and Washington shifted from reassessing eligibility for either adults or children every 12 months to every six months. The Centers for Medicare & Medicaid Services later concluded that with more frequent redeterminations, "many eligible beneficiaries lose coverage at renewal for procedural reasons, only to reapply and to regain eligibility, soon after losing coverage."[16]
- **Dropping coverage for "optional" benefits they were not required to cover under federal law.** For example, 16 states eliminated or restricted dental coverage for adults; states also eliminated or restricted vision coverage and made cuts to HCBS.[17]
- **Cutting payments to providers.** Nearly all states cut or froze Medicaid payment rates for at least some providers: physicians, hospitals, and/or nursing homes.

FMAP Increases During Great Recession Helped Mitigate Cuts

While the Great Recession led to much deeper state budget shortfalls than the 2001 recession, few states made cuts to eligibility levels — the direct result of additional federal Medicaid funding and the beneficiary protections that came with it. The 2009 Recovery Act increased state FMAPs by about 10 percentage points, on average, from October 1, 2008 through December 31, 2010 (with a peak increase of 11 percentage points), and relief was subsequently extended through June 30, 2011. The accompanying MOE protections prevented states from introducing more restrictive eligibility requirements.

Without the additional funds, "[most states] could not have continued to support the substantial Medicaid enrollment growth they have experienced," the Government Accountability Office (GAO) found, adding that the funds "were integral to maintaining current eligibility levels, benefits, and

[14] Eligibility restrictions took various forms. For example, some states lowered income limits or otherwise narrowed eligibility criteria, some froze enrollment for optional groups, and several eliminated transitional Medicaid coverage for parents existing cash assistance programs or coverage for "medically needy" seniors and people with disabilities with incomes above eligibility levels but very high medical costs.

[15] Samantha Artiga, Petry Ubi, and Julia Zur, "The Effects of Premiums and Cost Sharing on Low-Income Populations: Updated Review of the Findings," Kaiser Family Foundation, June 1, 2017, https://www.kff.org/medicaid/issue-brief/the-effects-of-premiums-and-cost-sharing-on-low-income-populations-updated-review-of-research-findings/.

[16] Centers for Medicare & Medicaid Services, "CMS-2349-P: Medicaid Program; Eligibility Changes Under the Affordable Care Act of 2010," August 17, 2011, https://www.govinfo.gov/content/pkg/FR-2011-08-17/pdf/2011-20756.pdf.

[17] Snyder and Rudowitz, *op. cit.*

services and to avoiding further program reductions."[18] Similarly, Kaiser Family Foundation researchers found that Recovery Act funding and MOE protections largely prevented states from adopting the types of eligibility restrictions they introduced during the previous downturn and mitigated other cuts.[19] For example, 36 states said the additional federal funding helped them avoid or limit benefit cuts for fiscal year 2009 (and 37 states for 2010), while 38 states said it helped them avoid or limit cuts to provider payments for 2009 (35 states for 2010).[20] And a study by the American Association of Retired Persons (AARP) concluded that the Recovery Act FMAP increase helped protect HCBS from cuts in many states, although growth in HCBS still slowed during the state budget crisis, according to the Kaiser study.[21]

But the additional Medicaid funding, coupled with other state assistance, fell well short of filling state budget gaps, and, as Figure 2 shows, states still adopted cuts that the MOE allowed.[22] Many states, for example, eliminated or reduced coverage for "optional" benefits or services, such as adult dental coverage. States also cut costs by making it harder for people to enroll, such as by laying off or freezing hiring of eligibility workers, which led to backlogs as the number of people urgently needing coverage rose. And the large majority of states froze or cut provider reimbursement rates.

States Now Considering Deep Budget Cuts

Large budget shortfalls are already emerging and beginning to drive budget decisions in many states.[23] A number of governors have instructed state agencies to plan for large, across-the-board cuts, including Medicaid cuts. States have also imposed broad hiring freezes, which could lead to delays in processing applications for Medicaid and other needed assistance.[24]

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[18] Government Accountability Office, "One Year Later, States' and Localities' Use of Funds and Opportunities to Strengthen Accountability," March 3, 2010, https://www.gao.gov/products/GAO-10-437.

[19] Snyder and Rudowitz, *op. cit.*

[20] Vernon K. Smith *et al.,* "Hoping for Economic Recovery, Preparing for Health Reform: A Look at Medicaid Spending, Coverage, and Policy Trends," Kaiser Commission on Medicaid and the Uninsured, September 2010, https://www.kff.org/wp-content/uploads/2013/01/8105.pdf.

[21] AARP Public Policy Institute, "Weathering the Storm: The Impact of the Great Recession on Long-Term Services and Supports," September 27, 2020, https://assets.aarp.org/rgcenter/ppi/ltc/2010-10-hma-nasuad.pdf.

[22] Examples of state Medicaid cuts during the Great Recession are from January Angeles and Judith Solomon, "Recession Threatens State Health Care Programs," Center on Budget and Policy Priorities, March 4, 2010, https://www.cbpp.org/research/recession-threatens-state-health-care-programs and Snyder and Rudowitz, *op. cit.*

[23] Center on Budget and Policy Priorities, "States Grappling With Hit to Tax Collections," updated May 4, 2020, https://www.cbpp.org/research/state-budget-and-tax/states-start-grappling-with-hit-to-tax-collections.

[24] See, for example: Antonio Olivo, Erin Cox, and Gregory S. Schneider, "Hogan freezes non-coronavirus spending, seeks broad cuts as pandemic's grip on region grows," *Washington Post,* April 10, 2020, https://www.washingtonpost.com/local/hogan-freezes-non-coronavirus-spending-orders-broad-cuts-amid-pandemic/2020/04/10/6102de7e-7b32-11ea-9bee-c5bf9d2e3288_story.html; Jackie Valley and Riley Snyder, "Sisolak asks state agencies to prepare for up to $687 million in budget cuts," *Nevada Independent,* April 3, 2020, https://thenevadaindependent.com/article/sisolak-asks-state-agencies-to-prepare-for-up-to-687-million-in-budget-cuts; Dan Boyd, "State hiring freeze likely first of many budget cuts," *Albuquerque Journal*, April 24, 2020, https://www.abqjournal.com/1447131/state-hiring-freeze-first-of-many-likely-budget-cuts-ex-governor-were-going-to-have-to-reduce-expenditures.html; Jacob Fisher, "DeWine enacts hiring freeze, eyes $14 billion cut to state budget," *Cincinnati Business Courier,* March 23, 2020, https://www.bizjournals.com/cincinnati/news/2020/03/23/dewine-enacts-hiring-freeze-eyes-14-billion-cut-to.html; Andy Sher, "Tennessee imposes state hiring, purchasing freeze amid coronavirus," *Chattanooga Times Free Press,* April 27, 2020,

The Families First FMAP provision gives Medicaid some protection from budget cuts by modestly reducing the state cost of each dollar of Medicaid spending and (through its MOE protections) preventing states from introducing new eligibility restrictions or terminating people's coverage while the higher FMAP is in place. But without more federal help, states will likely address their budget shortfalls by making it harder for eligible people to enroll, eliminating or restricting optional Medicaid services, or cutting provider payments.

Some of these cuts may be especially problematic for responding to COVID-19:

- Cuts to eligibility staff, call centers, or offices that create application backlogs and delay access to coverage could delay testing and treatment for COVID-19, impeding efforts to monitor the spread of the virus and quarantine those infected.
- HCBS will likely be a particular target for cuts since they are the largest category of optional services in Medicaid. As noted above, seniors and people with disabilities are particularly vulnerable to COVID-19 and are likely safer in their homes than in nursing homes. Cuts to HCBS could force some into nursing homes and leave others without needed care.
- Cuts to Medicaid provider payment rates could compound the financial challenges already facing physicians, hospitals, behavioral health providers, home health workers, and others.[25]

Meanwhile, if the Families First FMAP increase, and with it the MOE protections, end as scheduled at the end of the public health emergency — with unemployment still elevated and state budgets still in crisis — then states would likely also cut eligibility, as they did in the early 2000s.

Additional, Longer-Lasting FMAP Increases Needed

The next COVID-19 response legislation should include additional, longer-lasting FMAP increases, which are needed to protect coverage even if Congress also provides other forms of state fiscal relief, as it should.

Assistance Provided to Date Is Inadequate

The Families First FMAP increase will provide states with about $40 billion in funding for each full year it is in effect, and the CARES Act provided only about $30 billion in flexible funding to help states offset declining revenues and increased demand for Medicaid and other safety net programs.[26] The CARES Act provided another $110 billion to states, but subsequent guidance from Treasury barred states from using the funds to cover their revenue shortfalls. For comparison, states

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https://www.timesfreepress.com/news/local/story/2020/apr/27/tennessee-imposes-state-hiring-purchasing-fre/521634/; and Alan Suderman, "Virginia Governor Orders Hiring Freeze; Agency Heads to Look for Cuts," NBC News, April 4, 2020, https://www.nbcwashington.com/news/local/virginia-governor-orders-hiring-freeze-agency-heads-to-look-for-cuts/2262982/.

[25] See, for example, Martha Bebinger, "COVID-19 Hits Some Health Care Workers with Pay Cuts and Layoffs," National Public Radio, April 2, 2020, https://www.npr.org/sections/health-shots/2020/04/02/826232423/covid-19-hits-some-health-care-workers-with-pay-cuts-and-layoffs.

[26] Elizabeth McNichol, Michael Leachman, and Joshuah Marshall, "States Need Significantly More Fiscal Relief to Slow the Emerging Deep Recession," Center on Budget and Policy Priorities, April 14, 2020, https://www.cbpp.org/research/state-budget-and-tax/states-need-significantly-more-fiscal-relief-to-slow-the-emerging-deep.

face about $650 billion in projected shortfalls through the end of their 2022 fiscal year, as discussed above.

The Families First FMAP increase is inadequate in several respects:

- **It is too small.** The 6.2 percentage-point increase has only a modest impact on states' cost per dollar of Medicaid spending, and thus only a modest impact on their incentives to maintain Medicaid. During the Great Recession, Congress ultimately increased the average state FMAP by almost twice as much.
- **It is slated to end too soon,** at the end of the quarter in which the Secretary of Health and Human Services declares the end of the official public health emergency. While the COVID-19 public health crisis seems likely to persist for some time, the economic crisis — and with it, the state budget crisis — will likely last longer, with forecasters projecting high unemployment through 2021 and beyond. If the FMAP increase ends prematurely, the MOE protections will end with it, and so if states still face large budget shortfalls, they will likely cut Medicaid eligibility.
- **It does not apply to ACA expansion enrollees.** This omission is problematic, because states that expanded Medicaid will offer coverage to far more newly unemployed or newly poor adults than non-expansion states, and so they will likely experience much greater enrollment growth. From 2014 to 2018, Medicaid covered about 36 percent of unemployed adults in expansion states, compared to just 16 percent in non-expansion states.[27] In addition, expansion covers millions of older adults and people with underlying health conditions, and so expansion states will likely also incur greater COVID-19 treatment costs. While the federal government covers 90 percent of expansion costs, enrollment growth and COVID-19 treatment costs will still increase state expenditures.

Increase Should Respond to Need and Protect Coverage

Policymakers should adopt additional FMAP increases that: (1) continue until the economy has truly recovered; (2) automatically scale up or down based on the extent of the downturn; and (3) apply to people covered through Medicaid expansion — principles endorsed by the bipartisan National Governors Association. (See box.) Equally important, additional FMAP increases should continue strong MOE protections along the lines of those in Families First, which are critical to preventing Medicaid eligibility cuts.[28]

The Take Responsibility for Workers and Families Act (H.R. 6379) includes an FMAP proposal that meets these criteria. Specifically, a state's FMAP — including for expansion enrollees — would increase by 4.8 percentage points for each 1 percentage point of excess unemployment relative to a

[27] Anuj Gangopadhyaya and Bowen Garrett, "Unemployment, Health Insurance, and the COVID-19 Recession," Urban Institute, April 2020, https://www.urban.org/sites/default/files/publication/101946/unemployment-health-insurance-and-the-covid-19-recession_1.pdf.

[28] For a response to criticisms of the Families First Act MOE, see Judith Solomon, Jennifer Wagner, and Aviva Aron-Dine, "Medicaid Protections in Families First Act Critical to Protecting Coverage," Center on Budget and Policy Priorities, April 17, 2020, https://www.cbpp.org/research/health/medicaid-protections-in-families-first-act-critical-to-protecting-health-coverage.

threshold based on the state's past unemployment rates.[29] This policy would be permanent law, and so a state would continue to receive additional federal funding until its unemployment rate returned to normal; states would also receive additional funding in future downturns. The bill's MOE protections would prevent states from adopting new eligibility restrictions and require them to provide enrollees with 12 months of continuous coverage during downturns.

If Congress adopted this policy, it would automatically cover about two-thirds of the state budget shortfalls that result from the downturn. If the downturn proved deeper or longer than expected, states would get more help; if it proved shallower or shorter, they'd get less. This design would also automatically give more help to states hit especially hard by the recession, whether because their economies are especially dependent on affected industries or because they implement longer or more extensive social distancing to keep their residents safe.

Delivering State Aid Through Higher FMAP Protects Health Coverage

The federal government could also deliver state aid that's responsive to economic conditions through a grant program. But it should deliver at least a significant portion of state aid through the FMAP in order to protect health coverage. Unlike other forms of state fiscal relief, FMAP increases:

- **Protect coverage by reducing states' costs per dollar of Medicaid spending.** That is especially important to protect HCBS and other optional benefits, which are likely targets for cuts, as discussed above.
- **Protect coverage through MOE requirements**, which prevent states from cutting eligibility.
- **Incentivize Medicaid investments to respond to the crisis.** By lowering state costs, additional FMAP increases would encourage more states to use Medicaid flexibilities to provide needed services, support health providers, and make it easier to enroll in coverage during the public health crisis.
- **Automatically adjust based on states' costs.** Unlike other forms of state aid, FMAP increases (even without triggers linked to unemployment rates) will provide more funding if a deeper-than-expected recession causes more people to enroll in Medicaid or if states incur higher-than-expected treatment costs related to COVID-19.

[29] Because the match rate for expansion enrollees is already 90 percent, policymakers might consider instead providing extra help to expansion states by giving them a large increase in their base FMAP, rather than applying the FMAP increase directly to the match for expansion enrollees. The FMAP proposal in H.R. 6379 would apply the increase directly to expansion enrollees. In cases where FMAPs would increase above 100 percent (for expansion or other enrollees) it would let states apply excess FMAP to pre-recession quarters so they would still receive fiscal relief while avoiding program integrity concerns.

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How the COVID-19 Recession Could Affect Health Insurance Coverage

Bowen Garrett and Anuj Gangopadhyaya

Timely Analysis of Immediate Health Policy Issues

MAY 2020

Introduction

Thirty million workers filed initial unemployment claims between March 15 and April 25.[1,2] Near-term forecasts suggest the unemployment rate will likely be between 15 to 20 percent by June.[3,4,5] Economic forecasters at S&P expect the unemployment rate to reach 18 percent in May, which they note would be closer to the Depression–era peak of 25 percent in 1933 than the 10 percent peak following the Great Recession.[6] One estimate by the Federal Reserve Bank of St. Louis has suggested the unemployment rate could reach as high as 30 percent.[7] As workers lose their jobs, many will lose their employer-sponsored health insurance (ESI). Many of these workers will newly qualify for Medicaid coverage, particularly in states that expanded Medicaid eligibility under the Affordable Care Act (ACA).[8] Others will purchase individual coverage on the health insurance marketplaces, possibly with a subsidy to offset the premium cost (depending on their income). And some will be unable to replace their ESI coverage and will become uninsured.

In this brief, we estimate how health insurance coverage could change as millions of workers lose their jobs because of the slowdown in economic activity resulting from public health efforts to reduce the spread of the coronavirus. We present national and state-level estimates of coverage changes if unemployment rates rise from precrisis levels (around 3.5 percent nationally) to 15 percent, 20 percent, or 25 percent. We provide this range of unemployment scenarios given the uncertainty around how high unemployment will climb, and because states have different pre-COVID-19 unemployment rates and will likely experience varying levels of economic disruption through the crisis. For each level of unemployment, we provide a base case scenario of coverage changes as well as a high (but also plausible) scenario, derived from two different estimation methods. We present an overview of our methods and main findings in the main body of the paper. We provide further details on our modeling assumptions and discuss uncertainties surrounding the estimates in the appendix.

We find the following:

- An estimated 160 million people under age 65 had ESI coverage before March 2020. If the unemployment rate rises to 20 percent, we estimate that 25 million people will lose their ESI coverage in our base scenario and 43 million would lose ESI in our scenario based on a higher estimate of responsiveness to unemployment rate changes.
- Among those people losing ESI in our base scenario, we estimate that 12 million (47 percent) will gain Medicaid coverage, 6 million (25 percent) will gain coverage through the marketplace or other private plan, and 7 million (29 percent) will become uninsured.
- Among those losing ESI in our high scenario, with 20 percent unemployment we estimate that 21 million will gain Medicaid coverage, 10 million will gain coverage through the marketplace or other private plan, and 12 million will become uninsured.
- Adults make up about 75 percent of people expected to lose ESI coverage in our base scenario but 91 percent of people expected to become uninsured.
- In expansions states, in our base scenario, among people losing ESI, more than half (about 9 million under a 20 percent unemployment rate) are expected to enroll in Medicaid and less than a quarter (nearly 4 million) are expected to become uninsured. In the high scenario with 20 percent unemployment, we estimate that more than 15 million will enroll in Medicaid and more than 6 million will become uninsured.
- In nonexpansion states, in our base scenario, among those losing ESI coverage, about one-third (3 million under a 20 percent unemployment rate) are expected to gain Medicaid coverage while about 40 percent (3.5 million) are expected to become uninsured. In the high scenario with 20 percent unemployment, we estimate that more than 5 million will enroll in Medicaid and nearly 6 million will become uninsured.

All unemployment scenarios indicate that millions of people under age 65 will lose ESI coverage throughout the country. States that have not expanded Medicaid under the ACA will see larger shares of those losing ESI coverage becoming uninsured. Proposed policy recommendations such as temporary

or permanent Medicaid expansions, expanding eligibility for subsidies for marketplace coverage, and providing subsidies for COBRA benefits could help mitigate the rise in uninsurance driven by the pandemic's effects on the economy.[9]

Moreover, our findings indicate that more than half of people estimated to lose ESI coverage in Medicaid expansion states will gain Medicaid coverage. This is the purpose of the Medicaid program, to provide a safety net to people in financial distress, including those with short-term changes in circumstances. However, given that jobless rates may reach unprecedented heights under the COVID-19 pandemic, steep increases in Medicaid coverage will strain state budgets, restricting already limited resources in the very communities hardest hit by the crisis. To help blunt this, current legislation has already enhanced the federal matching rate for Medicaid financing. Still, further increasing the federal matching rate could help provide the critical resources needed to protect the states most in need.[10]

Methods

We estimate changes in health insurance coverage for the United States and each state in three steps. First, we obtain estimates of the labor force situation in each state before March 2020, when the COVID-19 crisis started leading to large increases in unemployment in the United States. Then we use econometric estimates of how ESI rates change with the unemployment rate. The estimates in the base scenario are from individual-level regression models using American Community Survey (ACS) data from 2008–18. Estimates in the high scenario are from a time series model using national ESI and unemployment rates from 1998 to 2018.[11] We compute the number of adults and children in each state expected to lose ESI if the state's unemployment rate rises to 15, 20, or 25 percent. In the last step, given the estimated number losing ESI in each state, we estimate the number of adults and children likely to enroll in Medicaid, obtain marketplace or other private coverage, or become uninsured. Throughout our analysis, we exclude adults ages 65 or older because they are generally eligible for Medicare coverage and as a result their coverage patterns are less likely to change (though some may lose employer-based coverage with Medicare as secondary coverage and shift to having Medicare as primary coverage).

Monthly Current Population Survey data provide us with estimates of the number of employed workers, unemployed workers (i.e., looking for work), and adults not in the labor force in each state. We combine 12 months of Current Population Survey data from March 2019 to February 2020 to obtain estimates of precrisis employment data for each state. With these data, we find that precrisis unemployment rates for nonelderly adults ranged from 4.9 percent in Mississippi to 1.7 percent in North Dakota.

We use the 2017–18 ACS to estimate precrisis health insurance coverage by state for adults and children, pooling two years of data to obtain more precise estimates of coverage within each state. We use coverage types reported in the ACS and edited by the Integrated Public Use Microdata Series to improve comparability of coverage types over time.[12,13] A relatively small number of respondents report multiple types of health insurance coverage, and we classify these cases using the following coverage hierarchy: ESI, Medicare, Medicaid (including CHIP coverage for children), marketplace or other private insurance, and other public insurance.[14] We reweight the ACS data to match population estimates by state and employment status in the more recent Current Population Survey data. Using the reweighted ACS data, we estimate the precrisis number and proportion of adults and children with employer-based coverage.

Using individual-level 2008–18 ACS data matched to state-level unemployment rates for each year from the Bureau of Labor Statistics, we estimate regression models of the probability of having ESI coverage as a function of the contemporaneous state unemployment rate and its one-year-lagged value, controlling individual and family demographic characteristics, state fixed effects, and a linear year trend.[15] We estimate these regression models separately for nonelderly adults and children. Based on these models, we find that a 1 percentage-point increase in the unemployment rate leads to a 0.61 percentage-point decline in the ESI rate for adults and a 0.52 percentage-point decline for children. These sensitivity estimates capture not only the effects of individuals losing their employment and becoming unemployed, but also the effects on coverage of workers leaving the labor market as unemployment rises and of dependents losing coverage along with those workers. Our estimates capture both the immediate effect of rising unemployment on ESI coverage and the later effects that may occur over an adjustment period. What coverage effects ultimately materialize will likely depend on the time path the unemployment rate takes. Our estimates are best interpreted as the coverage levels that would result from unemployment rising to a given level and holding there for several months to a year. Fewer people could lose ESI coverage if the unemployment rate moderates quickly after it peaks.

As we discuss further in the appendix, the ACS-based sensitivity parameters we use are smaller in magnitude than those reported in previous work using pre-ACA data.[16] We obtain alternative updated estimates of the sensitivity parameter using national time series data from 1998-2018, which has the benefit of spanning two recessions. From a time series regression model, we estimate that a 1 percentage-point increase in the unemployment rate leads to a 0.99 percentage point decrease in the ESI rate for adults and children combined, which is a larger effect than the ACS-based estimates with individual-level data, but very similar to estimates from previous work. Accordingly, we produce two sets of estimates. Our first set of estimates (base scenarios) apply the smaller ACS-based ESI sensitivity parameters and may be viewed as conservative. The second set (higher response scenarios) uses the larger ESI sensitivity parameter (applied to both adults and children) that we estimate from time series data. Whereas the ACS models allow us to control for individual-level factors that affect ESI coverage and arguably lead to less-biased estimates of unemployment

rate effects, the time series model draws on a longer period including two recessions in estimating how ESI rates change with unemployment rates.

We obtain estimated changes in ESI rates by multiplying the applicable ESI-unemployment sensitivity estimates by the increase in unemployment rates from precrisis levels. Multiplying the changes in ESI rates by population levels (separately for adults and children) provides the estimated number of individuals losing ESI under different unemployment rates in each state.

As a last step, given the number of adults and children losing ESI, we compute changes in the number of people enrolling in Medicaid, obtaining marketplace or other private coverage, and becoming uninsured. A small share of the population under age 65 has Medicare or other public insurance, and we assume this share remains fixed. We compute the distribution of coverage types by state among adults and children without ESI and apply these rates to the estimated number losing ESI. Idaho, Maine, Utah, and Virginia expanded Medicaid after 2018, the most recent year of ACS data. For these four states, we apply the average coverage distribution for adults and children without ESI in the other 32 expansion states to predict coverage transitions for people losing ESI in these states. Using this approach, states with high ratios of Medicaid coverage to uninsurance (and marketplace/other private coverage to uninsurance) will be estimated to have higher growth in Medicaid (marketplace) coverage as unemployment rates rise. Though our approach assumes people losing ESI will obtain coverage at rates similar to groups already lacking ESI, such people may go uninsured or gain Medicaid/nongroup coverage at higher or lower rates, depending on the composition of those losing their jobs and how they behave. A limitation of our approach is that it does not capture other potential coverage transitions that are not associated with the loss of ESI. Income loss resulting from higher unemployment could, for example, result in some individuals with marketplace coverage enrolling in Medicaid or becoming uninsured. In this situation, our approach would underestimate the total increases in Medicaid enrollment and the uninsured. We discuss our estimation approach and sources of uncertainty further in the appendix.

National Estimates of Coverage Changes under the COVID-19 Recession

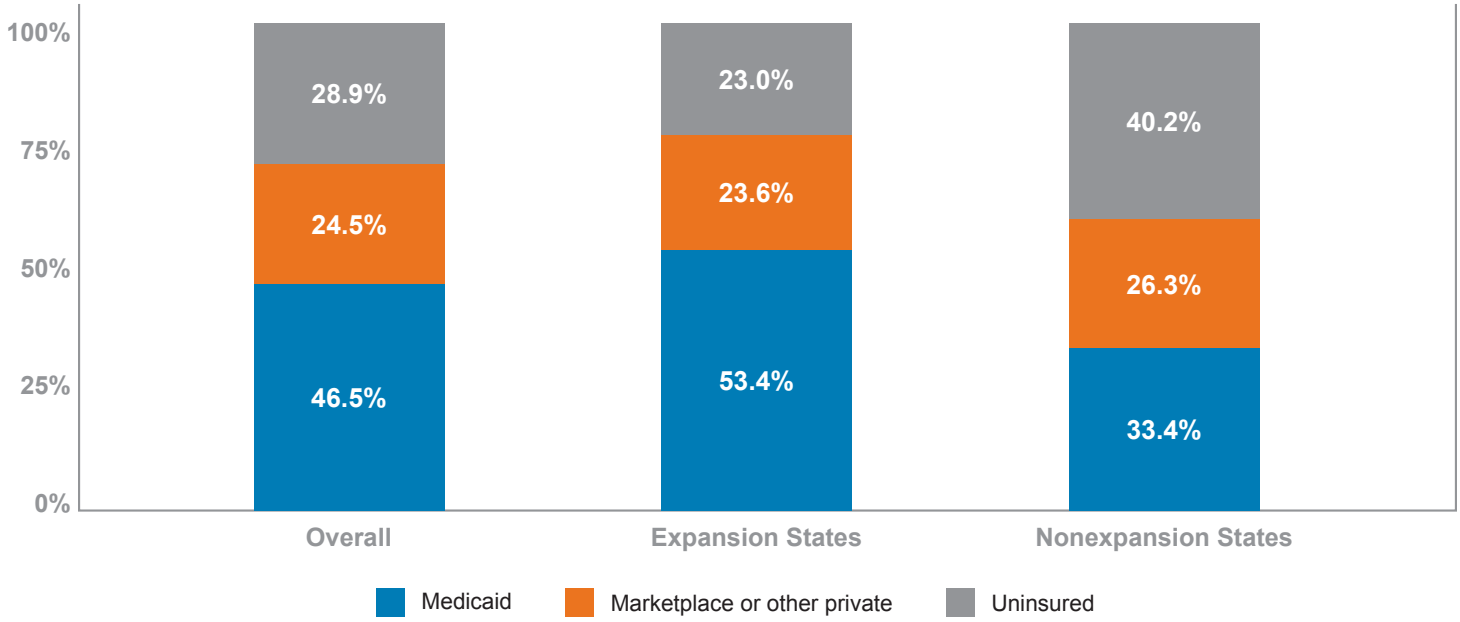
We present national estimates of changes in health insurance coverage under 15, 20, and 25 percent unemployment for our base scenario in the top panel of Table 1. We focus on the estimated changes under a 20 percent unemployment rate. Before the crisis, an estimated 160 million Americans under age 65 had employer-sponsored health insurance. With 20 percent unemployment, we estimate that 25 million people would lose employer-sponsored health insurance. Of these, 11.8 million would gain Medicaid coverage, 6.2 million would gain marketplace or other private coverage, and 7.3 million would become uninsured. The magnitude of these estimates scales with the postcrisis unemployment rate,

Table 1. National Estimates of Changes in Health Insurance Coverage with 15, 20, and 25 Percent Unemployment Rates, Base Scenarios

Coverage type	3.5% (precrisis) Precrisis levels (# of people)	Unemployment rate scenario		
		15% Change	20% Change	25% Change
US TOTALS				
Employer-sponsored insurance	160,282,000	-17,689,000	-25,363,000	-33,037,000
Medicaid	50,339,000	8,225,000	11,798,000	15,371,000
Marketplace or other private insurance	24,538,000	4,348,000	6,229,000	8,109,000
Medicare or other public insurance	7,474,000	0	0	0
Uninsured	28,415,000	5,116,000	7,336,000	9,557,000
EXPANSION STATES				
Employer-sponsored insurance	108,114,000	-11,606,000	-16,653,000	-21,699,000
Medicaid	35,737,000	6,191,000	8,887,000	11,583,000
Marketplace or other private insurance	15,129,000	2,745,000	3,934,000	5,123,000
Medicare or other public insurance	4,599,000	0	0	0
Uninsured	14,246,000	2,670,000	3,832,000	4,993,000
NONEXPANSION STATES				
Employer-sponsored insurance	52,169,000	-6,084,000	-8,711,000	-11,337,000
Medicaid	14,602,000	2,034,000	2,911,000	3,788,000
Marketplace or other private insurance	9,409,000	1,604,000	2,295,000	2,986,000
Medicare or other public insurance	2,876,000	0	0	0
Uninsured	14,168,000	2,446,000	3,505,000	4,563,000

Sources: Urban Institute analysis based on 2017 and 2018 American Community Survey data and 2019 and 2020 monthly Current Population Survey data.
Notes: Medicaid coverage is inclusive of CHIP coverage for children. Coverage changes modeled for US population under age 65.

Figure 1. Estimated Coverage Types of People Losing Employer-Sponsored Health Insurance



Sources: Urban Institute analysis based on 2017 and 2018 American Community Survey data and 2019 and 2020 monthly Current Population Survey data.
Notes: Medicaid coverage is inclusive of CHIP coverage for children. Coverage changes modeled for US population under age 65.

Table 2. National Estimates of Changes in Health Insurance Coverage with 15, 20, and 25 Percent Unemployment Rates, High Scenarios

Coverage type	3.5% (precrisis) Precrisis levels (# of people)	Unemployment rate scenario		
		15% Change	20% Change	25% Change
US TOTALS				
Employer-sponsored insurance	160,282,000	-30,076,000	-43,123,000	-56,170,000
Medicaid	50,339,000	14,347,000	20,579,000	26,812,000
Marketplace or other private insurance	24,538,000	7,264,000	10,405,000	13,547,000
Medicare or other public insurance	7,474,000	0	0	0
Uninsured	28,415,000	8,466,000	12,139,000	15,812,000
EXPANSION STATES				
Employer-sponsored insurance	108,114,000	-19,718,000	-28,293,000	-36,868,000
Medicaid	35,737,000	10,717,000	15,383,000	20,049,000
Marketplace or other private insurance	15,129,000	4,585,000	6,571,000	8,558,000
Medicare or other public insurance	4,599,000	0	0	0
Uninsured	14,246,000	4,417,000	6,339,000	8,260,000
NONEXPANSION STATES				
Employer-sponsored insurance	52,169,000	-10,358,000	-14,830,000	-19,303,000
Medicaid	14,602,000	3,630,000	5,196,000	6,762,000
Marketplace or other private insurance	9,409,000	2,679,000	3,834,000	4,989,000
Medicare or other public insurance	2,876,000	0	0	0
Uninsured	14,168,000	4,049,000	5,800,000	7,552,000

Sources: Urban Institute analysis based on 2017 and 2018 American Community Survey data and 2019 and 2020 monthly Current Population Survey data.
Notes: Medicaid coverage is inclusive of CHIP coverage for children. Coverage changes modeled for US population under age 65.

Table 3. Composition of National Changes in Coverage under 20 Percent Unemployment Rate, by Age Group

Age Group	ESI	Share	Medicaid	Share	Marketplace or other private	Share	Uninsured	Share
COMPOSITION OF CHANGES IN BASE SCENARIO								
Nonelderly adults ages 19 to 64	-18,722,000	73.8%	6,801,000	57.6%	5,278,000	84.7%	6,643,000	90.6%
Children from birth to age 18	-6,641,000	26.2%	4,997,000	42.4%	951,000	15.3%	693,000	9.4%
Total change	**-25,363,000**		**11,798,000**		**6,229,000**		**7,336,000**	
COMPOSITION OF CHANGES IN HIGH SCENARIO								
Nonelderly adults ages 19 to 64	-30,495,000	70.7%	11,078,000	53.8%	8,596,000	82.6%	10,821,000	89.1%
Children from birth to age 18	-12,629,000	29.3%	9,502,000	46.2%	1,809,000	17.4%	1,318,000	10.9%
Total change	**-43,123,000**		**20,579,000**		**10,405,000**		**12,139,000**	

Sources: Urban Institute analysis based on 2017 and 2018 American Community Survey data and 2019 and 2020 monthly Current Population Survey data.
Notes: ESI = employer-sponsored insurance. Medicaid coverage is inclusive of CHIP coverage for children. Coverage changes modeled for US population under age 65.

and therefore the sizes of the changes are smaller in the 15 percent unemployment scenario and larger in the 25 percent unemployment scenario.

In Figure 1 and in the middle and bottom panels of Table 1, we show how national changes in coverage differ for two groups of states—those that expanded Medicaid under the ACA (36 states) and those that did not (15 states). Of the 25.3 million people estimated to lose ESI under the 20 percent unemployment scenario, 16.7 million live in expansion states (Table 1, middle panel). Of these, more than half (8.9 million) would gain Medicaid coverage, 24 percent (3.9 million) would gain marketplace or other private coverage, and 23 percent (3.8 million) would become uninsured. In nonexpansion states, we estimate that 8.7 million individuals would lose ESI (Table 1, bottom panel). Relative to expansion states, a smaller share of people losing ESI in nonexpansion states would gain Medicaid coverage (33 percent, or 2.9 million) or marketplace or other private coverage (26 percent or 2.3 million), and a greater share of people would become uninsured (40 percent or 3.5 million). Even though expansion states are predicted to see 7.9 million more people lose ESI coverage under a 20 percent unemployment rate, we estimate similar numbers of people would become uninsured in expansion and nonexpansion states (3.8 million versus 3.5 million).

In Table 2 (top panel), we report national estimates of changes in health insurance coverage under the same unemployment scenarios but applying the higher estimate of ESI responsiveness to the unemployment rate. With 20 percent unemployment, we find that 43 million would lose ESI in this scenario (as compared with 25 million in the main scenario Table 1). Of those losing ESI, 20.6 million would enroll in Medicaid, 10.4 million would obtain marketplace or other private insurance, and 12.1 million would become uninsured. In Medicaid expansion states (middle panel), 15.4 million people would enroll in Medicaid and 6.3 million would become uninsured in this scenario. In nonexpansion states (bottom panel), 5.2 million would enroll in Medicaid and 5.8 million would become uninsured.

In Table 3 (top panel), we report the number and proportion of adults and children losing ESI coverage under a 20 percent unemployment rate in the base scenario. Among the estimated 25 million people losing ESI coverage, 18.7 million are nonelderly adults and 6.6 million are children under age 19. Among nonelderly adults losing ESI coverage, we estimate that 6.8 million (36 percent) will gain Medicaid coverage, 5.3 million (28 percent) will gain marketplace or other private coverage, and 6.6 (35 percent) will become uninsured. Nearly three out of four children losing ESI coverage are estimated to gain Medicaid or Children's Health Insurance Program (CHIP) coverage (5.0 million children), reflecting that income eligibility limits for children's Medicaid or CHIP coverage are much higher than such limits for parents or childless adults. We estimate that 1.0 million children would gain marketplace or other private coverage (15 percent of all children estimated to lose ESI coverage), and about 693,000 children would become uninsured (10 percent of children estimated to lose ESI). We report analogous figures for the high scenario in the bottom panel. While the shares of non-elderly adults and children estimated to lose ESI, to gain Medicaid or Marketplace or other private coverage, or to become uninsured in this scenario are similar to our base scenario, there are a greater total number of people in each of these categories, reflecting the additional 18 million estimated to lose ESI coverage in the high scenario relative to the base scenario.

State-Level Estimates of Health Insurance Coverage Changes under the COVID-19 Recession

Though all states will likely see very large increases in unemployment rates, states will differ in the rates of unemployment they experience over the coming months and years. States will also differ in the extent to which Medicaid coverage is available to those losing ESI and how affordable marketplace coverage would be given differences in premium levels and eligibility for premium subsidies across states.[17] Table 4 reports estimated changes in coverage by state in our main scenarios (see Appendix Table 1 for coverage changes by state in our scenarios with higher responsiveness). The changes in health insurance coverage account for differential coverage patterns among individuals without employer-based coverage across states.

Table 4. Estimated Changes in ESI Coverage, Medicaid Enrollment, Marketplace Coverage, and Uninsurance with 15, 20, and 25 Percent Unemployment Rates, Main Scenarios, by State

	15%				20%				25%			
	ESI	Medicaid	Marketplace or other private	Uninsured	ESI	Medicaid	Marketplace or other private	Uninsured	ESI	Medicaid	Marketplace or other private	Uninsured
US Total	**-17,689,000**	**8,225,000**	**4,348,000**	**5,116,000**	**-25,363,000**	**11,798,000**	**6,229,000**	**7,336,000**	**-33,037,000**	**15,371,000**	**8,109,000**	**9,557,000**
Expansion states	**-11,606,000**	**6,191,000**	**2,745,000**	**2,670,000**	**-16,653,000**	**8,887,000**	**3,934,000**	**3,832,000**	**-21,699,000**	**11,583,000**	**5,123,000**	**4,993,000**
Alaska	-37,000	15,000	10,000	13,000	-55,000	22,000	15,000	19,000	-74,000	29,000	20,000	25,000
Arizona	-371,000	175,000	76,000	120,000	-535,000	252,000	110,000	173,000	-698,000	329,000	143,000	226,000
Arkansas	-157,000	81,000	34,000	42,000	-225,000	116,000	49,000	61,000	-293,000	151,000	63,000	79,000
California	-2,110,000	1,165,000	499,000	447,000	-3,065,000	1,691,000	724,000	649,000	-4,019,000	2,218,000	949,000	851,000
Colorado	-338,000	148,000	104,000	86,000	-475,000	208,000	147,000	120,000	-612,000	268,000	189,000	155,000
Connecticut	-184,000	100,000	46,000	38,000	-268,000	145,000	67,000	56,000	-351,000	190,000	88,000	73,000
Delaware	-50,000	25,000	13,000	12,000	-72,000	36,000	18,000	17,000	-94,000	48,000	24,000	22,000
District of Columbia	-35,000	21,000	10,000	4,000	-52,000	31,000	16,000	6,000	-70,000	41,000	21,000	8,000
Hawaii	-83,000	36,000	35,000	13,000	-116,000	50,000	49,000	18,000	-149,000	64,000	62,000	23,000
Idaho	-99,000	54,000	23,000	22,000	-139,000	76,000	32,000	31,000	-180,000	99,000	41,000	40,000
Illinois	-666,000	339,000	155,000	172,000	-969,000	494,000	226,000	250,000	-1,273,000	648,000	297,000	328,000
Indiana	-372,000	169,000	82,000	121,000	-529,000	241,000	116,000	172,000	-686,000	312,000	150,000	224,000
Iowa	-185,000	94,000	53,000	38,000	-258,000	131,000	75,000	52,000	-332,000	168,000	96,000	67,000
Kentucky	-233,000	144,000	44,000	45,000	-336,000	208,000	63,000	65,000	-438,000	271,000	83,000	84,000
Louisiana	-230,000	127,000	45,000	58,000	-339,000	187,000	66,000	86,000	-448,000	248,000	87,000	113,000
Maine	-72,000	38,000	17,000	17,000	-101,000	53,000	24,000	24,000	-131,000	69,000	31,000	31,000
Maryland	-336,000	160,000	95,000	80,000	-480,000	229,000	136,000	114,000	-624,000	298,000	177,000	149,000
Massachusetts	-387,000	247,000	97,000	43,000	-550,000	351,000	138,000	61,000	-712,000	454,000	179,000	79,000
Michigan	-518,000	299,000	112,000	107,000	-749,000	432,000	163,000	155,000	-980,000	565,000	213,000	203,000
Minnesota	-335,000	181,000	89,000	65,000	-468,000	253,000	125,000	90,000	-601,000	325,000	160,000	116,000
Montana	-61,000	26,000	19,000	16,000	-85,000	37,000	26,000	23,000	-109,000	47,000	33,000	29,000
Nevada	-159,000	68,000	34,000	57,000	-230,000	98,000	49,000	83,000	-301,000	128,000	65,000	108,000
New Hampshire	-77,000	34,000	23,000	21,000	-108,000	47,000	32,000	29,000	-139,000	61,000	41,000	38,000
New Jersey	-489,000	224,000	116,000	149,000	-701,000	322,000	166,000	214,000	-914,000	419,000	216,000	279,000
New Mexico	-102,000	61,000	16,000	25,000	-150,000	89,000	24,000	36,000	-197,000	118,000	32,000	48,000
New York	-1,056,000	641,000	219,000	196,000	-1,519,000	923,000	315,000	282,000	-1,983,000	1,204,000	411,000	368,000
North Dakota	-48,000	13,000	21,000	14,000	-67,000	18,000	28,000	20,000	-85,000	23,000	36,000	25,000
Ohio	-625,000	348,000	125,000	151,000	-895,000	499,000	179,000	217,000	-1,165,000	650,000	233,000	282,000
Oregon	-226,000	117,000	55,000	54,000	-322,000	167,000	78,000	77,000	-419,000	216,000	102,000	100,000
Pennsylvania	-676,000	349,000	168,000	159,000	-969,000	500,000	241,000	228,000	-1,262,000	651,000	314,000	297,000
Rhode Island	-54,000	31,000	14,000	9,000	-78,000	46,000	20,000	13,000	-103,000	60,000	26,000	17,000
Utah	-202,000	112,000	46,000	44,000	-280,000	156,000	63,000	61,000	-359,000	200,000	81,000	78,000
Vermont	-35,000	21,000	8,000	5,000	-49,000	30,000	12,000	7,000	-63,000	39,000	15,000	9,000
Virginia	-489,000	261,000	115,000	113,000	-690,000	369,000	162,000	160,000	-892,000	477,000	209,000	206,000
Washington	-426,000	214,000	116,000	97,000	-605,000	303,000	164,000	137,000	-783,000	393,000	212,000	178,000
West Virgina	-83,000	52,000	12,000	18,000	-122,000	77,000	18,000	27,000	-162,000	102,000	24,000	36,000
Nonexpansion states	**-6,084,000**	**2,034,000**	**1,604,000**	**2,446,000**	**-8,711,000**	**2,911,000**	**2,295,000**	**3,505,000**	**-11,337,000**	**3,788,000**	**2,986,000**	**4,563,000**
Alabama	-245,000	94,000	63,000	88,000	-356,000	136,000	92,000	128,000	-467,000	179,000	121,000	168,000
Florida	-1,060,000	329,000	328,000	403,000	-1,530,000	475,000	473,000	581,000	-1,999,000	621,000	619,000	759,000
Georgia	-574,000	179,000	144,000	251,000	-825,000	257,000	208,000	360,000	-1,077,000	335,000	271,000	470,000
Kansas	-169,000	53,000	58,000	58,000	-237,000	75,000	81,000	82,000	-306,000	96,000	105,000	105,000
Mississippi	-138,000	54,000	30,000	54,000	-206,000	81,000	44,000	81,000	-275,000	108,000	59,000	107,000
Missouri	-337,000	116,000	98,000	124,000	-478,000	164,000	138,000	175,000	-618,000	212,000	179,000	227,000
Nebraska	-118,000	36,000	43,000	39,000	-164,000	50,000	59,000	54,000	-210,000	65,000	76,000	69,000
North Carolina	-557,000	195,000	170,000	193,000	-798,000	279,000	244,000	276,000	-1,039,000	363,000	317,000	359,000
Oklahoma	-213,000	70,000	51,000	93,000	-305,000	100,000	72,000	133,000	-396,000	130,000	94,000	172,000
South Carolina	-260,000	97,000	69,000	94,000	-375,000	139,000	100,000	136,000	-490,000	182,000	130,000	178,000
South Dakota	-52,000	16,000	19,000	17,000	-72,000	22,000	26,000	24,000	-93,000	28,000	34,000	31,000
Tennessee	-356,000	149,000	87,000	120,000	-513,000	215,000	126,000	172,000	-669,000	280,000	164,000	225,000
Texas	-1,623,000	475,000	336,000	813,000	-2,321,000	679,000	480,000	1,162,000	-3,019,000	883,000	625,000	1,511,000
Wisconsin	-348,000	164,000	98,000	87,000	-484,000	228,000	136,000	120,000	-620,000	291,000	174,000	154,000
Wyoming	-33,000	9,000	11,000	14,000	-47,000	12,000	15,000	20,000	-60,000	16,000	19,000	26,000

Sources: Urban Institute analysis based on 2017 and 2018 American Community Survey data and 2019 and 2020 monthly Current Population Survey data.
Notes: ESI = employer-sponsored insurance. Medicaid coverage is inclusive of CHIP coverage for children. Coverage changes modeled for US population under age 65.

In California, which expanded Medicaid under the ACA, we estimate that more than 3 million people will lose ESI under a 20 percent unemployment rate. More than half of people losing ESI would gain Medicaid coverage (1.7 million), about 724,000 would obtain marketplace or other private coverage, and 649,000 would become uninsured. In Texas, which has not expanded Medicaid, we estimate that nearly 2.3 million people would lose ESI coverage if the state's unemployment rate reaches 20 percent, of which about half (1.2 million) would become uninsured.

As a share of the number of people expected to lose ESI in the state, former workers and their dependents in Massachusetts (11 percent), the District of Columbia (12 percent), Hawaii (15 percent), and Vermont (15 percent) are least likely to become uninsured, whereas such individuals are most likely to become uninsured in Texas (50 percent), Georgia (44 percent), Oklahoma (44 percent), and Wyoming (42 percent). Massachusetts, the District of Columbia, and Vermont all have programs that provide subsidized coverage beyond the levels provided under the ACA.

Discussion

As more workers lose their jobs and incomes in the wake of the COVID-19 pandemic, the number of people qualifying for Medicaid and subsidized marketplace coverage will climb. However, the increase in Medicaid coverage will be uneven across the country. As our results show, more workers and their dependents losing ESI will be eligible for Medicaid in states that expanded Medicaid under the ACA than in the 15 states that have not. We estimate that more than half of workers losing ESI coverage in expansion states will gain Medicaid coverage. In nonexpansion states, workers losing ESI are more likely to become uninsured than to gain Medicaid coverage (or marketplace coverage).

Though our estimation approach is designed to capture differences in coverage patterns across states after ACA implementation, some uncertainty surrounds what share of workers losing ESI would gain other coverage or become uninsured. Former workers with little past exposure to Medicaid or the marketplaces may not know whether they are eligible for benefits or subsidies, and state Medicaid administrative systems may not be able to handle the large, sudden influx of new applicants. For these reasons, our results could underestimate the share of workers losing ESI who become uninsured. Alternatively, former workers accustomed to having insurance coverage for themselves and their dependents and who may have heightened concerns regarding their potential need for medical care may be highly motivated to seek out other forms of insurance and determine whether they are eligible. In this case, our estimates could overstate the share of those losing ESI who become uninsured.

Enabling temporary (at a minimum) and speedy Medicaid expansions in nonexpansion states and expanding the income range for eligibility for premium subsidies in the ACA marketplaces could help mitigate the rise in uninsurance.[9] Providing subsidies for COBRA coverage could help make previously held ESI coverage options affordable for those who are unemployed but ineligible for Medicaid or marketplace subsidies. Finally, enhancing Medicaid matching rates beyond those mandated under the Families First Coronavirus Response Act and the Coronavirus Aid, Relief, and Economic Security Act, or CARES Act, would help secure states' finances as they prepare to provide Medicaid coverage to what will likely be record-setting numbers of new enrollees, especially in Medicaid expansion states. Additional funding for and staffing of enrollment assisters for both Medicaid and marketplace coverage will be necessary to keep up with the increasing need for these programs.

Testing for the virus and isolating those who have been exposed and/or infected are critical to limiting the spread of the virus and having adequate medical providers and supplies available for people who contract COVID-19. The recently enacted Families First Coronavirus Response Act requires state Medicaid programs to cover COVID-19 testing without cost sharing and allows states to extend Medicaid coverage to uninsured people for COVID-19 testing.[18] Still, current legislation does not address comprehensive coverage that would include both general medical care and COVID-19 treatment for the uninsured.[19] Lack of coverage for medical services for other illnesses unrelated to COVID-19 may dissuade uninsured people with COVID-19 symptoms from visiting their providers for proper testing.

Some people who lose their jobs and access to employer-based insurance may be newly eligible for Medicaid or marketplace-based subsidized coverage but not realize it, which could contribute to increasing uninsurance. Several strategies could help prevent this, including increasing state resources directed to outreach and enrollment assistance for Medicaid, CHIP, and the marketplaces; increasing awareness that people losing their ESI coverage may be eligible for subsidized coverage through one of these programs; creating a national special open enrollment period, regardless of whether a person had prior insurance coverage (currently in effect in 11 states), and providing sufficient staffing to enroll the increased number of people applying midyear; and expediting Medicaid expansion in the current 15 nonexpansion states.

Finally, the Supreme Court will soon consider California v. Texas, which could completely overturn the ACA. Depending on the outcome, expanded eligibility for Medicaid, premium subsidies for nongroup insurance coverage, and marketplace plans could be eliminated, along with current regulations requiring enrollment of all applicants regardless of health status and coverage of essential health benefits. If the ACA is reversed, unemployment would likely lead to much more uninsurance than currently projected, as well as underinsurance, because the benefits covered through nongroup insurance would decrease while cost-sharing requirements would increase. Reversing the ACA, and thereby strengthening the relationship between joblessness and uninsurance, would counteract efforts to contain the virus, improve public health, and stabilize the economy.

Appendix. Modeling Approach and Sources of Uncertainty

Our estimates contain three main sources of uncertainty. First, it is unknown how high unemployment rates will climb over the next several months or at what level and over what time frame they will stabilize. Further, the changes in unemployment rates will likely vary across states. Rather than incorporate specific unemployment rate forecasts into our coverage estimates, we provide estimates for multiple scenarios over a range of possible unemployment rates (15, 20, and 25 percent). Our estimated coverage changes are best interpreted as those that would result if unemployment rates hold at a particular rate for several months to a year, allowing time for adjustment.

Second, there is uncertainty around our main parameter: the percentage-point change in employer-sponsored health insurance rates resulting from a 1 percentage-point change in the unemployment rate. For our main scenarios, we estimate this parameter separately for nonelderly adults and children (as in prior work) and use the same national values for all states. It is not clear that this parameter should vary systematically across states, nor is it clear that the parameter should be different now, after the ACA, than in earlier years. Nonetheless, we use updated estimates of the parameter using ACS data from 2008 to 2018, which includes years of recession and recovery and five years of implementation of the ACA's main coverage provisions for our main scenarios. The ACS did not measure health insurance coverage before 2008.

As we show in Appendix Table 2, different time periods and estimation methods yield somewhat different values for this parameter. We present three sets of estimates: The first are our individual-level regression estimates using ACS data from 2008 to 2018. The second are estimates from state-year-level regression models reported in previous work using data from 1990 to 2003, which spans years before the ACA and the Great Recession, but also spans two periods of rising unemployment (1990–92 and 2000–03) and the implementation of the State Children's Health Insurance Program.[16] The third set of estimates uses national-level, annual data on ESI coverage rates for the nonelderly population from 1998 to 2018 matched to annual unemployment rates from the Bureau of Labor Statistics. Though only at the aggregate level, these data cover a long period extending to recent years and spanning two recessions (including the Great Recession), years of economic recovery, and five years after ACA implementation.[20] With these data, we estimate time series regression models using the ESI rate as the dependent variable and the contemporaneous unemployment rate, one-year-lagged unemployment rate, and a linear time trend as explanatory variables. The linear time trend picks up the long-standing secular trend of falling ESI rates (likely attributable to health care costs and insurance premium growth exceeding income growth over decades), and the lag allows rising unemployment rates to affect ESI rates with a delay (all of our parameter estimates sum the contemporaneous and lagged effect). We estimate the time series models using three alternative periods (the full sample covering 1998 to 2018, 2008–18 to coincide with our ACS data, and 2007–18 to include the year before unemployment began to rise during the Great Recession, which officially began December 2007 and ended June 2009). Finally, as a simple check, we directly compute the change in the ESI rate divided by the change in the unemployment rate from trough (2007) to peak (2010) unemployment during the Great Recession and its immediate aftermath.

The parameter estimates in Appendix Table 2 all show the expected negative effect and range from -0.99 to -0.52. We make six observations. First, the ACS-based estimates we use for our base scenarios are the most conservative in that they imply the smallest overall coverage changes of all the estimates. Second, in the first two sets of estimates (ACS-based estimates and estimates from prior work), there is not much difference between the estimated parameters of the ESI effect for nonelderly adults and children. Third, the time series estimate using data from 1998 to 2018 (-0.99) is nearly identical to estimates from previously mentioned work.[16] Fourth, estimates based on more recent data tend to be smaller in magnitude. Fifth, the individual-level regressions using the ACS are similar to (though somewhat smaller than) the time series estimate we obtain with aggregate National Health Interview Survey/Bureau of Labor Statistics data over the same period (-0.61 for adults and -0.52 for children, compared with -0.74 for all nonelderly people combined).[21] And sixth, the effect we directly calculate from the 2007–10 period, which includes the Great Recession (-0.88), lies between the ACS-based estimates and the full-sample time series estimates.

Accordingly, we believe the full-sample time series parameter estimate of -0.99, applied to both nonelderly adults and children, provides a reasonable, high-end estimate of the potential coverage changes to complement our ACS-based estimates. We use this larger parameter value in our higher responsiveness estimates in Table 2 and Appendix Table 2. Our national estimates of ESI coverage changes in Table 2 is 70 percent larger in magnitude than the main scenario estimates reported in Table 1. Whereas the ACS models underlying our base scenarios are fully based on data since 2008 and allow us to control for individual-level factors related to ESI rates that may shift over time and thereby produce arguably less-biased estimates of unemployment rate effects, the time series model draws on a longer historical record of how ESI rates vary over economic cycles at the aggregate level. Both provide a plausible basis for making estimates of how coverage could change in the current recession.

Thus, even drawing on historical data, there is uncertainty in this key parameter. If people becoming unemployed because of the pandemic are less (or more) likely to have had ESI before the crisis, our estimates of lost ESI could be overstated (or understated). Potential

policy responses, such as subsidizing COBRA coverage, could also affect coverage changes, including how many people lose ESI, in ways not accounted for in our modeling.

For people predicted to lose ESI, we estimate what other types of coverage they obtain or whether they become uninsured. Because the ACA substantially expanded Medicaid eligibility and altered the private health insurance market by introducing means-tested subsidies to purchase marketplace coverage (among other changes), pre-ACA evidence measuring how Medicaid and private nongroup enrollment and uninsurance rates respond to changes unemployment need to be updated, particularly for adults. But there is insufficient post-ACA variation in state unemployment rates (i.e., since 2014) to obtain good, updated parameters for these coverage types using econometric models that rely on within-state variation in unemployment rates, as done in earlier work.

Instead, we use the distribution of coverage within each state, separately for adults and children, to estimate the coverage distribution of those without ESI. Including those with ESI, the coverage distribution of unemployed, out-of-the-labor-force, and employed populations are quite different. But among those without ESI, the coverage distribution across these three groups is much more similar, indicating it is reasonable to apply these groups' pooled coverage distributions to people estimated to have lost ESI. This approach generates estimates that capture post–ACA implementation differences in coverage patterns across states and by age group, but it does not directly model eligibility for Medicaid/CHIP or marketplace subsidies for any unemployed worker or family member. Additionally, people newly losing their jobs may obtain other coverage or become uninsured in ways that differ from precrisis patterns among people previously without ESI. Thus, uncertainty remains among these estimates.

Appendix Table 1. Estimated Changes in ESI Coverage, Medicaid Enrollment, Marketplace Coverage, and Uninsurance with 15, 20, and 25 Percent Unemployment Rates, High Scenarios, by State

	15%				20%				25%			
	ESI	Medicaid	Marketplace or other private	Uninsured	ESI	Medicaid	Marketplace or other private	Uninsured	ESI	Medicaid	Marketplace or other private	Uninsured
US Total	**-30,076,000**	**14,347,000**	**7,264,000**	**8,466,000**	**-43,123,000**	**20,579,000**	**10,405,000**	**12,139,000**	**-56,170,000**	**26,812,000**	**13,547,000**	**15,812,000**
Expansion states	**-19,718,000**	**10,717,000**	**4,585,000**	**4,417,000**	**-28,293,000**	**15,383,000**	**6,571,000**	**6,339,000**	**-36,868,000**	**20,049,000**	**8,558,000**	**8,260,000**
Alaska	-63,000	25,000	17,000	21,000	-94,000	38,000	25,000	31,000	-125,000	50,000	34,000	41,000
Arizona	-632,000	304,000	127,000	200,000	-911,000	438,000	184,000	289,000	-1,190,000	573,000	240,000	377,000
Arkansas	-268,000	142,000	56,000	70,000	-384,000	203,000	81,000	100,000	-501,000	265,000	105,000	131,000
California	-3,585,000	2,015,000	833,000	738,000	-5,207,000	2,926,000	1,210,000	1,071,000	-6,828,000	3,836,000	1,587,000	1,405,000
Colorado	-574,000	257,000	175,000	142,000	-806,000	361,000	246,000	199,000	-1,039,000	466,000	316,000	257,000
Connecticut	-312,000	172,000	77,000	64,000	-454,000	250,000	111,000	92,000	-596,000	329,000	146,000	121,000
Delaware	-84,000	44,000	21,000	19,000	-122,000	63,000	30,000	28,000	-159,000	83,000	40,000	37,000
District of Columbia	-59,000	35,000	17,000	7,000	-88,000	52,000	26,000	10,000	-117,000	69,000	34,000	14,000
Hawaii	-141,000	62,000	58,000	21,000	-197,000	87,000	82,000	29,000	-253,000	111,000	105,000	37,000
Idaho	-169,000	94,000	38,000	36,000	-238,000	133,000	53,000	51,000	-307,000	172,000	69,000	66,000
Illinois	-1,133,000	591,000	259,000	283,000	-1,648,000	860,000	376,000	412,000	-2,163,000	1,128,000	494,000	541,000
Indiana	-634,000	296,000	136,000	202,000	-901,000	421,000	193,000	287,000	-1,168,000	545,000	251,000	372,000
Iowa	-315,000	163,000	89,000	62,000	-440,000	228,000	125,000	87,000	-565,000	293,000	160,000	112,000
Kentucky	-397,000	249,000	74,000	74,000	-572,000	359,000	106,000	107,000	-746,000	468,000	138,000	140,000
Louisiana	-392,000	222,000	74,000	96,000	-578,000	327,000	109,000	141,000	-763,000	432,000	145,000	186,000
Maine	-122,000	65,000	28,000	28,000	-171,000	92,000	40,000	39,000	-221,000	119,000	52,000	51,000
Maryland	-570,000	278,000	159,000	132,000	-815,000	398,000	227,000	189,000	-1,060,000	518,000	296,000	246,000
Massachusetts	-655,000	422,000	162,000	71,000	-931,000	600,000	230,000	101,000	-1,206,000	777,000	298,000	131,000
Michigan	-881,000	517,000	187,000	177,000	-1,273,000	746,000	270,000	256,000	-1,665,000	976,000	354,000	335,000
Minnesota	-569,000	313,000	149,000	108,000	-796,000	437,000	208,000	151,000	-1,022,000	561,000	267,000	193,000
Montana	-104,000	46,000	31,000	27,000	-145,000	64,000	43,000	37,000	-185,000	82,000	56,000	48,000
Nevada	-270,000	118,000	57,000	95,000	-391,000	171,000	83,000	137,000	-512,000	223,000	108,000	180,000
New Hampshire	-131,000	59,000	38,000	34,000	-183,000	83,000	53,000	48,000	-236,000	106,000	68,000	62,000
New Jersey	-831,000	391,000	194,000	247,000	-1,191,000	560,000	277,000	353,000	-1,551,000	729,000	361,000	460,000
New Mexico	-174,000	106,000	27,000	41,000	-255,000	155,000	40,000	60,000	-336,000	204,000	53,000	79,000
New York	-1,789,000	1,100,000	367,000	322,000	-2,575,000	1,583,000	528,000	464,000	-3,361,000	2,066,000	690,000	606,000
North Dakota	-82,000	23,000	35,000	24,000	-113,000	32,000	48,000	33,000	-144,000	41,000	61,000	42,000
Ohio	-1,062,000	602,000	209,000	251,000	-1,522,000	863,000	299,000	360,000	-1,981,000	1,124,000	389,000	468,000
Oregon	-383,000	202,000	92,000	89,000	-547,000	288,000	131,000	127,000	-710,000	374,000	170,000	166,000
Pennsylvania	-1,147,000	603,000	280,000	264,000	-1,644,000	864,000	402,000	378,000	-2,142,000	1,125,000	523,000	493,000
Rhode Island	-91,000	54,000	23,000	14,000	-133,000	78,000	33,000	21,000	-174,000	103,000	44,000	27,000

Appendix Table 1. Estimated Changes in ESI Coverage, Medicaid Enrollment, Marketplace Coverage, and Uninsurance with 15, 20, and 25 Percent Unemployment Rates, High Scenarios, by State *(cont.)*

	15%				20%				25%			
	ESI	Medicaid	Marketplace or other private	Uninsured	ESI	Medicaid	Marketplace or other private	Uninsured	ESI	Medicaid	Marketplace or other private	Uninsured
Utah	-346,000	197,000	77,000	73,000	-481,000	273,000	106,000	101,000	-616,000	350,000	136,000	130,000
Vermont	-59,000	37,000	14,000	8,000	-83,000	52,000	19,000	12,000	-107,000	66,000	25,000	15,000
Virginia	-830,000	452,000	191,000	187,000	-1,172,000	638,000	270,000	264,000	-1,515,000	825,000	349,000	341,000
Washington	-724,000	371,000	193,000	159,000	-1,026,000	526,000	274,000	226,000	-1,329,000	681,000	355,000	292,000
West Virginia	-141,000	90,000	20,000	30,000	-208,000	134,000	30,000	44,000	-275,000	177,000	39,000	59,000
Nonexpansion states	**-10,358,000**	**3,630,000**	**2,679,000**	**4,049,000**	**-14,830,000**	**5,196,000**	**3,834,000**	**5,800,000**	**-19,303,000**	**6,762,000**	**4,989,000**	**7,552,000**
Alabama	-417,000	167,000	105,000	145,000	-606,000	243,000	153,000	210,000	-796,000	319,000	201,000	276,000
Florida	-1,798,000	586,000	547,000	665,000	-2,594,000	845,000	789,000	960,000	-3,390,000	1,105,000	1,031,000	1,254,000
Georgia	-977,000	321,000	241,000	415,000	-1,405,000	462,000	347,000	596,000	-1,834,000	603,000	453,000	778,000
Kansas	-288,000	95,000	97,000	96,000	-405,000	133,000	136,000	135,000	-522,000	172,000	175,000	174,000
Mississippi	-235,000	97,000	50,000	89,000	-352,000	145,000	74,000	133,000	-469,000	193,000	99,000	177,000
Missouri	-573,000	206,000	163,000	204,000	-813,000	291,000	231,000	290,000	-1,052,000	377,000	300,000	375,000
Nebraska	-202,000	65,000	72,000	65,000	-280,000	90,000	99,000	90,000	-358,000	115,000	127,000	115,000
North Carolina	-948,000	346,000	284,000	318,000	-1,357,000	496,000	407,000	455,000	-1,767,000	645,000	529,000	592,000
Oklahoma	-364,000	126,000	85,000	153,000	-520,000	180,000	121,000	219,000	-676,000	233,000	157,000	285,000
South Carolina	-442,000	172,000	115,000	155,000	-638,000	248,000	166,000	224,000	-834,000	324,000	217,000	293,000
South Dakota	-88,000	28,000	32,000	29,000	-123,000	39,000	44,000	40,000	-158,000	50,000	56,000	52,000
Tennessee	-606,000	263,000	146,000	198,000	-872,000	378,000	210,000	284,000	-1,137,000	493,000	274,000	371,000
Texas	-2,772,000	859,000	563,000	1,349,000	-3,963,000	1,228,000	805,000	1,930,000	-5,155,000	1,598,000	1,047,000	2,510,000
Wisconsin	-592,000	285,000	163,000	144,000	-822,000	396,000	226,000	200,000	-1,053,000	508,000	289,000	256,000
Wyoming	-56,000	15,000	18,000	23,000	-80,000	21,000	25,000	33,000	-103,000	28,000	32,000	43,000

Sources: Urban Institute analysis based on 2017 and 2018 American Community Survey data and 2019 and 2020 monthly Current Population Survey data.
Notes: ESI = employer-sponsored insurance. Medicaid coverage is inclusive of CHIP coverage for children. Coverage changes modeled for US population under age 65.

Appendix Table 2. Estimates of the Effect of the Unemployment Rate on ESI Coverage Rates

Data source/study	Data years	Method	Population	Parameter estimate	Estimated number losing ESI under 20% unemployment rate
American Community Survey (this study)	2008–18	Individual-year regression	Adults (nonelderly)	-0.61	-18,722,000
			Children	-0.52	-6,641,000
			All nonelderly		**-25,363,000**
Current Population Survey (Holahan and Garrett 2009)	1990–2003	State-year regression	Adults (nonelderly)	-0.92	-28,338,000
			Children	-0.95	-12,118,000
			All nonelderly		**-40,457,000**
National Health Interview Survey (this study)	1998–2018	National time series regression	All nonelderly	-0.99	-43,123,000
	2008–18	National time series regression	All nonelderly	-0.74	-32,234,000
	2007–18	National time series regression	All nonelderly	-0.80	-34,847,000
	2007–10	Change in ESI rate / change in unemployment rate	All nonelderly	-0.88	-38,332,000

Notes: ESI = employer-sponsored insurance. For more information on the Holahan and Garrett CPS study, see Holahan J, Garrett B. Rising unemployment, Medicaid, and the uninsured. Henry J. Kaiser Family Foundation, Kaiser Commission on Medicaid and the Uninsured. 2009. https://www.kff.org/wp-content/uploads/2013/03/7850.pdf. Accessed April 21, 2020.

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The Commonwealth Fund

Supreme Court Tells Government to “Honor its Obligations” to ACA Insurers

May 4, 2020 | Timothy S. Jost

On April 27, the Supreme Court announced in an 8-to-1 decision that the federal government had improperly withheld over $12 billion owed insurers in the individual and small-group markets under the Affordable Care Act’s (ACA) risk-corridor program for 2014–2016. The decision sends an important message: the government must honor its obligations. Payments will now be made to those insurers but the effect will be very different from what it would have been had the claims been paid on time.

The Risk-Corridor Program

The risk-corridor program was one of the three premium stabilization programs established by the ACA. Recognizing that insurers were taking on a considerable risk by marketing products eligible to all at the same premiums, regardless of

health status, and without preexisting condition exclusions, the risk-corridor program promised insurers that the government would share in excess losses and profits for the first three years of the new market. Not surprisingly, given the unpredictability of the new product and some policy decisions made at the time, excess losses greatly exceeded profits by more than $12.2 billion over the three years.

Insurers set their premiums for 2014 and 2015 relying on the promise of the risk-corridor statute and reassuring statements from the U.S. Department of Health and Human Services (HHS) that the government would share their losses. Late in 2014, however, Congress adopted as part of its budget process an appropriations rider that prohibited HHS from using certain funds to supplement risk-corridor payments, effectively limiting payments through the program to money it collected from profitable insurers.

The Decision

Insurers filed over 50 lawsuits in the Court of Federal Claims, including a class action involving about 150 insurers. The Federal Circuit, which hears appeals from the Court of Federal Claims, ruled against the insurers in a split decision. The Supreme Court decision, reversing the Federal Circuit and ruling for the insurers, was written by Justice Sonia Sotomayor. It held that the ACA created a mandatory obligation to make full risk-corridor payments and the appropriations amendment did not repeal this obligation. Only Justice Alito dissented from this result. The Court based its decision on "a principle as old as the Nation itself: The Government should honor its obligations."

The Effects of the Risk-Corridor Payment Cut-Offs

The problem, however, is that the government failed to honor its obligations for losses incurred in 2014, 2015, and 2016. That failure had dramatic consequences that cannot be remedied by payments made now. For example, the lack of risk-corridor payments played a decisive role in the 2015 failure of eight consumer operated and oriented plans (CO-OPs) created by the ACA, and was a major factor in the demise of several others. The CO-OP program had been included in the ACA in lieu of a public option to give consumers an alternative to traditional insurers. It never reached its envisioned potential, but by 2015, 22 CO-OPs had 1 million

enrollees. The CO-OPs faced a host of problems: cuts in funding, restrictive regulations, sicker-than-expected enrollees, lack of management expertise, a risk-adjustment program that disadvantaged them against larger insurers, and either too many or too few enrollees.

The failure of the risk-corridor payments, however, was a bridge too far — only 12 CO-OPs survived 2015 and most of the rest closed in the next two years. Only four are operating in 2020. Many of the failed CO-OPs (and some other small insurers) went into receivership, with their assets and liabilities taken over by state guaranty funds, which will presumably now collect their risk-corridor claims.

The biggest risk-corridor payments were owed to large insurers, particularly Blue Cross and Blue Shield Plans. More than $1 billion was owed to Texas Blue Cross/Blue Shield and $2 billion to Health Care Service Corp. plans alone. Some large commercial insurance plans that were owed payments left the ACA market or cut back their participation.

The financial problems caused by the loss of these payments, as well as the decline in market competition from insurers failing or leaving markets, likely contributed to premium increases in following years. One study concluded that "in the absence of the risk-corridor program ending, premiums would have risen by only 10 percent between 2015 and 2017, instead of the actual 37 percent we observe." Premium increases for 2017 led in turn to reduced enrollment in the individual market.

What Happens Now?

Disbursing the risk-corridor payments now that were previously denied cannot repair the damage done to the CO-OPs or to the individual market generally. Much of the payout may go to insurers that no longer have a significant presence in the individual or small-group market, to state guaranty funds, or to private investors that bought up the claims of insurers for a fraction of their value.

The payout may not benefit consumers much. Premiums going forward are determined generally on projected claims and expenses for a coverage year and are not normally influenced by recoveries of insurers' past debts.

It is possible that some of the funds will be paid out to enrollees under the ACA's medical loss ratio requirement (MLR), which requires insurers to pay rebates to enrollees when claims and quality improvement expenses for a given year are less than 80 percent of premium revenues, including risk-corridor payments. The rules are complicated, and possibly subject to change, but insurers that receive large payments may have to share some of the money with their current enrollees over a three-year period. Some insurers might reduce premiums to cut rebates. In any event, many of the people who receive MLR rebates or reduced premiums will not be the enrollees who earlier suffered loss of their insurers or increased premiums.

The most important ramification of the decision, however, is the message it sends to private entities that partner with the government to provide vital services in health care and elsewhere. The government cannot simply avoid paying these organizations by failing to appropriate funds. The government must honor its obligations — eventually.

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Topics

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The Commonwealth Fund

By Michael E. Chernew, Andrew L. Hicks, and Shivani A. Shah

Wide State-Level Variation In Commercial Health Care Prices Suggests Uneven Impact Of Price Regulation

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ABSTRACT Prices charged for health care services in the commercial insurance market are high and vary widely within and between market areas. As a result, prices have been the focus of much policy debate. We extended the literature on commercial prices by examining state-level price variation in the commercial market, relative to Medicare, for a broader set of states and a wider set of services than had been examined. We assessed the potential impact on provider revenue of setting commercial prices at Medicare rates. Consistent with the existing literature, we found that average commercial prices for inpatient and outpatient facility services were about double Medicare fees, while commercial prices for professional services were about 60 percent higher. Finally, average hospital revenue would fall about 35 percent if commercial prices were limited to Medicare rates, but this would vary widely by state. If Medicaid rates were also increased to match Medicare rates, hospital revenue would likely fall by about 30 percent. Given the potentially large impact, policies to address the market failures that lead to high and variable prices in the commercial insurance sector are needed, but they should be structured to avoid the large disruptions that could occur if there were a very rapid transition to Medicare rates in the commercial market.

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Health care prices have attracted considerable attention in recent years, with several studies noting that prices are the main reason that spending in the United States exceeds that in other countries.[1,2] The differences are staggering. For example, in 2008 Medicare paid approximately 151 percent more in professional fees for hip replacements than did the Canadian health care system. Private insurers in the US paid even more for hip replacements, with fees 513 percent greater than those in Canada.[1]

Prices in the commercial insurance market are of particular concern because they are considerably higher than those paid by public payers. An analysis from the Congressional Budget Office suggests that in 2013 the average prices for twenty common hospital inpatient services in commercial markets were 89 percent higher than fee-for-service Medicare prices.[3] The differences for professional services ranged from 11 percent to 139 percent higher.[4] Moreover, the gap between commercial and Medicare prices—at least for hospital services—has been increasing, in part because of the consolidation of health care providers.[4,5]

Because prices in the commercial market are negotiated between payers and providers, they vary widely both within and across market areas.[3,4,6–11] This variation was quantified by Michael McKellar and coauthors and in a semi-

nal report by the Institute of Medicine.[12,13] More recent analyses by Zack Cooper and coauthors and Chapin White and Christopher Whaley expanded upon that work.[14,15] Cooper and coauthors reported significant amounts of variation across and within hospital referral regions. For example, across the country, the ratio of the price for lower-limb magnetic resonance imaging (a homogeneous service) at a hospital in the ninetieth percentile of prices to the price at a hospital in the tenth percentile was 2.93.[14] White and Whaley similarly reported substantial price variation in their analysis of seventy hospital systems, finding prices for hospital care to range from approximately 150 percent to 400 percent of Medicare prices.[15] This conclusion is supported by a recent report from the Health Care Cost Institute.[16]

One of the challenges in this literature has been access to data. Many of the comprehensive analyses used data from the Health Care Cost Institute, which is among the best sources for provider-specific information—combining claims from Humana, Aetna, and UnitedHealthcare. However, prices vary not only across areas and providers but also across payers. Larger payers typically pay less than smaller ones do. Eric Roberts and coauthors found that within the same provider group, insurers with market shares of 15 percent or more negotiated prices for physician office visits that were 21 percent lower than those negotiated by insurers with less than 5 percent of market share.[17] Thus, measurement may be sensitive to the source of the data.

In this article we provide a complementary analysis of variation in commercial prices across states. This analysis makes several contributions to the literature. First, in contrast to many other studies, ours used IBM MarketScan Research Databases instead of data from the Health Care Cost Institute. Because most studies of this topic are based on convenience samples, we believe that it is important to have multiple views of price variation, given differences in prices across payers. Other researchers have also used MarketScan data. However, we analyzed a broader set of services, often with more recent data.

Second, again in contrast to many other studies, ours reports results at the state level and relative to Medicare. We acknowledge that states do not correspond to markets and that there is widespread variation of prices within states (as there is within Metropolitan Statistical Areas or hospital referral regions), which makes the state level ill suited for investigations of why prices vary.[13,14] However, many policies to address high prices may be adopted at the state level, and even at the federal level, the state is an important political unit. Comparisons of prices to those of Medicare are also important because many proposed policies tie commercial to Medicare prices. Thus, our analysis can help illuminate how providers in different states would be affected if prices were capped at Medicare rates.

Third, once more unlike many other studies, ours reports prices not only for inpatient and outpatient services but also for professional services. Professional fees compensate for the services provided by physicians (or other health care professionals) and are paid in addition to any fees that cover the hospital or facility portion of the service. It is important to consider professional services because they represent 20 percent of national health expenditures, and many policies will affect professional services as well as hospital and other facility services.[18]

Finally, using data from Medicare hospital cost reports that allowed us to roughly estimate total revenue from commercial payers (as opposed to only price), we explored the average impact of policies that would lower commercial prices on total revenue, by state. This adjusted for differences across states in the share of volume represented by commercial payers, which is important because not only would such policies affect providers through differences in price, but the magnitude of that impact depends on the share of utilization covered by commercial payers. Therefore, the biggest impacts would be in states with both high prices and high commercial volume.

Our findings are relevant to a number of recent policy proposals, ranging from Medicare for All to more modest proposals such as Medicare buy-ins and price caps.[19] Variation in commercial prices means that the impact of regulation or expansion of public programs will differ across the country. Providers in some places will be more affected than those in other places. This has important implications for health care provider employment and patient access to care.

Study Data And Methods

DATA Our measures of commercial prices were based on the 2017 IBM MarketScan Commercial Claims and Encounters Database, which comprises administrative claims data for more than twenty-seven million employees and their dependents. The data come from a selection of large employers, health plans, and government and public organizations. The database captures person-level information on enrollment as well as claims-level information on prices, utilization, and spending across inpatient facilities, outpatient facilities, and professional services. We excluded childbirth because although it is covered, it is rare in Medicare, and there may

The problem of high prices and market failure extends beyond the admittedly most egregious area of surprise billing.

be important differences between births covered by Medicare and those covered by commercial plans. We excluded data submitted by health plans because they may have overlapped with employer-submitted data. We also excluded data from any employer-sponsored plan that contained capitated payments and claims with zero payment amounts, because we lacked the capitated payment amount and using only claims would have distorted price measures. Maryland was excluded because of its all-payer hospital payment system. Our final sample consisted of claims data for fourteen million employees and their dependents (which accounted for 9.5 percent of total commercial hospital spending).

We estimated Medicare prices using the Medicare Provider Utilization and Payment Data. That data set contains average allowed amounts for inpatient and professional services provided to fee-for-service Medicare beneficiaries at the state and national levels. To estimate Medicare prices for outpatient facility services, we used the 2017 MarketScan Medicare Supplemental Database, who receive care paid at rates approximately equal to those of Medicare.[20]

Finally, our measures of revenue were derived from the 2017 Healthcare Provider Cost Reporting Information System data. These data report revenue by payer for all hospitals serving Medicare patients. They allowed us to adjust for average volume differences across states.

PRICE MEASUREMENT To compare inpatient facility, professional, and outpatient facility prices across states, we focused on the ratio of commercial to Medicare prices. Analytically, this ratio is computed as the ratio of actual commercial spending to the hypothetical spending that would have occurred if the commercial claims were paid at the Medicare price. Essentially, we held utilization constant and assessed how spending would have changed if prices had changed from Medicare to commercial. Because the Medicare prices reflect geographic differences in costs, they are implicitly adjusted for variations in cost of living. This approach reflects differences in the sets of services used across markets and payers and thus approximates the answer to the policy question of how prices would change if commercial payers paid Medicare rates. The ratio is the total observed commercial spending divided by the total simulated Medicare payment for each setting.

Services were defined by diagnosis-related group codes for inpatient facility services and by *Current Procedural Terminology* (CPT) codes for outpatient facility and professional services. To compute the hypothetical spending of commercial claims at the Medicare price, we repriced commercial claims using the Medicare rate. Because Medicare prices vary by location, we used the state-specific average Medicare price for each service. For inpatient facility and professional services, these averages came directly from the Medicare Provider Utilization and Payment data and did not include critical access hospitals (which are reimbursed at 101 percent of their Medicare costs). Professional services provided in different settings were kept distinct. For example, a new patient office visit in an office setting was coded separately in our data from a new patient office visit in a hospital outpatient department.

We could not use this approach for outpatient facility prices because Medicare uses Ambulatory Payment Classification codes to define services, whereas commercial claims bill with CPT codes. Therefore, for outpatient facility services, we used the IBM MarketScan Medicare Supplemental Database to estimate national mean Medicare prices by CPT code for retirees for each service—prices that, for inpatient and professional services, have been shown to approximate Medicare fees.[20] Because of sample size issues, we could not use the geographic variation in these prices within the MarketScan data. Instead, we multiplied the national average price estimates by the state's Geographic Practice Cost Index to determine state Medicare prices. The index's weights are publicly available through the website of the Centers for Medicare and Medicaid Services.

MEASUREMENT OF REVENUE SHARES AND THE IMPACT OF PRICE REDUCTIONS Assessing the impact of various proposals to reduce commercial prices on providers' revenue requires not only knowing how high prices are but also understanding the relative importance of commercial payers in the population. This will vary across the country because some states have a greater share of commercial patients (relative to Medicaid and Medicare patients) than others do, and because utilization patterns may vary across market seg-

ments (for example, commercial versus Medicare). To measure the salience of commercial coverage in the payer mix, we used Medicare cost reports from the Healthcare Provider Cost Reporting Information System, which provide data on the revenue mix for hospitals by payer.[21] Since these data are based on hospitals, we focused on hospital services. Using the data was complex because Medicare Advantage revenue and Medicaid managed care revenue are included in the "other revenue" section along with all commercial revenue, even though those payers do not pay commercial prices. We extended the work others have done to use these data to measure prices by using volume data provided (such as admissions) and making assumptions about Medicare Advantage and Medicaid managed care prices (for example, they each pay approximately the same prices as their fee-for-service counterparts) to isolate revenue from commercial payers.[22,23]

To assess the impact of price reductions on hospital revenue, we had to specify the amount of price reduction. There are many possible regulatory approaches. We focused on the thought experiment of what would happen, on average, to hospital revenue if hospitals were paid Medicare rates for their commercial patients. We computed this by taking the commercial revenue share multiplied by 1 minus the ratio of Medicare to commercial prices. For example, if the commercial revenue share was 40 percent and the commercial price ratio was 1.5 (implying that the ratio of Medicare to commercial prices was 1:1.5), then the decline in revenue if commercial prices were set at the Medicare rates (and there was no volume response and no other prices changed) would be 13.3 percent—40 percent of (1 minus 1:1.5).

We computed this separately for inpatient and outpatient facility services. We then combined our inpatient and outpatient estimates by weighting them by the state-specific share of revenue that was inpatient or outpatient. Because more than 90 percent of the outpatient claims were from hospitals (emergency departments and outpatient departments), as opposed to ambulatory surgery centers or treatment centers for end-stage renal disease, this weight is likely appropriate for assessing the impact of commercial price reductions on hospitals.

LIMITATIONS Our analysis had several limitations. First, the data we used were from a nonrandom sample of commercial claims. We share this limitation with related work but believe that demonstrating consistent results with our data (which include more insurers than do data sets commonly used in other studies) is a contribution. Nevertheless, any given estimate must be viewed as only an approximation. Because of this, the correlations that we report reflect the measurement noise and are lower than if prices were measured without noise.

Policy makers should not be paralyzed into inaction by the prospect of revenue reductions.

Second, we report our results at the state level. We believe that states are useful units for the policy discussion.

The third limitation, which is related to the second, is that our results are averages. There is variation within states, both because states span markets and because there is well-known variation within markets. Cooper and coauthors have done a thorough examination of price variation at the provider level.[14]

Fourth, our price ratios were based on how spending would change if prices were standardized to the Medicare level. This is not the same as looking at price differences based on a fixed market basket (a set of health care services in fixed proportions that remains unchanged from one period to the next). We prefer our approach because the market basket of services used differs significantly between commercially insured beneficiaries and Medicare beneficiaries (compared to the latter, the former use more preventive and less postacute care). This is a conceptual advantage, and it avoids concerns about sample size (there were few commercial claims in some states for services that are relatively rare in commercial populations).

Fifth, estimates of revenue share from the Healthcare Provider Cost Reporting Information System were subject to error because the data included Medicare Advantage and Medicaid managed care claims in the same category as nonpublic commercial claims. We were forced to make assumptions about how to isolate the share of revenue from commercial payers.

Sixth, Medicare patients and commercial patients may differ in terms of the cost of delivering care to them. For example, lengths-of-stay may vary. As is the case in most studies of prices, our study could not adjust for this or, more broadly, for differences in the quality of the service provided.

Seventh, our simulations focused on quantifying the impact of lowering commercial prices to Medicare prices. Some Medicare for All proposals would raise Medicaid fees to Medicare rates. Our analysis did not capture this effect. Our intent was not to fully simulate Medicare for All proposals, which have many different provisions. Moreover, we did not have the data to incorporate this effect. Yet back-of-the-envelope calculations based on Medicare cost reports and estimates of Medicaid inpatient fees suggest that if we had adjusted for an increase in Medicaid fees, our estimates for the loss for inpatient care would have dropped only modestly, with a correlation with our primary estimates of 93 percent.

Finally, we could not simulate how providers would respond to limits on prices. They might increase volume to recoup revenue losses (which would offset savings), cut expenses, or choose some combination of the two. The literature that examines those responses is just emerging. Our results were intended to assess the magnitude of pressure that providers would face across states—not the eventual outcomes, good and bad, after providers responded.

Study Results

PRICE VARIATION For inpatient facility services, the national average ratio of commercial to Medicare inpatient prices was 2.06 in 2017 (exhibit 1). State ratios ranged from 1.40 to 2.74, with an interquartile range of 0.35. We examined six years (2012–17) of MarketScan and Medicare data and found these results to be generally robust over time (data not shown). For example, the pairwise year-to-year correlation within states of the inpatient facility price ratios ranged from 0.78 to 0.95, depending on the years compared.

For outpatient facility services, the national average ratio using the implied price method was 2.16 in 2017 (exhibit 1). State ratios ranged from 1.23 to 3.05, with an interquartile range of 0.46. These ratios were also fairly robust over time, with pairwise year-to-year correlation of 0.56–0.96 (data not shown).

For professional services, the national average ratio of professional services was 1.63 in 2017 (exhibit 1). State ratios ranged from 1.29 to 3.36, with an interquartile range of 0.36. The ratio of professional services was also robust over time, with very high (above 0.96) pairwise year-to-year correlations (data not shown).

The price ratios were moderately correlated across settings, which suggests that while places that have high prices in one setting are likely to have have high prices in another setting, that relationship is far from lockstep (see the online appendix for correlation coefficients [exhibit A1] and state price data [exhibit A2]).[24] The outpatient facility price ratios were correlated with the inpatient facility price ratios at 0.50 and with the professional ratios at 0.34. The professional and inpatient facility price ratios were correlated at 0.14. The correlation between inpatient and outpatient facility price ratios was significant ($p < 0.05$).

COMPARISON OF OUR PRICE RESULTS TO RESULTS OF OTHER STUDIES Our national findings were consistent with those of other studies. For example, when we compared our results to those of two recent comparable studies, we found that our inpatient price ratio of 2.06 was similar to that of 2.04 found by White and Whaley[15] and that of 2.20 found by Cooper and coauthors[14] (see appendix exhibit A3).[24] Our reported ratios were a bit larger than those from studies based on even older data, which reflects the faster growth in commercial prices relative to that in Medicare prices.[3,4,14,15,22,25–27]

Because data sources and methods differ, we expected differences in estimates for any given state. Richard Kronick and Sarah Hoda Neyaz reported an aggregated ratio of 2.09 in California, whereas our estimate was 2.48.[28] Our results were positively, albeit moderately, correlated with those of White and Whaley for the twenty-five states they studied.[15] Specifically, the correlation between their inpatient results and ours was 0.53. The analogous correlation for outpatient facility price ratios was 0.62. Differences across studies may reflect different data sources, years, and methods—including how differences in case-mix are addressed.

White and Whaley identified Indiana, Wisconsin, Wyoming, and Colorado as states where commercial payers paid much higher outpatient facility prices than Medicare did.[15] Our study confirmed that finding and added California, West Virginia, and Vermont to that list (appendix exhibit A2).[24] Similarly, White and Whaley found Maine, Montana, and Wyoming to be states with

EXHIBIT 1

Commercial payments as ratios of fee-for-service Medicare fees in 2017

	National	State		
Type of fee	**Mean**	**Interquartile range**	**Minimum**	**Maximum**
Inpatient facility	2.06	0.35	1.40	2.74
Outpatient facility	2.16	0.46	1.23	3.05
Professional	1.63	0.36	1.29	3.36

SOURCE Authors' analysis of data for 2017 from the IBM MarketScan Research Databases, Medicare Provider Utilization and Payment Data, and the Healthcare Provider Cost Reporting Information System.

higher-than-average ratios of inpatient facility prices. We also found those states to have higher-than-average ratios and added Oregon to the list.

VARIATION IN REVENUE Our estimates of the variation in commercial market revenue share suggest that states in the highest quartile of market share had 28 percentage points higher penetration of commercial revenue than did states in the lowest quartile of market share (data not shown). For example, we estimated that Florida had a commercial revenue share of 57 percent and that Colorado had a revenue share of 74 percent.

POTENTIAL IMPACT OF POLICY ON HOSPITAL REVENUE Our estimates of the impact of setting hospital prices at Medicare rates suggest that, on average, hospital revenue across all states would fall by about 35 percent (exhibit 2). Back-of-the-envelope calculations suggest that this result would drop to 30 percent if we assumed that Medicaid prices were raised to Medicare rates (data not shown). Our results suggest that the impact would vary across states. For example, in New Hampshire the impact would be a 40 percent reduction, while in Michigan the reduction would be 21 percent. Importantly, while providers in states with the biggest impacts would be the most challenged, consumers in those states would likely reap the greatest benefit if quality and access were maintained.

Others have not reported comparable evidence by state, but Cooper and coauthors reported that if commercial inpatient prices were set at 120 percent of Medicare rates rather than at their current levels, hospital inpatient revenue from the privately insured would drop by 20 percent[14] (our comparable estimate at the national level was a 21 percent drop) (data not shown). We extended much of this research by including outpatient revenue, so our estimates approximated the total drop in hospital revenue. While it is hard to compare results for specific states, and estimates of outlier states should be treated with caution, other reports provide some confirmatory evidence. For example, we estimated that Michigan had one of the lowest price ratios and would be less affected if hospital prices were set at Medicare rates, compared to many other states. White and Whaley also found that Michigan was the state with the lowest prices of the twenty-five they examined.[15]

Discussion And Policy Implications

Our findings demonstrate that prices charged for health care services in the commercial market are well above those paid by Medicare. Outpatient facilities have the biggest deviation (216 percent), followed by inpatient hospitals (206 percent) and professional services (163 percent). These ratios varied widely by state, with a state at the twenty-fifth percentile of price ratios paying about 27 percent, 25 percent, and 25 percent more than a state at the seventy-fifth percentile for inpatient, outpatient, and professional services respectively (data not shown). Such widespread variation in prices is indicative of market failures. Moreover, because the estimates examined both in- and out-of-network prices, they illustrate that the problem of high prices and market failure extends beyond the admittedly most egregious area of surprise billing.

If Medicare prices were to be extended to the commercial market, a slow transition would likely be needed.

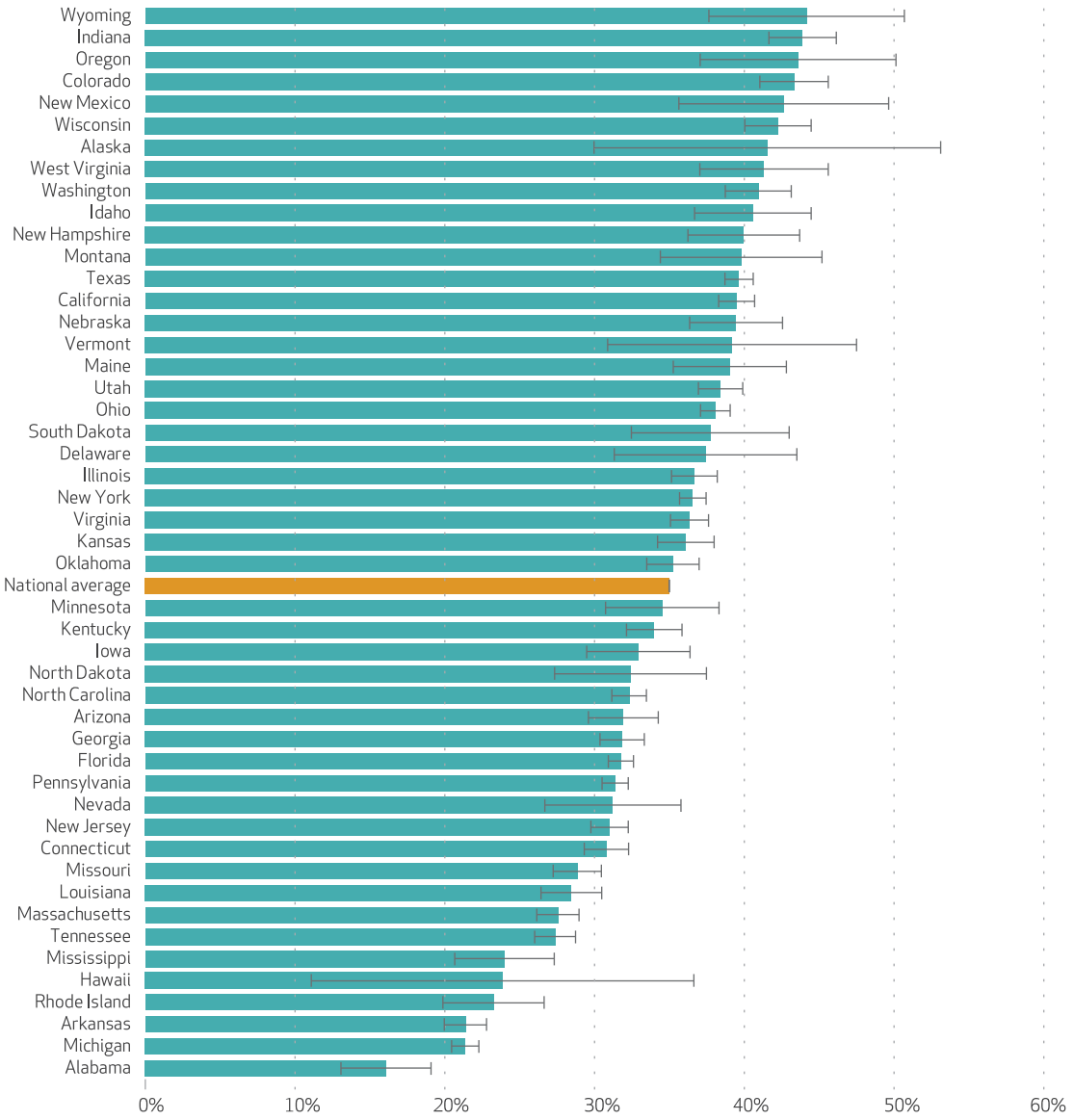
Though the statistics we report are consistent with those in the existing literature and the existence of market failure is certainly not new, our estimates of the ratios of commercial to Medicare prices are the broadest to date, adding states and a category of services (professional services) that have not been included in other studies of state-level ratios of commercial to Medicare prices.

The extreme gap between commercial and Medicare prices as well as a general sense of high prices and price variation in the commercial sector have driven growing calls for regulatory action. Public option proposals (including, but not limited to, Medicare for All) and various forms of direct price regulation are on the table. With premiums and out-of-pocket spending rising and clear evidence of market failure in the commercial sector, some action is imperative.

Yet because everyone's expense is someone else's revenue, the forces opposing strong action will be significant. Our results demonstrate the main concern: If all prices were pushed to Medicare rates, some providers would lose substantial revenue. This might not be as large as a problem as it may seem because expenses would fall and efficiency would likely improve, but some possibility of adverse effects exists, and those effects would be uneven across states. In fact, our results

EXHIBIT 2

Estimated percent of hospital revenue that would have been lost in 2017 if commercial rates matched fee-for-service Medicare fees, by state



SOURCE Authors' analysis of data for 2017 from the IBM MarketScan Research Databases, Medicare Provider Utilization and Payment Data, and the Healthcare Provider Cost Reporting Information System. **NOTES** The error bars represent 95% confidence intervals. We obtained the variance of state ratios by bootstrapping the estimates. In states with smaller sample sizes, the bootstrapped variance estimators may be larger. There was variation in the commercial penetration rate because state estimates came from samples of different sizes, based on the number of hospitals in each state. We used Satterthwaite approximation to estimate the combined standard error of the state ratios and the commercial penetration rate in each state. Maryland was excluded from the study because of its all-payer hospital payment system. South Carolina's results were suppressed because of data use agreements with IBM.

are averages. Within states, some providers would be hit harder than our estimates indicate (and other providers would suffer smaller revenue losses).

Policy makers should not be paralyzed into inaction by the prospect of revenue reductions. Evidence suggests that providers have some room to lower expenses without deleterious consequences, and the providers most dramatically affected would be those who are currently paid the most generous prices and serve the most lucrative payer mix. Yet large reductions in revenue might have adverse ramifications. For example, while the evidence of price cuts and quality is not extensive, there is some cause for concern.[29,30]

Thus, the core challenge is how to balance the obvious need for action with the potential asso-

ciated deleterious consequences. As is the case in other descriptive studies that examine prices in the commercial sector, our analysis cannot directly guide policy actions, but the evidence does support avoiding making dramatic changes quickly. If Medicare prices were to be extended to the commercial market, a slow transition would likely be needed. Alternative strategies that give policy makers more control over the pace of change and greater flexibility to alter the aggressiveness of regulation may be advisable. For example, a combination of price caps and limits on price growth (as has been used in Rhode Island) may be a reasonable approach, while policy makers simultaneously try to increase competition.

Conclusion

The level of and variation in prices charged for health care services in the commercial insurance market suggests that there is a role for regulation to limit the adverse consequences of market failure. Regulation would have different consequences across states, and if prices were lowered to Medicare levels, the impact might be significant. Careful crafting of legislation and regulations is crucial to balance the need for policy action with the potentially unintended consequences of large price reductions. ■

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What Does CMS Approval of First COVID-19 Section 1115 Waiver in Washington Mean for Other States?

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Prior to the pandemic, the Trump Administration was encouraging and states were pursuing a range of changes to state Medicaid programs through Section 1115 waivers (https://www.kff.org/medicaid/issue-brief/medicaid-waiver-tracker-approved-and-pending-section-1115-waivers-by-state/) that ranged from waivers to enable states to receive federal Medicaid funds for services delivered in an institution for mental disease (IMD) for treatment of substance use disorder or serious mental illness, condition Medicaid eligibility on meeting work requirements, and, more recently, not to apply an array of federal rules in exchange for capped federal financing. The focus of Section 1115 waivers has taken a sharp turn to using waivers as a vehicle to respond to needs tied to COVID-19. Historically, Section 1115 authority has provided states with broader flexibility to expand coverage and/or provide uncompensated care to address the direct impact of natural disasters and public health emergencies (like New York City after 9/11 (https://www.kff.org/medicaid/report/new-yorks-disaster-relief-medicaid-insights-and/), Hurricane Katrina (https://www.kff.org/medicaid/fact-sheet/a-comparison-of-the-seventeen-approved-katrina/), and Flint Michigan (https://www.kff.org/medicaid/fact-sheet/michigans-medicaid-section-1115-waiver-to-address-effects-of-lead-exposure-in-flint/)) on state Medicaid and Children's Health Insurance Program (CHIP) programs. State actions under Section 1115 can help complement what states are doing under other emergency authorities (https://www.kff.org/medicaid/issue-brief/medicaid-emergency-authority-tracker-approved-state-actions-to-address-covid-19/) (e.g., Section 1135 and 1915 (c) Appendix K) as well as their own existing authority to respond to emergency needs if approved by CMS.

In response to the COVID-19 public health emergency, CMS developed a new Medicaid section 1115 demonstration opportunity (https://www.medicaid.gov/sites/default/files/Federal-Policy-Guidance/Downloads/smd20002-1115template.docx) **and application template.** These demonstrations are intended to enable states to provide medical assistance in ways to help protect the health, safety and welfare of individuals and providers affected by COVID-19. There are requirements for monitoring and evaluation, but CMS is not requiring states to submit calculations showing that the waiver would be budget neutral to the federal government like traditional waivers due to the unprecedented emergency nature of the pandemic. These demonstrations can be retroactive to March 1, 2020 and will expire no later than 60 days after the end of the public health emergency. To date, at least 15 states have submitted Section 1115 COVID-19 related emergency waivers.

CMS approved the first emergency COVID-19 Section 1115 waiver for Washington (https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/wa-covid19-phe-ca.pdf) **on April 21, 2020.** Most of the approved provisions in the waiver relate to long-term services and supports (LTSS) and follow the "pre-printed" waiver and expenditure authorities outlined in the CMS template. Most of the provisions extend HCBS flexibilities available under 1915 (c) home and community-based services waiver Appendix K (https://www.kff.org/medicaid/issue-brief/covid-19-issues-and-medicaid-policy-options-for-people-who-need-long-term-services-and-supports/) to beneficiaries receiving LTSS under SPA authorities. The changes can help support HCBS enrollees and providers.

In the letter to the state, CMS noted that some provisions requested by the state were not approved and others were still under consideration.

- **New temporary coverage:** CMS did not approve the state's request to establish a temporary eligibility group for individuals with incomes at or below 200% FPL. Washington had proposed using Medicaid funds to provide additional subsidies for people enrolled in Qualified Health Plans (QHPs) with income at or below 200% FPL to allow individuals to purchase and use Marketplace coverage with no or low out-of-pocket costs.
- **Coverage for COVID-19 treatment for the uninsured:** CMS is continuing to review Washington's request for Medicaid expenditure authority to create a Disaster Relief Fund to cover costs associated with the treatment of uninsured individuals with COVID-19, housing, nutrition supports and other COVID related expenditures.
- **Other provisions still under review:** Other requests under continuing review include the state's request to make retainer payments to HCBS providers beyond the 30-day limit, other payments to providers beyond those approved, and to allow transportation brokers to directly provide Non-Emergency Medical Transportation (NEMT).

Based on the Washington approval, it is not clear whether/when/how far CMS will go beyond the template to approve other state requests. Similar to CMS' approach to reviewing/approving Section 1135 emergency waivers, CMS has approved provisions in the template but noted they will continue to consider other requests. During state stakeholder calls, CMS has said they will consider other available federal funds before approving state requests for expenditure authority for certain activities. For example, CMS pointed to relief funds available through CARES as rationale for not approving Washington's request to cover treatment costs for the uninsured through Medicaid. In addition to Washington, other states have turned to Section 1115 waivers seeking additional flexibility to address pressing health coverage, benefit, delivery, and payment issues. For example, states are seeking to provide temporary housing for homeless individuals who test positive for coronavirus, extend/broaden coverage of home delivered meals, and the authority to use Medicaid funds to cover coronavirus-related testing and treatment for individuals in jails and prisons. During state stakeholder calls, CMS has noted they will not be approving Medicaid expenditure authority now for housing or additional nutrition services nor will they approve provisions that states could implement through other authorities. As the cases and deaths from the pandemic continue to rise, states continue to struggle to address the myriad of issues related to COVID-19. Whether CMS will consider other state requests and how quickly they will respond are outstanding questions.

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Updated April 30, 2020

States Can Quickly Expand Medicaid to Provide Coverage and Financial Security to Millions

By Jessica Schubel

Millions of low-income uninsured people would gain much-needed coverage if the remaining 15 states quickly implemented the Affordable Care Act's (ACA) Medicaid expansion. Expanding Medicaid now would cover over 4 million currently uninsured adults in these states and potentially many more who lose their jobs or much of their income in coming months.

Some have claimed that states that haven't yet expanded coverage can't do so in time to make a difference during the current public health crisis. For example, Nebraska Governor Pete Ricketts recently said that expanding Medicaid during the COVID-19 pandemic "isn't feasible."[1] Such claims are mistaken. Swift action to adopt and implement expansion could allow people to enroll in Medicaid coverage as early as June or July. And people signing up for coverage this summer could also be eligible for retroactive coverage through Medicaid. Retroactive coverage could cover medical costs — including COVID-19 treatment — incurred up to three months prior to actual enrollment, providing financial protection for patients getting treatment *now* and for providers whose costs would otherwise go unpaid.

Implementing expansion on this timeline would require significant effort from states, but motivated states have moved quickly in the past. Moreover, implementing expansion any time this year would leave states better equipped for any subsequent waves of COVID-19 infections and help prevent large spikes in uninsured rates during the economic downturn, which forecasters now expect will be worse than the Great Recession and will continue through 2021.

[1] KCAU staff, "Gov. Ricketts Says Medicaid Expansion Not Feasible During Pandemic," KCAU, March 25, 2020, https://www.siouxlandproud.com/news/local-news/gov-ricketts-to-update-nebraska-on-covid-19-need-for-blood-donations/; and Chip Brownlee, "Governor: It Would [Be] 'Irresponsible' for Alabama to Expand Medicaid Right Now," *Alabama Political Reporter,* April 14, 2020, https://www.alreporter.com/2020/04/14/governor-it-would-irresponsible-for-alabama-to-expand-medicaid-right-now/.

Medicaid Expansion Ensures People Have Coverage When They Need It

Over 4 million currently uninsured people would gain coverage if the remaining 15 states implemented Medicaid expansion.[2] And the importance of expansion will only grow during the economic downturn. In states that have expanded Medicaid, most people who have lost their jobs or seen sharp drops in income will be able to get covered, while in non-expansion states, many will become uninsured. Prior to the crisis, fewer than 20 percent of unemployed people were uninsured in expansion states, compared to over 40 percent in non-expansion states.[3]

The benefits of expanding Medicaid extend beyond the current crisis. Research shows that Medicaid expansion increases access to care, improves financial security, and saves lives. For example, expansion has increased the share of low-income adults getting check-ups and regular care for chronic conditions, reduced medical debt and housing evictions, and saved over 19,000 lives just among older adults in states that adopted it.[4]

But expanding access to health insurance is especially important during a public health crisis. Without health coverage, people with COVID-19 symptoms may be afraid to seek testing or treatment because they worry they can't afford it, which can endanger their health, delay detection, and needlessly spread the disease. Medicaid covers testing and treatment for COVID-19 as well as for other health conditions, such as diabetes, hypertension, or heart disease, that make people more vulnerable to the virus.

States Can Provide Immediate Financial Security by Quickly Adopting Expansion

It's not too late for the remaining 15 states to implement Medicaid expansion and improve access to care during the current public health crisis. A few states are especially well positioned to act fast, as explained later in this paper. But all remaining non-expansion states could begin enrolling people in coverage this summer and provide them with some financial protection almost immediately.

States Can Obtain Approval for Expansion Retroactive to April 1

States can always expand Medicaid quickly by amending their Medicaid state plans to take up the ACA option to cover low-income adults up to 138 percent of the poverty line. States must submit three state plan amendments (SPAs) to the Centers for Medicare & Medicaid Services (CMS): one expanding eligibility, one outlining the expansion group's benefit package, and one describing the

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[2] Matthew Buettgens, "The Implications of Medicaid Expansion in the Remaining States: 2018 Update," Urban Institute, May 2018, https://www.urban.org/sites/default/files/publication/98467/the_implications_of_medicaid_expansion_2001838_2.pdf.

[3] Anuj Gangopadhayaya and Bowen Garrett, "Unemployment, Health Insurance, and the COVID-19 Recession," Urban Institute, April 2020, https://www.urban.org/sites/default/files/publication/101946/unemployment-health-insurance-and-the-covid-19-recession.pdf.

[4] Madeline Guth, Rachel Garfield, and Robin Rudowitz, "The Effects of Medicaid Expansion under the ACA: Updated Findings from a Literature Review," Kaiser Family Foundation, March 17, 2020, https://www.kff.org/report-section/the-effects-of-medicaid-expansion-under-the-aca-updated-findings-from-a-literature-review-report.

procedures for determining the appropriate federal match rate for expansion enrollees. When Louisiana expanded Medicaid in 2016, it took CMS only three weeks to approve Louisiana's SPAs. [5]

What's more, a state can always ask CMS to approve its SPAs retroactive to the start of the quarter in which it submitted them. So if a state is ready to begin accepting applications for Medicaid expansion coverage while its SPAs are still pending at CMS, it can do so. Once CMS approves the SPAs, the state can enroll people immediately and make expansion effective as early as the first of the quarter in which the SPAs were submitted.

That's important, because it means people enrolling in Medicaid this summer could receive *three full months of retroactive coverage.* A feature of Medicaid since 1972, retroactive coverage helps prevent medical debt and bankruptcy for enrollees and uncompensated care costs for providers by paying costs that a Medicaid beneficiary incurred during the three months before applying, if they were otherwise eligible for Medicaid. If a state submits its expansion SPAs before June 30, it can make its expansion retroactive to April 1, allowing Medicaid to pay for medical costs incurred starting April 1, even if people don't formally apply for Medicaid until July.

In addition to helping vulnerable individuals, retroactive coverage will help ensure the financial stability of health care providers by reducing their uncompensated care costs. Many hospitals are struggling with the combined burden of COVID-19 costs and reduced revenue from elective procedures, and other providers are struggling with reduced revenue from plummeting demand.

States Can Begin Implementing Expansion Quickly

States expanding Medicaid will need to revise their eligibility systems to enroll a new group of people. While fast turnarounds aren't typical, motivated states can implement quickly, especially if they begin making system changes as soon as they announce their intention to expand. For example, Alaska's expansion took effect just a month and a half after Governor Bill Walker announced the state's intention to expand. In Maine, expansion enrollment began one week after Governor Janet Mills signed an executive order to start implementation.[6]

Implementing expansion during the COVID-19 crisis could prove especially challenging.[7] But even with a rocky or slow rollout, making expansion coverage available would immediately provide options for those experiencing serious illness, including COVID-19 patients.

In addition, states can use various strategies to get people covered while limiting the burden on eligibility staff. These include:

- **Automatically enrolling people from family planning programs.** Many non-expansion states provide low-income adults with limited Medicaid coverage for family planning services

[5] Linda Blumberg and Cindy Mann, "Quickly Expanding Medicaid Eligibility as an Urgent Response to the Coronavirus Pandemic," Urban Institute, March 2020, https://www.urban.org/sites/default/files/publication/101910/quickly-expanding-medicaid-eligibility-as-an-urgent-response-to-the-coronavirus-pandemic_1.pdf.

[6] Blumberg and Mann.

[7] Jennifer Wagner, "Medicaid Agencies Should Prioritize New Applications, Continuity of Coverage During COVID-19 Emergency," Center on Budget and Policy Priorities, March 19, 2020, https://www.cbpp.org/blog/medicaid-agencies-should-prioritize-new-applications-continuity-of-coverage-during-covid-19.

and supplies. These states already have the information needed to determine these adults' eligibility for expansion and can seamlessly enroll them into full Medicaid coverage. Louisiana, for example, used this strategy when it expanded in 2016, automatically enrolling 197,000 people from its family planning program and its limited coverage section 1115 demonstration project.[8]

- **Enrolling people based on their enrollment in other federal programs.** Most non-elderly, non-disabled adults enrolled in the Supplemental Nutrition Assistance Program (SNAP) are eligible for Medicaid, and states have the information necessary to make a full Medicaid determination for the majority of these adults.[9] Using the SNAP data available to them, states can quickly identify and enroll people who would also be eligible for Medicaid, without a separate Medicaid application. In 2016, Louisiana was the first state approved to implement this strategy, which Virginia also adopted when implementing expansion in 2018.[10]
- **Enrolling parents based on their children's Medicaid eligibility.** Medicaid eligibility levels for parents in non-expansion states are generally very low, but all states cover children with family income up to 138 percent of the poverty line, which means many parents whose children are already enrolled in Medicaid would likely qualify if a state expanded. Using the household information in the child's file, states can identify these parents and quickly enroll them into coverage.[11] Several states have implemented this strategy, including California, New Jersey, Oregon, and West Virginia.[12]
- **Expanding presumptive eligibility (PE).** PE allows hospitals, clinics, and other entities to screen individuals for Medicaid eligibility and temporarily enroll those who appear eligible; individuals can then submit a full Medicaid application for ongoing coverage. States have broad authority to designate health care providers to conduct PE and should consider expanding the types of entities that can conduct PE, including the state Medicaid agency. PE is a valuable option to quickly enroll people when they seek care and guarantee payment to hospitals and providers during the PE period — an especially important feature given providers' increasing financial strain due to the pandemic.[13]

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[8] Kaiser Family Foundation, "Becoming Healthy Louisiana: System-Assisted Medicaid Enrollment," July 2016, http://files.kff.org/attachment/fact-sheet-Becoming-Healthy-Louisiana-System-Assisted-Medicaid-Enrollment.

[9] Dorothy Rosenbaum, Shelby Gonzales, and Danilo Trisi, "A Technical Assessment of SNAP and Medicaid Financial Eligibility Under the Affordable Care Act (ACA)," Center on Budget and Policy Priorities, June 6, 2013, https://www.cbpp.org/research/food-assistance/a-technical-assessment-of-snap-and-medicaid-financial-eligibility-under-the.

[10] Kaiser Family Foundation, "Becoming Healthy Louisiana," *op. cit.;* and Centers for Medicare & Medicaid Services, "SPA# 18-013," September 19, 2018, https://www.medicaid.gov/sites/default/files/State-resource-center/Medicaid-State-Plan-Amendments/Downloads/VA/VA-18-013.pdf.

[11] Centers for Medicare & Medicaid Services, "SHO#13-003: Facilitating Medicaid and CHIP Enrollment and Renewal in 2014," May 17, 2013, https://www.medicaid.gov/sites/default/files/Federal-Policy-Guidance/downloads/SHO-13-003.pdf.

[12] Centers for Medicare & Medicaid Services, "Targeted Enrollment Strategies," August 1, 2014, https://www.medicaid.gov/medicaid/national-medicaid-chip-program-information/targeted-enrollment-strategies/index.html.

[13] For more information on PE and how states can further streamline enrollment processes, see Jennifer Wagner, "Streamlining Medicaid Enrollment During COVID-19 Public Health Emergency," Center on Budget and Policy

- **Minimizing paperwork and further streamlining enrollment.** States can minimize paperwork by leveraging electronic data sources to verify eligibility and maximizing the use of self-attestation. States can also streamline enrollment by leveraging the federal Healthcare.gov site to conduct Medicaid eligibility determinations and by expanding real-time eligibility determinations.

Timeline for Expansion in a Motivated State

Suppose a state decides to expand Medicaid and completes its three Medicaid expansion SPA templates in May. (See Figure 1.) The state can submit two of these SPAs, on eligibility and claiming procedures, immediately to CMS and request approval effective April 1. The third SPA, on benefits, requires a state to provide the public a "reasonable opportunity to comment,"[14] but since the state has discretion over the length of the public notice process, suppose it lasts 14 days and then submits on May 30, again requesting approval effective April 1. During this public notice process, the state should also seek technical assistance from CMS to identify potential issues during the approval process, as the benefits SPA is often the most complex of the three.

Simultaneously, the state can — and should — make needed eligibility system changes to expedite the enrollment process. For example, the state could use this time to make the necessary changes to automatically enroll people from other programs, as described above, and to accept applications in May so it can easily effectuate coverage upon approval. States can receive an enhanced federal match for costs related to these system changes.

Suppose CMS approves the SPAs on July 1. Then:

- Beginning that same day (July 1), coverage can take effect for people who applied in May or June, with retroactive coverage going back to April 1.
- The state may decide to adopt additional enrollment strategies, such as expanding PE, to enroll more people starting in July.
- For people enrolling in July or beyond, coverage will take effect as normal, including three months of retroactive coverage that cover costs going back to April for July enrollees.

As this timetable illustrates, a motivated state could use expansion to: (a) reimburse costs for COVID-19 cases being treated *right now;* (b) provide comprehensive coverage and ready access to care for people who will contract COVID-19 in the summer and fall; and (c) prevent the state's uninsured rates from spiking during the economic crisis, in which unemployment is expected to peak later this year and remain elevated at least through 2021.[15]

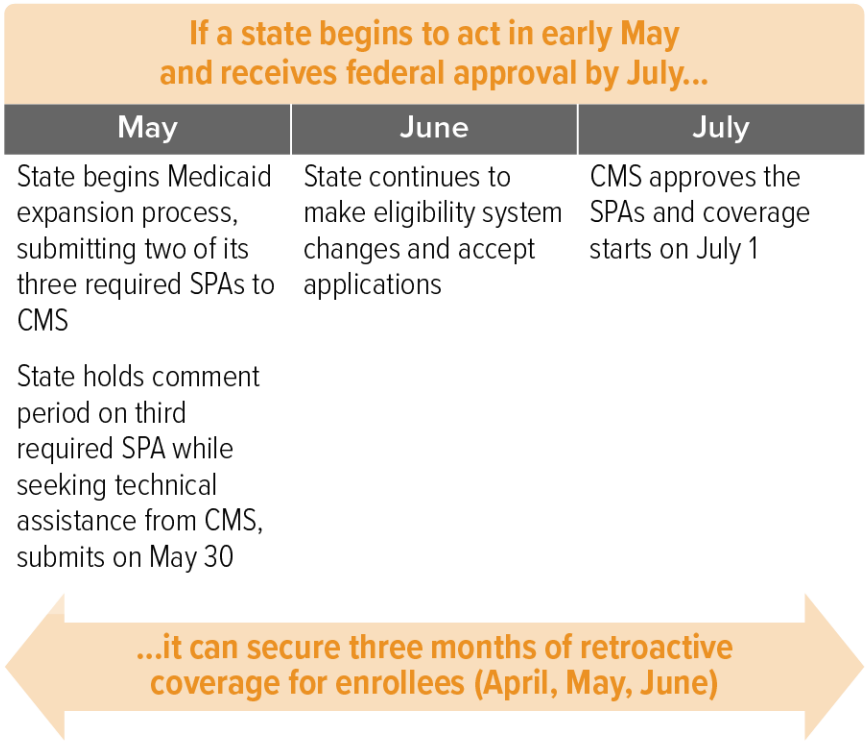
Priorities, April 7, 2020, https://www.cbpp.org/research/health/streamlining-medicaid-enrollment-during-covid-19-public-health-emergency.

[14] 42 CFR §440.386. In addition to soliciting public comment, a state may need to consult tribes in accordance with its approved tribal consultation process prior to submission.

[15] Phill Swagel, "Updating CBO's Economic Forecast to Account for the Pandemic," Congressional Budget Office, April 2, 2020, https://www.cbo.gov/publication/56314; and Jan Hatzius, *et al.,* "The Sudden Stop: A Deeper Trough, A Bigger Rebound," Goldman Sachs, March 31, 2020, https://www.courthousenews.com/wp-content/uploads/2020/04/US-Economics-Analyst-3-31.pdf.

FIGURE 1

States Can Expand Medicaid Quickly and Provide Three Months of Retroactive Coverage for Enrollees



SPA = state plan amendments; CMS = Centers for Medicare & Medicaid Services

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Some States Especially Well Positioned to Move Quickly on Expansion

All states can move quickly to implement Medicaid expansion, but a few could do so especially easily.

- **Nebraska** received CMS approval for two of its three Medicaid expansion SPAs on March 10; the outstanding SPA has been under review at CMS since December 2019.[16] The state announced that it won't start accepting applications until August 1 and that coverage won't be effective until October 1, but it can take steps *now* to implement expansion faster.[17] First, it should resolve any outstanding issues with the remaining expansion SPA to expedite CMS

[16] Centers for Medicare & Medicaid Services, "State Plan Amendment: #19-0002," March 10, 2020, https://www.medicaid.gov/sites/default/files/State-resource-center/Medicaid-State-Plan-Amendments/Downloads/NE/NE-19-0002.pdf; Centers for Medicare & Medicaid Services, "State Plan Amendment: #19-0003," March 10, 2020, https://www.medicaid.gov/sites/default/files/State-resource-center/Medicaid-State-Plan-Amendments/Downloads/NE/NE-19-0003.pdf; and Nebraska Department of Health and Human Services, "State Plan Amendment; #19-0014," December 12, 2019, http://dhhs.ne.gov/Pages/Medicaid-State-Plan-Amendments.aspx.

[17] Nebraska Department of Health and Human Services, "Nebraska Medicaid Issues Expansion Update," April 10, 2020, http://dhhs.ne.gov/Pages/Nebraska-Medicaid-Issues-Expansion-Update.aspx.

approval. Second, it should amend its already approved SPAs to change the coverage effective date to April 1; that way it can start accepting applications and effectuate coverage when it gets CMS approval. Even prior to the recession, expansion was predicted to provide Medicaid coverage to 80,000 Nebraskans.[18]

- **Wisconsin** already covers adults with incomes up to the poverty line through a section 1115 demonstration. But it pays 41 percent of the cost of covering them, rather than the 10 percent it would pay under expansion, because it hasn't adopted expansion and covered people with incomes up to 138 percent of the poverty line. Those additional costs far exceed what the state would pay to cover near-poor adults. In fact, Wisconsin already has left more than $1 billion in federal funding on the table by not fully expanding Medicaid.[19] Adopting Medicaid expansion effective April 1 would help Wisconsin address budget shortfalls almost certain to result from the downturn, while making more affordable coverage available to near-poor residents now covered through the marketplace. Even prior to the recession, expansion was projected to provide Medicaid coverage to an additional 82,000 Wisconsonites.[20]
- **Oklahoma** submitted its Medicaid expansion SPAs to CMS on February 21, with a coverage effective date of July 1.[21] The state should amend its request to make its expansion retroactive to April 1 so people obtaining coverage this summer can qualify for retroactive coverage of costs incurred now. It also should begin accepting applications now, to get people enrolled as quickly as possible. Even prior to the recession, expansion was projected to provide Medicaid coverage to 220,000 Oklahomans.[22]
- **Kansas** Governor Laura Kelly and Senate Majority Leader Jim Denning reached a bipartisan agreement in January to expand Medicaid. The Kansas legislature had to suspend its session due to COVID-19 but plans to resume work later this month. The expansion bill has already received committee hearings, and policymakers could fast-track its passage and implementation in order to provide Medicaid coverage to 120,000 Kansans.[23]

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[18] Nebraska Department of Health and Human Services, "Section 1115 Heritage Health Adult Expansion Demonstration," December 12, 2019, http://dhhs.ne.gov/Documents/1115_HHA_Application.PDF.

[19] Scott Bauer, "Evers' Health Agency Leaders Dedicated to Medicaid Expansion," *U.S. News & World Report,* March 12, 2019, https://www.usnews.com/news/best-states/wisconsin/articles/2019-03-12/evers-health-agency-leaders-dedicated-to-medicaid-expansion.

[20] Wisconsin Department of Health Services, "Expanding Medicaid: Positive Economic Impacts," Governor Evers' 2019 Budget, February 2019, https://www.dhs.wisconsin.gov/publications/p02366.pdf.

[21] Oklahoma Health Care Authority, "Medicaid Adult Expansion SPAs: Eligibility, Alternative Benefit Plan, and FMAP Claiming," February 21, 2020, http://okhca.org/xPolicyChange.aspx?id=24565&blogid=68505.

[22] Oklahoma Health Care Authority, "SoonerCare 2.0 HAO Information Session," https://www.okhca.org/soonercare2/.

[23] Kansas Division of the Budget, "Fiscal Note for SB 252," January 22, 2020, http://www.kslegislature.org/li/b2019_20/measures/documents/fisc_note_sb252_00_0000.pdf.

Double Jeopardy: Low Wage Workers at Risk for Health and Financial Implications of COVID-19

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Issue Brief

The public health crisis caused by the coronavirus pandemic carries both health and economic implications. In addition to widespread illness and high death rates, social distancing policies required to address COVID-19 have led many businesses to cut hours, cease operations, or close altogether. People who work in certain industries, such as restaurant, hospitality, retail, and other service industries, are particularly at risk for loss of income. Those who maintain jobs amid the coronavirus outbreak, such as health care workers, grocery store workers, and delivery drivers, are at increased risk of contracting coronavirus since they remain exposed to other individuals. Many of these workers are low-wage workers and will have limited ability to absorb income declines or afford health care costs. Over 25 million nonelderly adults worked in low-wage jobs in 2018, meaning they were among the bottom 20% of earners among working nonelderly adults.[1] This brief analyzes data on low-wage workers in the context of COVID-19 and discusses the implications of the pandemic for their jobs, health, and financial security.

What risks do low-wage workers face?

Low-wage workers are employed in jobs that are at high risk for loss of income. Recent unemployment filing data (https://www.kff.org/other/state-indicator/unemployment-claims/) indicates that millions have filed for unemployment benefits in recent weeks, reflecting widespread layoffs. State comments on data filings indicate that most claims are for people previously employed in service industries, particularly accommodation and food services, with an increasing rate for people in retail, wholesale trade, and construction industries. Workers in these

industries are disproportionately likely to be low-wage, with about a fifth of low-wage workers employed in each of the entertainment/accommodation/food services (20%) and retail (19%) industries, and another tenth in service (5%) or construction (5%) (Appendix Table 1).[2] Low-wage workers who remain employed may be marginally employed or experience a loss of income. Data from another source[3] indicates that a third of low-wage workers were employed part time (defined in this analysis as fewer than 35 hours per week) and may therefore be working fewer hours if hours were cut. The vast majority of low-wage workers (80%) were paid hourly, meaning if their hours are scaled back they lose pay directly. A large share (43%) of low-wage workers are employed in firms with fewer than 25 people, and small firms may be less able to weather the financial crisis.[4]

Low-wage workers who are still employed may face health risks due to the nature of their jobs. Common occupations for low-wage workers include cashiers and retail salespersons, many of whom may not be working as businesses have closed (Table 1); however, those who are working in "essential businesses" that remain open (such as grocery stores) are still in close contact with the public. Other top occupations, such as cooks and waiters/waitresses, may similarly still be working as restaurants move to delivery and take-out options, putting these workers in contact with colleagues and perhaps the public. A notable number of low-wage workers are engaged in positions that are likely involved with delivery of goods and services to people who remain at home under stay at home orders (e.g., laborers/freight, stock and material movers, stockers/order fillers, and drivers/truck drivers). Nearly one in ten (9%) low-wage workers reports that they are in fair or poor health,[5] possibly putting them at increased risk for serious illness if they contract coronavirus.

Table 1: Top 10 Occupations Among Low-Wage Workers, 2018

Occupation	Number of Low-Wage Workers
Cashiers	1,660,200
Retail Salespersons	1,112,700
Cooks	1,083,900
Waiters and Waitresses	1,008,800
Customer Service Representatives	798,000
Laborers & Freight, Stock, and Material Movers	790,200
Janitors and Building Cleaners	756,400
Stockers and Order Fillers	652,800
Drivers/Sales Workers and Truck Drivers	550,200
Teaching Assistants	535,400

Figure 3: Financial Insecurity Among Low-Wage Workers, 2018Notes: Low-Wage Workers defined as those in bottom quintile of people who earned at least $1000 in past year and worked at least 20 hours in usual week working.
Source: KFF analysis of 2018 American Community Survey, 1-Year Estimates.

A large number of low-wage workers are working directly in the health care workforce. 3.5 million low-wage workers are in the health and social services industry, with the greatest number of those (1.3 million) working as aides or personal care workers (e.g., nursing assistants or personal care aides) whose jobs will bring them into frequent, close contact with patients (Table 2). Nearly a million more work as direct contact support workers—jobs such as maids/janitors, housekeeping and laundry, or food service workers—whose jobs also will bring them into direct contact with others. Within these two occupation groups, a third or more of workers are low-wage. Many of these workers are “essential workers” who likely are still employed but facing substantial health risks due to the nature of their jobs.

Table 2: Workers in Health and Social Services Industry, by Occupation and Wage Group, 2018

Occupation	Total Workers	Low-Wage Workers	
		Number	Share of Total Workers Who are Low-Wage Within Occupation
All Occupations	19,479,000	3,455,000	18%
Aides and Personal Care Workers	4,164,000	1,322,000	32%
Direct Contact Support Workers	2,396,000	922,000	39%
Other Support Workers & Managers	5,383,000	658,000	12%
Health Care Providers	6,530,000	439,000	7%
Social Workers and Behavioral Health Providers	1,006,000	114,000	11%

NOTE: Workers includes nonelderly adults earning at least $1,000 in past year and working at least 20 hours per week in a usual week working. Low-Wage Workers defined as those in the bottom earnings quintile among all workers.
SOURCE: KFF analysis of 2018 American Community Survey, 1-Year Estimates.

Who works in low-wage jobs?

Women, young adults, and groups of color are particularly likely to be low-wage workers. Reflecting the fact that people who more recently entered the workforce are likely to earn less, over a third (35%) are young adults aged 19-25—representing half of all workers in this age group— and another 22% are aged 26-34. Low-wage workers are also more likely to be female (58%, versus 47% for all workers). Although most low-wage workers are White, they are disproportionately Hispanic or Black Non-Hispanic race/ethnicity (Figure 1). While higher rates of underlying health conditions partially explains the disproportionate impact (https://www.kff.org/disparities-policy/issue-brief/communities-of-color-at-higher-risk-for-health-and-economic-challenges-due-to-covid-19/) that the pandemic is having on groups of color in the United States, other risk factors such as type of employment and ongoing exposure may also explain disparities in cases and deaths.

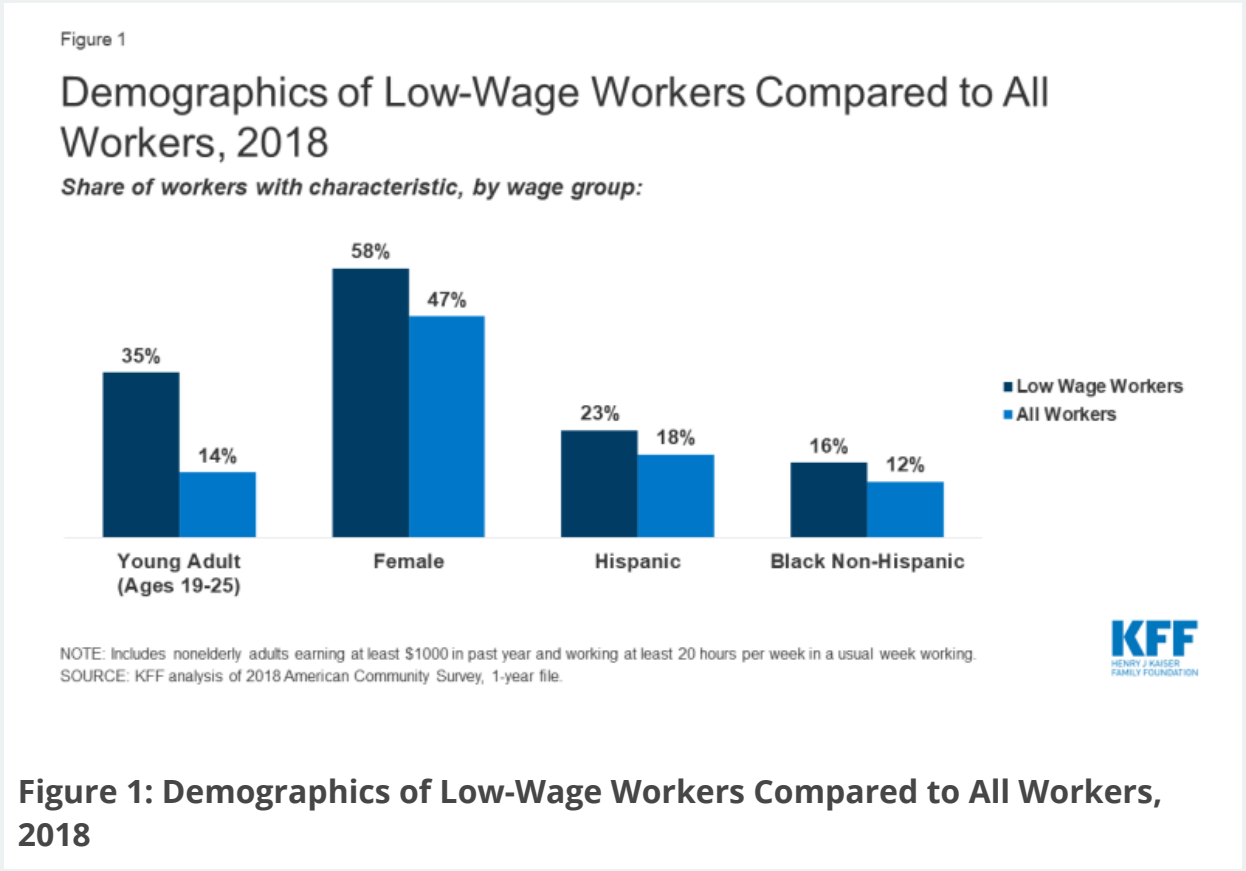

Figure 1: Demographics of Low-Wage Workers Compared to All Workers, 2018

What other risks do low-wage workers face due to COVID-19?

Medicaid plays a key role in providing health coverage to low-wage workers, covering more than one in five (22%) low-wage workers in 2018 (Figure 2), and is likely to continue to be an important source of coverage for this group. Most low-wage workers who had Medicaid while working are likely to remain eligible for Medicaid even if their income drops due to lost hours or employment, since there is no lower floor on Medicaid eligibility. Some people who lose their jobs (https://www.kff.org/health-reform/issue-brief/changes-in-income-and-health-coverage-eligibility-after-job-loss-due-to-covid-19/)—especially those who live in states that expanded Medicaid (https://www.kff.org/medicaid/issue-brief/status-of-state-medicaid-expansion-decisions-interactive-map/) under the ACA— may become newly eligible for Medicaid if their income (calculated based on other income in the family plus any state unemployment benefit they receive) falls below state eligibility limits (138% of poverty in states that expanded under the ACA).

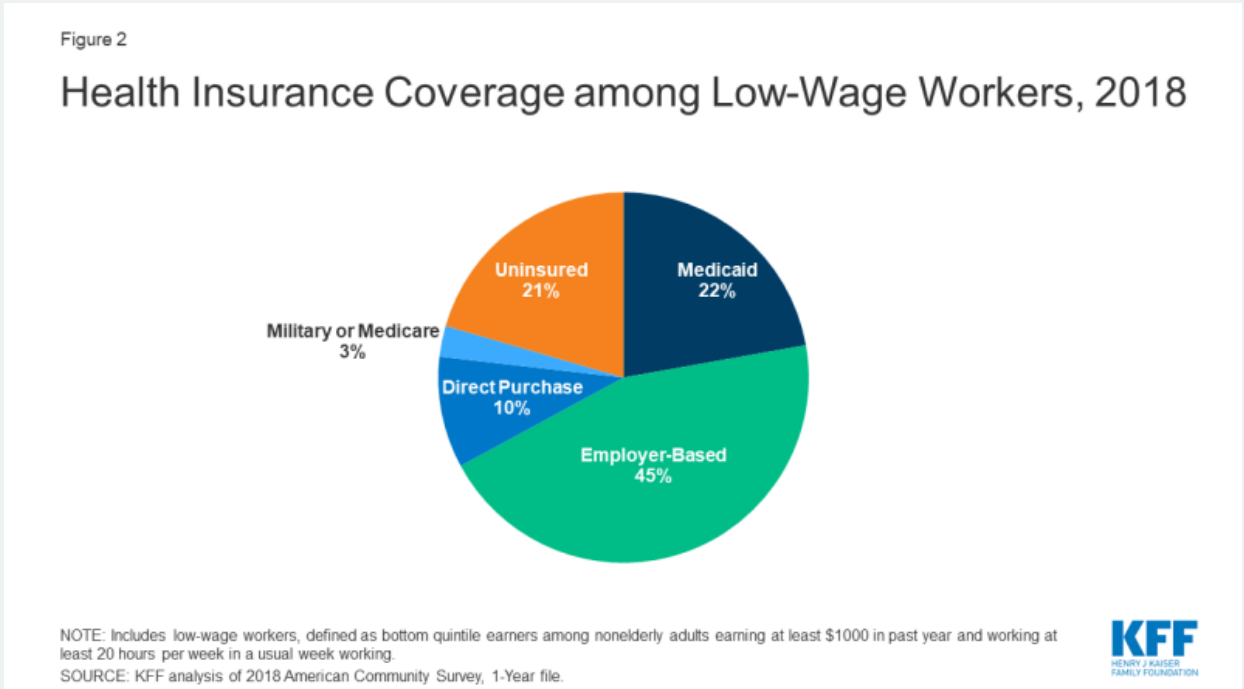

Figure 2: Health Insurance Coverage Among Low-Wage Workers, 2018

Nearly half of low-wage workers relied on an employer for health coverage (45%) in 2018, putting this coverage at risk if they lose their jobs or income. Many people in this income range will not be able to afford COBRA (https://www.kff.org/coronavirus-policy-watch/what-people-and-policymakers-can-do-about-losing-coverage-during-the-covid-19-crisis/) coverage, if it is available to them, as the cost (https://www.kff.org/report-section/ehbs-2019-section-1-cost-of-health-insurance/#figure11) is on average over $600 a month for an individual plan and more than $1,700 for family coverage. Many people who lose job-based coverage and receive unemployment insurance (UI) benefits would become eligible for either Medicaid coverage or ACA marketplace subsidies, which are available to people who do not qualify for Medicaid and have income between 100% and 400% of poverty, calculated based on other family income plus any state and new federal unemployment benefit received.[6] People who lose employment-based coverage due to job loss qualify for a special enrollment period for marketplace coverage. However, some people newly-eligible for Marketplace coverage may face challenges in navigating the application and enrollment process.

One in five low-wage workers lacked health coverage in 2018 (Figure 2), putting them at high risk for out-of-pocket costs or access barriers if they become ill. Some of these workers who are still employed may in fact be eligible (https://www.kff.org/health-reform/state-indicator/distribution-of-eligibility-for-aca-coverage-

among-the-remaining-uninsured/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D) for Medicaid or for subsidies for Affordable Care Act (ACA) marketplace coverage but not enrolled. Others may fall into the "coverage gap (https://www.kff.org/medicaid/issue-brief/the-coverage-gap-uninsured-poor-adults-in-states-that-do-not-expand-medicaid/)" that exists for adults with incomes above Medicaid limits but below poverty in states that have not expanded Medicaid under the ACA. Uninsured workers who lose jobs or income may become newly eligible for Medicaid or marketplace subsidies. Nearly all state-run marketplaces have re-opened enrollment to allow residents to obtain marketplace coverage if eligible. However, people who were uninsured while working and live in one of the 32 states (https://www.kff.org/health-reform/state-indicator/state-health-insurance-marketplace-types/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D) that uses the federal marketplace do not qualify for a "special enrollment period" to enroll in coverage through the federal marketplace. Thus, if their unemployed family income puts them above Medicaid eligibility, they will remain uninsured.

Many low-wage workers were already living in precarious financial situations before the pandemic and may not be able to absorb loss of income or pay health care costs if they become ill. Over a quarter (28%) of low-wage workers live in a household without a full-time worker in the family, and more than half (53%) were in a family with total family income below 200% of poverty ($26,200 for a family of four in 2020).[7] Reflecting their more limited incomes, high shares of low-wage workers reported day-to-day financial concerns (on top of concerns over affording health care) even before COVID-19, with over a third saying they were very or moderately worried about paying monthly bills; three in ten expressing worry over paying rent or mortgage; and nearly one in six saying they were worried about meeting minimum payments on credit cards (Figure 3). Low-wage workers also were likely to experience food insecurity, with 15% meeting federal definitions of low (9%) or very low (6%) food security.[8] Many lower income households do not have sufficient savings (https://www.kff.org/health-costs/issue-brief/do-health-plan-enrollees-have-enough-money-to-pay-cost-sharing/) for long periods of unemployment: half of multi-person households at or below 150% of poverty have $492 or less in liquid assets.

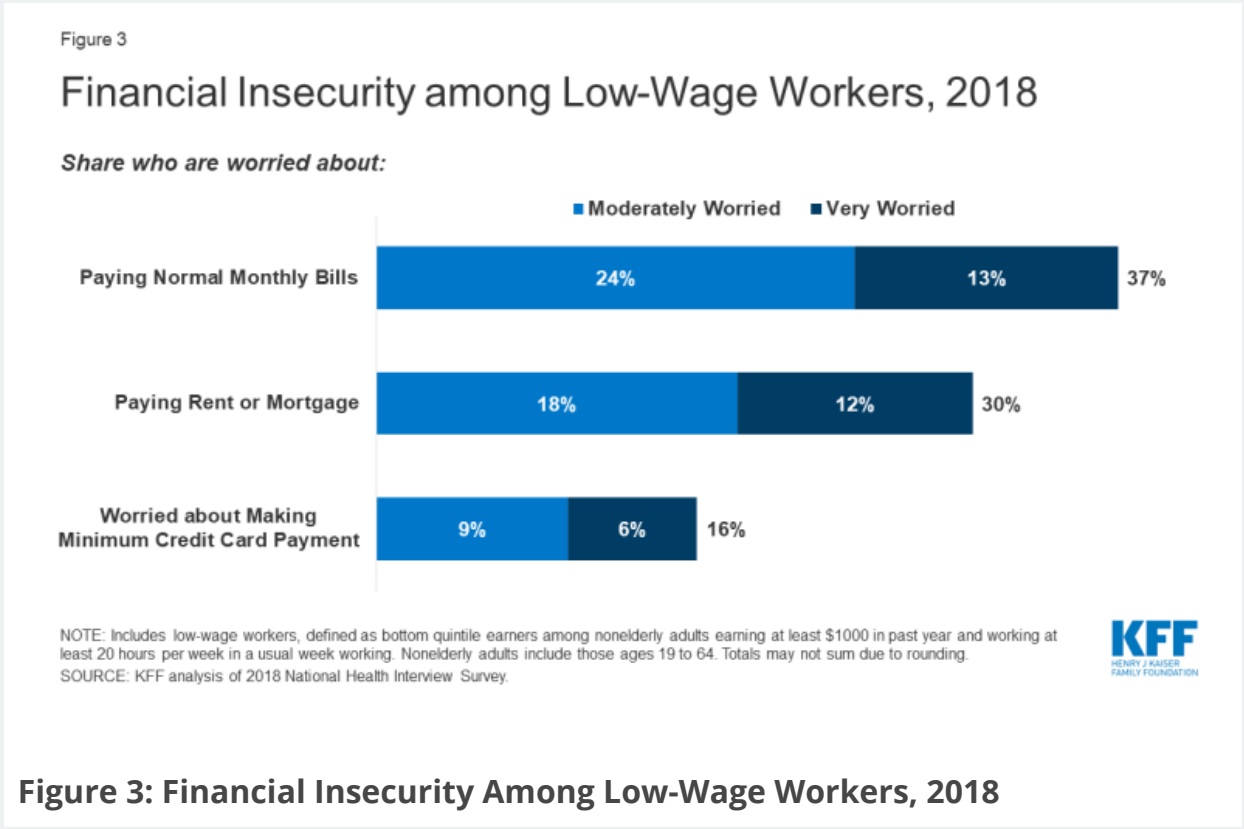

Figure 3: Financial Insecurity Among Low-Wage Workers, 2018

Beyond their own personal risk, many people working in low-wage jobs have living situations that could put them or their household at additional risk. Low-wage workers are more likely than all workers to live in large households and more likely to have an older adult living in the house. Specifically, 22% live in a household of at least five people (compared to just 13% of those in the highest wage quintile),[9] and a quarter live with someone over the age of 60 in the household (13% live with someone over age 65).[10] Nearly one in five (17%) live in a household in which someone has a personal care need (versus just 7% of those in the highest quintile)[11], indicating poor health or functioning and possible need for ongoing long-term services and supports.

Even before the pandemic, many low-wage workers reported problems affording needed health care.[12] More than one in ten (12%) low-wage workers said they could not afford needed care in the past year, and a similar share (10%) said they did not get the needed care due to affordability. Higher shares report family-level problems with medical bills, with nearly one in five (18%) reporting that someone in their family had a problem paying medical bills in the past year and a quarter (25%) saying someone in their family was paying off a medical bill. While recent legislation (https://www.kff.org/global-health-policy/issue-brief/the-coronavirus-aid-relief-and-economic-security-act-summary-of-key-health-provisions/) aims to protect people from out-of-pocket costs due to coronavirus testing and many insurers are waiving (https://www.aarp.org/health/health-insurance/info-2020/coronavirus-insurers-treatment-

costs.html) cost sharing for COVID-related services, some people who seek care for symptoms or illness will face out-of-pocket costs for that care. Prior problems affording care may lead some to hesitate due to fear of taking on additional medical debt.

Looking Ahead

As of April 18, nearly than 27 million (https://www.dol.gov/ui/data.pdf) people had filed for unemployment insurance since March 14, an unprecedented loss of employment. Actual loss of jobs and income is likely even higher, as some people may be marginally employed or may not have filed for benefits, and further loss of jobs is expected. Others continue to work and face personal and family risks to their health. Low-wage workers are particularly affected by these trends.

In response to the health and economic crisis, Congress has passed a series of laws to assist people facing health and economic strain due to the pandemic. The Families First Coronavirus Response Act (https://www.kff.org/global-health-policy/issue-brief/the-families-first-coronavirus-response-act-summary-of-key-provisions/) expanded food and nutrition assistance and required paid family or medical leave for many workers, among other provisions. The more recently enacted CARES Act (https://www.congress.gov/bill/116th-congress/house-bill/748?q=%7B%22search%22%3A%5B%22hr+748%22%5D%7D&s=1&r=1) builds on these actions, further addressing food security and paid leave policies. It also provides assistance to small businesses (https://www.sbc.senate.gov/public/_cache/files/2/9/29fc1ae7-879a-4de0-97d5-ab0a0cb558c8/1BC9E5AB74965E686FC6EBC019EC358F.the-small-business-owner-s-guide-to-the-cares-act-final-.pdf) to help them weather or recover from the crisis and assists unemployed individuals directly by increasing and supplementing state unemployment benefits with federal funds. In particular, the Act provides a $600 weekly federal supplement (available through July 31) to state unemployment (https://www.kff.org/health-reform/issue-brief/changes-in-income-and-health-coverage-eligibility-after-job-loss-due-to-covid-19/) benefits and extends the period for receiving unemployment benefits by up to 13 weeks. The Act also extends benefits to many types of workers (e.g., self-employed) not currently eligible for unemployment benefits under state laws.

While these actions provide some relief to low-wage workers, the health and financial crisis is still causing major burden on the nation, with those in the lowest income group likely to be the hardest hit. In addition, it is too early to determine how well actions taken will address need. To access unemployment benefits, people need to navigate outdated state unemployment systems (http://www.itsc.org/itsc%20public%20library/NationalViewUI_IT%20Systems.pdf), and backlogs at some state offices due to high demand may delay or deter some unemployed

workers from applying for benefits. Further, financial assistance may not always be paired with health coverage, particularly for low-wage workers who were uninsured even prior to the pandemic. Others may have difficulty navigating or affording health insurance options, as evidenced by the number of people who were eligible for ACA coverage (https://www.kff.org/health-reform/state-indicator/distribution-of-eligibility-for-aca-coverage-among-the-remaining-uninsured/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D) but unenrolled in the past. Health coverage is particularly important to protect against financial burden due to treatment costs or facilitate access to care in the midst of a public health crisis. As policy makers continue to take action to address the coronavirus pandemic, understanding the implications for those most affected, including low-wage workers, can help target responses and resources.

Appendix

Appendix Table 1: Low-Wage Workers by State and Industry, 2018

			Low Wage Workers By Industry			
State	**All Workers**	**Low-Wage Workers**	*Retail*	*Health Care*	*Ent/Acc./Food*	*Other*
Alabama	1,863,000	448,500	19%	10%	20%	51%
Alaska	316,300	60,500	20%	9%	17%	54%
Arizona	2,848,400	572,200	18%	8%	20%	53%
Arkansas	1,141,000	254,300	17%	11%	18%	54%
California	16,441,200	3,166,400	17%	7%	19%	56%
Colorado	2,624,000	431,800	19%	8%	20%	53%
Connecticut	1,550,700	248,300	18%	12%	17%	53%
Delaware	405,500	81,200	24%	10%	20%	46%
DC	350,500	40,800	12%	5%	25%	58%
Florida	8,552,300	1,885,700	20%	8%	21%	50%
Georgia	4,414,900	921,700	19%	7%	20%	53%
Hawaii	574,400	91,000	18%	8%	25%	50%
Idaho	705,100	171,000	21%	9%	17%	53%
Illinois	5,572,900	1,019,800	18%	10%	20%	53%
Indiana	2,870,300	581,800	17%	11%	19%	53%
Iowa	1,386,100	244,000	17%	9%	21%	54%
Kansas	1,235,100	258,000	17%	9%	19%	55%
Kentucky	1,771,900	402,200	19%	10%	18%	53%
Louisiana	1,794,400	439,900	19%	12%	23%	46%
Maine	568,100	98,000	16%	12%	19%	53%
Maryland	2,721,000	417,300	18%	10%	22%	50%
Massachusetts	3,101,700	435,400	19%	9%	20%	52%
Michigan	4,170,200	901,500	19%	10%	20%	51%
Minnesota	2,592,700	415,000	19%	13%	17%	51%
Mississippi	1,103,000	285,200	18%	12%	21%	49%
Missouri	2,586,200	527,200	20%	12%	19%	49%
Montana	440,200	94,200	17%	8%	25%	50%
Nebraska	840,100	155,400	19%	9%	19%	54%
Nevada	1,292,100	258,400	19%	5%	28%	48%

New Hampshire	613,900	93,300	27%	8%	19%	46%
New Jersey	3,956,800	634,800	20%	9%	17%	54%
New Mexico	771,400	207,500	17%	9%	23%	51%
New York	8,331,500	1,421,500	19%	12%	18%	52%
North Carolina	4,301,100	911,800	19%	8%	21%	52%
North Dakota	342,400	52,500	20%	11%	18%	50%
Ohio	4,989,400	1,005,300	18%	12%	21%	50%
Oklahoma	1,568,300	367,400	21%	10%	19%	50%
Oregon	1,761,000	334,900	18%	9%	20%	53%
Pennsylvania	5,461,800	1,034,700	19%	11%	19%	51%
Rhode Island	463,300	74,800	20%	12%	21%	48%
South Carolina	2,038,500	455,400	19%	9%	22%	50%
South Dakota	375,800	77,500	18%	9%	19%	53%
Tennessee	2,752,600	613,500	19%	8%	20%	52%
Texas	11,903,600	2,580,700	19%	9%	20%	52%
Utah	1,322,900	277,300	17%	9%	16%	58%
Vermont	268,200	43,600	17%	9%	17%	58%
Virginia	3,690,700	655,500	19%	8%	20%	53%
Washington	3,293,800	537,700	18%	9%	19%	54%
West Virginia	665,400	148,200	22%	13%	23%	42%
Wisconsin	2,619,600	446,500	18%	11%	17%	54%
Wyoming	251,500	55,600	19%	9%	23%	49%

Note: “Workers” includes nonelderly adults earning at least $1000 in past year and working at least 20 hours per week in a usual week working. “Low Wage Workers” includes workers in bottom quintile of earners.
Source: KFF analysis of 2018 American Community Survey, 1-Year Estimates.

Endnotes

Issue Brief

1. This analysis limits “workers” to people who earned at least $1,000 during the past year and worked at least 20 hours in a typical week when working.

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2. KFF analysis of 2018 American Community Survey, 1-Year Estimates.

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3. KFF analysis of 2018 National Health Interview Survey.

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4. KFF analysis of 2019 Current Population Survey.

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5. Ibid.

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6. Notably, eligibility for marketplace subsidies (but not Medicaid) includes the new federal supplemental unemployment insurance benefits recently enacted by Congress for people affected by COVID-19. This supplemental benefit could lead some unemployed low-wage workers who previously were in the "coverage gap" (income below poverty but above state Medicaid limits) to have income above poverty, making them newly eligible for Marketplace subsidies.

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7. KFF analysis of 2018 American Community Survey, 1-Year Estimates.

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8. KFF analysis of 2018 National Health Interview Survey.

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9. Ibid.

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10. KFF analysis of 2018 American Community Survey, 1-Year Estimates.

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11. KFF analysis of 2018 National Health Interview Survey.

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12. All data in this paragraph based on KFF analysis of 2018 National health Interview Survey.

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GALLUP®

APRIL 28, 2020

In U.S., 14% With Likely COVID-19 to Avoid Care Due to Cost

BY **DAN WITTERS**

STORY HIGHLIGHTS

- Cost would discourage millions from seeking care for suspected COVID-19
- Misunderstanding of primary symptoms likely playing a role
- About 15 million have been denied care for themselves or a spouse

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This is the first article in a special two-part series, conducted in partnership with West Health, a family of nonprofit and nonpartisan organizations focused on lowering healthcare costs for seniors, on the rising cost of healthcare in the U.S. The second article examines public perceptions of rising prescription drug costs and the progress that the Trump Administration has made to curtail them.

WASHINGTON, D.C. -- One out of every seven (14%) U.S. adults report that they would avoid seeking healthcare for a fever and a dry cough for themselves or a member of their household due to concerns about their ability to pay for it. When framed explicitly as believing to have been infected by the novel coronavirus, 9% still report that they would avoid seeking care. Adults under 30, non-whites, those with a high school education or less and those in households with incomes under $40,000 per year are the groups most likely to indicate they would avoid seeking out care.

Percent of U.S. Adults Who Woud Avoid Treatment for COVID-19 Symptoms or Suspected Coronavirus Infection Due to Cost of Care

If you or a family member had a fever and a dry cough would you avoid seeking treatment due to concerns about the cost of care? If you thought that you might have been infected by the coronavirus, would you avoid seeking treatment due to concerns about the cost of care?

	Fever and dry cough	Suspected coronavirus infection
	%	%
All U.S. Adults	14	9

GALLUP-WEST HEALTH HEALTHCARE COSTS SURVEY, APRIL 1-14, 2020

	Fever and dry cough	Suspected coronavirus infection
	%	%
Age		
18-29	22	12
30-49	16	11
50-64	8	3
65+	10	7
Race		
White	10	6
Non-white	22	14
Education		
High school or less	22	13
Some college	16	10
College graduate	4	2
Postgraduate degree	4	2
Annual household income		
<$40,000	22	14
$40,000-<$100,000	13	6
$100,000 or more	5	3

GALLUP-WEST HEALTH HEALTHCARE COSTS SURVEY, APRIL 1-14, 2020

These results are a part of an ongoing special study by Gallup and West Health to assess U.S. public opinion on the cost of healthcare, conducted April 1-14, 2020. Fever and a dry cough are two of the most common symptoms of COVID-19, the disease caused by the coronavirus.

Unwillingness to seek out care due to concerns over cost is related to familiar socioeconomic distinctions. Hispanics and blacks are less likely to have health insurance than are non-Hispanic whites, and those in lower-income households are far more likely to be influenced by cost when considering if they will follow recommended medicine or procedures from their doctors.

Mentioning coronavirus by name reduces the percentage of people who would not seek treatment by roughly one-third, suggesting that lack of clarity regarding the common symptoms of COVID-19 could be a factor in not pursuing it beyond household economics or basic access.

Millions Report Having Been Denied Care Due to Patient Volume

Amid those avoiding care due to concerns over costs, 6% of respondents -- representing about 15 million adults -- report that they or a family member have been denied care due to heavy patient volume brought on from the coronavirus outbreak. These occurrences could potentially include those who had selective surgeries and related appointments canceled due to state policy.

Those living in the Northeast region (11%) are the most likely to report having been denied care, followed by the West (8%). Just 5% in the South and 3% in the Midwest report the same, likely reflecting regional differences in COVID-19 diagnoses and associated hospitalizations. New York state has by far the largest number of confirmed cases in the U.S., followed by New Jersey, Pennsylvania and California -- all Northeast or West region states.

Although race does not strongly relate to being denied care, income level is strongly inversely related. While 3% of those with annual household incomes exceeding $100,000 report such occurrences, this jumps to 11% of those with incomes of under $40,000 -- nearly four times higher.

U.S. Healthcare Denial Rates Due to COVID-19 Patient Volume

Have you or a family member been denied care by a hospital or a doctor due to heavy patient volume brought on by the coronavirus outbreak?

	Denied care due to patient volume
	%
All U.S. Adults	6
Region	
Northeast	11
West	8
South	5
Midwest	3
Race	
White	6
Non-white	8
Annual household income	
<$40,000	11
$40,000-<$100,000	4
$100,000 or more	3

GALLUP-WEST HEALTH HEALTHCARE COSTS STUDY, APRIL 1-14 2020

Implications

The seriousness of the COVID-19 pandemic is multi-faceted. In addition to the threat of infection by the coronavirus itself, workers worldwide have lost their jobs, with many now suffering extreme economic hardship. Compounding these effects is the cost of healthcare generally. Recent research has shown that millions of Americans know someone who has died in the last 12 months due to their inability to pay for treatment and that $88 billion in borrowing occurred over the last year for healthcare. As such, results that show 14% unwilling to seek treatment for COVID-19 symptoms and another 9% unwilling to seek treatment -- even when coronavirus is suspected -- should not be shocking, even amid the outbreak.

Overrun hospitals in New York, in turn, appear to have hit a plateau, which is a good sign for people who are seeking care but can not get it or who otherwise are avoiding hospitals or doctors' offices for fear of infection. Nationally, a plateau for COVID-19 is less clear given current levels of testing, with many states still observing rising rates of infection.

Seeking care when exhibiting COVID-19 symptoms or when suspecting of having been infected by the coronavirus is a critical element in combatting the outbreak. Greatly increased testing is a prerequisite for reopening the economy, with experts recently estimating that testing must at least triple from current levels for a safe reopening to occur. About 150,000 Americans are being tested each day. Still, according to recommendations from Harvard researchers, this needs to increase to 500,000 to 700,000 in order to effectively identify those who are infected -- including those who are asymptomatic -- and isolate them from those who are not. Per capita, the U.S. currently ranks 41st in the world in completed tests, with about 17,000 tests completed for every one million persons thus far.

Fears over the cost of testing are not unfounded. Early last month, Vice President Mike Pence announced that insurance companies agreed to waive co-pays for coronavirus testing, followed on March 18 by the passage of the Families First Coronavirus Response Act that mandates that Medicare, Medicaid, other government plans and most private plans cover the cost of testing for infection by the coronavirus. But while the testing itself is now free, the overall cost of care for a trip to the hospital could ultimately cost individuals thousands of dollars in out-of-pocket fees. For example, if the doctor consulted determines that the visit does not justify a test, or is out-of-network, or if the trip requires treatment for other conditions not related to COVID-19, the health law does not cover the costs of the visit.

As such, greater clarity regarding these issues for the public is advisable. It would likely be prudent for leaders and public health officials to not assume that the main symptoms of COVID-19 are universally known and to continuously provide updated information for where to go for local testing, cost expectations for treatment, and patient capacity at local hospitals.

SURVEY METHODS

Results are based on telephone interviews conducted April 1-14, 2020, with a random sample of 1,017 adults, ages 18+, living in all 50 U.S. states and the District of Columbia. For results based on the entire sample of national adults, the margin of sampling error is ±3.7 percentage points at the 95% confidence level for responses near 50% and ±2.0 percentage points for responses near 10%. For most reported subgroups, the margin of error will be closer to ±7 and ±4 percentage points, respectively.

Interviews are conducted with respondents on landline telephones and cellular phones, with interviews conducted in Spanish for respondents who are primarily Spanish-speaking. Each sample of national adults includes a minimum quota of 70% cell phone respondents and 30% landline respondents, with additional minimum quotas by time zone within region. Landline and cell phone telephone numbers are selected using random digit dial methods. Gallup obtained sample for this study from Dynata. Landline respondents are chosen at random within each household on the basis of which member has the next birthday.

Samples are weighted to correct for unequal selection probability, non-response, and double coverage of landline and cell users in the two sampling frames. They are also weighted to match the national demographics of gender, age, race, Hispanic ethnicity, education, region, population density, and phone

status (cell phone-only/landline only/both and cell phone mostly). Demographic weighting targets are based on the March 2018 Current Population Survey figures for the aged 18 and older U.S. population. Phone status targets are based on the January-June 2018 National Health Interview Survey. Population density targets are based on the 2010 census. All reported margins of sampling error include the computed design effects for weighting.

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The Potential Effects of Coronavirus on National Health Expenditures

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In late March 2020, the Centers for Medicare & Medicaid Services (CMS) released projections of US national health spending that predicted growth from the 2019 level of 17.8% of gross domestic product (GDP) to 19.7% over the next 10 years.[1] Through no fault of their own, the CMS prognosticators are poised to take their place in history beside economist Irving Fischer, who announced that "stock prices have reached what looks like a permanently high plateau" shortly before the market crash of 1929 that marked the start of the Great Depression. The coronavirus disease 2019 (COVID-19) pandemic is likely to result in year-over-year changes in both health care spending and GDP that are without precedent. Because the ratio of these 2 numbers, the share of health care in the GDP, receives so much attention in public policy, it is worth thinking about how large these changes may be, and more importantly, what they mean.

The first step in projecting how COVID-19 may affect the health share of the GDP is to estimate how COVID-19 will affect health care spending. This will depend on the future extent, timing, and composition of the pandemic, so it is highly uncertain.

On one hand, in regions with a great deal of COVID-19 disease, hospitals are operating at or over capacity. The federal government, states, and hospitals have rushed to purchase ventilators and personal protective equipment and have taken bold steps to facilitate hiring of recent medical school graduates, retired medical workers, and physicians and nurses with out-of-state licenses. This surge in demand will drive up health care spending over the coming months. The range of estimates of the costs of this surge is very wide—somewhere between $34 billion and $500 billion in added private insurance spending, or between 3% and 40% of current spending,[2,3] and between $7 billion and $30 billion each in additional spending for the Medicare and Medicaid programs, or between 1% and 5% of current spending in these programs.[1] The differences in the percentage increases between private and public programs arise in part because baseline spending per enrolled person is much greater in public insurance, in part because per capita costs for COVID-19 are much lower in public insurance, and in part, in the case of Medicaid, because children and young adults have had lower rates of COVID-19 illness. All of these estimates depend critically on how many people are ultimately affected.

On the other hand, many clinicians have seen the demand for their services substantially decline or vanish altogether. Dentists, primary care physicians, outpatient service practitioners and centers, surgical specialists, and hospital departments that focus on elective procedures have all seen very sharp declines in demand. Between January and March, overall employment in health care actually decreased. Here, the timing of the pandemic is critical. If the pandemic is well controlled soon, the use of these services may simply be shifted into the fall. If not, many of the services (ie, visits and procedures) may never happen. These reductions in spending would offset at least a portion of the increased COVID-19–related expenditures.

Uncertainty about the composition of the pandemic-affected population further complicates the projections. Will those hospitalized be covered by Medicare, Medicaid, or private insurance—or will they be uninsured? The COVID-19 pandemic highlights the stunning differences in the prices paid by private and public payers in the US health care system. Commercial health insurers pay nearly 4 times as much for the kinds of care COVID-19 patients require than Medicare does, and nearly 5 times as much as Medicaid does.[3] If the burden of this disease is disproportionately borne by poor and elderly persons, which appears to be the case, the effects on national health spending will be much lower than if most hospitalized cases are reimbursed through private insurance. In addition, if increased unemployment leads to large increases in the number of US residents who are uninsured, particularly in states that have not yet expanded Medicaid, non–COVID-19 health care spending may decline even after the pandemic is under control. The cur-

rent employment-based health insurance system, combined with the lack of a coverage safety net, will exacerbate the effects of the pandemic on the most vulnerable people.

The midpoint of these various estimates suggests that the pandemic might plausibly lead to national health spending in 2020 that is 10% higher than in 2019. If GDP were unchanged, this increase in health care spending alone would increase the share of GDP devoted to health care spending by 10%; the share would increase from the current 17.8% to 19.6% in a single year.

But the effect of COVID-19 on the ratio of health care spending to GDP is likely to be even greater because of the consequences of the pandemic for the denominator: the nation's output. The effect of COVID-19 on output likewise depends on the course of the pandemic and whether demand returns in the second half of the year. Current forecasts, which generally anticipate a resumption of economic activity by summer or fall, nonetheless project declines in GDP of between 2.4% and 8.7% for 2020 relative to 2019.[4,5]

Mathematically, an 8.7% reduction in GDP—unimaginable as recently as last month—would increase the ratio of health spending to GDP by 1.7 percentage points, even if health spending did not change. Combining a 10% increase in the numerator (health spending) and an 8.7% reduction in the denominator (GDP) yields a 20% increase in the ratio of the two. In other words, health care spending would increase by 3.7 percentage points, from 17.7% of GDP to 21.4% of GDP, in a single year. This 1-year change would be nearly twice as large as the 10-year forecast provided by the CMS actuaries just before the pandemic happened.[1] Even if the decline in GDP is just 2.4%, reflecting an economy that moves quickly in the fall to make up ground lost in the spring, health care would comprise 20% of GDP next year, well above the amount projected for 2028.

Although these increases will inevitably attract substantial attention, it is critical to think through what these estimates do and do not mean.

The first consideration is the likely level of health spending in 2021 (the numerator). This amount will likely increase relative to last year, but, in present circumstances, it would be better if it were higher still: if more personal protective equipment were available, if ventilators were not in short supply, and, critically, if there were more effective ways to reduce morbidity and mortality among patients with COVID-19. Some of the care that will have been deferred or forgone is likely of low value, but much is surely not. It would be better if it had not been necessary to put off the useful elective procedures and routine care now deferred by the crisis. It would be better if people did not lose access to health insurance as they lost their jobs. The pandemic

highlights that it is a mistake to think of health care spending as "bad": a curve that must be bent. Some care is wasteful because it pays for care that is ineffective; but much care is not. The imperative to develop tools that will identify high-value care and design payment systems that reward that care is as strong as ever. The imperative to ensure that prices accurately reflect value is as strong as ever.

The second consideration is what will happen to GDP (the denominator). Slower growth in GDP has affected the ratio of health care to GDP in the past; between 2008 and 2009, health care as a share of GDP increased from 16.3% to 17.2%. But in that case, as in most earlier years, the evolution of GDP and that of health care spending were largely independent, except perhaps through the effects of unemployment on insurance coverage. The COVID-19 pandemic situation reflects an even deeper linkage. The cost of treating patients with COVID-19 is the smallest component of the economic burden of the pandemic. The much greater costs are the human consequence of disease for individuals and their families and the enormous cost of the precautions taken by individuals and societies to avoid this disease.[6] Most of the economic costs of the pandemic are outside the health care system. In hindsight, it would have been well worth spending much more on health care, particularly in the form of disaster and pandemic preparedness, to control the pandemic and allow the economy to restart.

Article Information

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Conflict of Interest Disclosures: Dr Glied reported receiving fees from and being a director of NeuroRx, a company with an interest in patent 8178489 for aviptadil, which is in a clinical trial for treatment of acute respiratory distress syndrome in COVID-19 patients. Dr Levy reported receiving personal fees from the FAIR Health Academic Advisory Board.

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RESEARCH REPORT

Estimating the Impact of a Public Option or Capping Provider Payment Rates

Linda J. Blumberg *John Holahan* *Stacey McMorrow* *Michael Simpson*

March 2020

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Executive Summary

In this report, we examine the coverage and spending implications of various forms of a public health insurance option introduced as an alternative to private plans currently available to consumers. The public option would be a plan structured the same as private insurance plans currently available in the applicable markets, but it would also share some characteristics with the traditional Medicare fee-for-service plan. Its actuarial value, covered benefits, and cost-sharing structure would reflect the private options in the market in which it was introduced (e.g., a Marketplace qualified health plan in the nongroup market or a typical plan in the employer market). However, a public option would have a broad network, like the traditional Medicare plan, and would pay providers at Medicare rates or some multiple thereof that would set prices between Medicare's payment rates and those of commercial insurers today. A public plan is intended to provide a lower-cost insurance option that would reduce health care spending for consumers and government, lower overall spending growth, and potentially catalyze greater competition by private insurers. The option would be particularly attractive for people residing in insurance markets with higher-than-average commercial insurance premiums and/or few commercial insurers. We also discuss capping all private insurers' payments to providers (in the nongroup market alone or in both the nongroup and employer insurance markets) at the same rates, either as an alternative to or in combination with a public option. Capping rates would also allow employers and their employees to lower the cost of their health coverage without changing their current benefit and cost-sharing structure. The capped rate approach follows the precedent of Medicare Advantage (Holahan and Blumberg 2018).

We present multiple reform scenarios because of the significant uncertainties inherent in a public option or capped payment rate reform, such as the size of the payment rate cuts achievable, the markets in which the new rates would apply, which employers (if allowed) would participate, and how providers would respond to lower payment rates.

For ease of exposition, we present all estimates as if reforms have been fully implemented and have reached long-run equilibrium in 2020. We describe our methodological approach in the appendix. Our accompanying brief summarizes each reform's implications for coverage, spending, and the federal deficit (Blumberg et al. 2020).

A Public Option in Nongroup Insurance Markets Only

The public option approaches discussed in bills and by some presidential candidates usually include other reforms, such as enhanced subsidies, reinsurance, and strategies to fill in the Medicaid coverage gap. Unlike those approaches, the reforms we simulate strictly introduce a public option without other reforms. We first examine reforms that would introduce a public option only in the nongroup market. In the nongroup market, the public option's effects on government spending and coverage would be about the same as capping private insurers' payment rates at the same level as a public option would pay, because of the structure of the federal premium subsidies provided.

Our simulated reforms 1, 2, and 3 would be implemented only in the nongroup market. Reform 1 pays Medicare rates to hospitals and physicians in all nongroup markets across the country and reduces prescription drug payments to halfway between Medicaid and Medicare prices via a new rebate program. Reform 2 pays higher prices to providers in rural areas than does reform 1, adding 20 percent to Medicare rates for hospitals and professionals; urban providers are paid Medicare prices. Reform 3 further increases payments for all providers, adding 25 percent and 10 percent to Medicare rates for all hospitals and physicians, respectively.

Table ES.1 summarizes key results for each reform. Reform 1, our base case, reduces median benchmark (second-lowest-priced silver) nongroup market premiums by 28 percent. Reform 2, the rural price adjustment approach, reduces median benchmark premiums by 21 percent, because as payment rates increase, median benchmark premiums fall by smaller degrees. The implications of payment rate differences are even clearer under reform 3, which sets all provider payment rates modestly above Medicare prices nationwide. Under this reform, the median benchmark premium falls by 13 percent, compared with 28 percent in reform 1.

Introducing the public option into the nongroup market only slightly affects overall coverage, reducing the number of uninsured Americans by roughly 155,000 to 230,000. However, the public option could more significantly affect federal spending. Table ES.1 reports estimates of these reforms' effects on the federal deficit, defined here as changes in (1) federal government spending on health care programs for the nonelderly (Marketplace subsidies, Medicaid, and the Children's Health Insurance Program) and (2) income tax revenue resulting from employer savings on premiums being converted to taxable wages.[1] Reform 1 reduces the federal deficit by $15.1 billion, entirely because of reduced Marketplace premium subsidies. In reform 2, the federal deficit decreases by $12.7 billion, because higher payment rates for providers in rural areas increase premiums compared with reform 1, and higher premiums increase federal spending. Reform 3 reduces the deficit by $7.3 billion.

The reforms implemented in the nongroup market alone have virtually no effect on employer spending, but they decrease household spending for people enrolled in the nongroup market. Lower provider payment rates decrease premiums for those enrolled in nongroup coverage but ineligible for premium subsidies and decrease out-of-pocket spending for enrollees when they use services. Depending on the reform, household savings range from $3.8 to $7.0 billion.

A Public Option in Nongroup and Employer Insurance Markets

The number of people enrolled in employer coverage is more than nine times the number in nongroup coverage. Plus, employer-based plans tend to pay health care providers at rates higher than those of nongroup insurers, particularly in the more competitive nongroup Marketplaces. Consequently, introducing the public option or capping provider payment rates in both the nongroup and employer markets has the potential to reach many more consumers and to substantially affect premiums, overall spending, health care provider revenues (e.g., for hospitals, physicians, and prescription drug manufacturers), and the federal deficit.

We assume the public option offered in the employer market is designed to have benefits typical of employer plans today, including an actuarial value of 80 percent. However, the public option would use regulated provider payment rates, therefore lowering premiums compared with current employer-based plans. Firms can offer their workers the public option if the firm prefers its benefits, cost-sharing levels, and lower provider payment rates. In the small-group employer market, premiums are modified community rated, consistent with current rules. In the large-group employer market, the public option is experience rated. Under such reforms, some firms would continue offering their current plans, and others would not offer coverage.

How attractive the public option would be to various employers is uncertain. For illustrative purposes, we assume lower-wage and smaller firms are more likely to offer a public option (appendix A). Smaller firms tend to more frequently change the plans they offer their workers each year, meaning they are less likely to be attached to a particular plan structure or insurer. Lower-wage employers and their workers are more likely to be price sensitive and therefore willing to change coverage. We also assess the implications of capping rates paid to all providers by all insurers in the market, and those results are consistent with assuming all employers choose the public option.

Reform 4, the nongroup and employer base case with Medicare payment rates, makes reform 1 available to employers and results in a 32 percent decrease in median premiums among employers that choose it. In reforms 5 and 6, provider payment rates are set above Medicare rates, modestly above Medicare rates in reform 5 and even further above Medicare rates in reform 6. Consequently, participating employers' premium reductions are smaller than in reform 4 at the median (24 percent in reform 5 and 16 percent in reform 6).

Making the public option available to employers has a larger effect on insurance coverage than when the option is made available in nongroup markets alone. Depending on the simulation, the number of uninsured people drops by 1.5 to 1.7 million, decreasing the number of uninsured people below age 65 by approximately 5 percent.

Aggregate health care spending by employers falls considerably when a public option becomes available as an employer-based coverage alternative. Depending on the public option approach, employer premium spending falls by $38.9 billion (4 percent) to $142.9 billion (15 percent), with the smallest savings achieved with the highest provider payment rates. Depending on the payment rates assumed, employers save even more on premiums, ranging from $223.0 to $257.0 billion under a capped rate model, where all employer plans benefit from lower provider payment rates (under rates capped modestly above Medicare prices in reform 7 and further above Medicare prices in reform 8). These savings equate to all employers choosing the public option. Under reforms 4 through 8, substantial savings, ranging from $24.0 to $109.2 billion, also accrue to households enrolled in plans with lower provider payment rates.

Introducing a public option or capped provider payment rates into the employer insurance market can have important implications for the federal deficit. Economic research indicates that as employer spending on health insurance premiums decreases, those savings are passed back to workers via higher wages. Those increased wages are taxable, but health insurance premium payments are not; therefore, income tax revenue increases. Thus, the larger the decrease in employer health spending, the larger the increase in income tax revenue. Depending on the reform, we estimate reduced federal government health spending (primarily on Marketplace subsidies) and increased income tax revenue to lower the federal deficit by $12.4 billion (reform 6) to $52.4 billion (reform 7).

Conclusion

Introducing a public option into the nongroup insurance market would have a limited effect on overall insurance coverage but would reduce federal spending significantly. Extending the public option to the employer market would lead to greater changes, including potentially large employer premium reductions. Capping provider payment rates for all employer plans, an approach based off the Medicare Advantage program, would lead to the greatest employer premium savings, ranging from 17 to 24 percent. Employer public options and the premium savings they engender would also increase tax revenues.

However, the lower the payment rates used in a public option and the greater the number of people enrolled, the greater the implications for provider revenues. The lower the rates, the fewer providers would participate with the plan voluntarily, and the greater the necessity for tying providers' Medicare program participation to participation with the public option. Provider disruption can be decreased if provider payment rates are higher or if the transition to lower rates is accomplished over an extended period. The trade-off is that managing provider impacts in this way would decrease federal government, employer, and household savings to some degree.

TABLE ES.1

Summary of Simulation Results, 2020

Reform	Availability of public option	Payment policy[a]	Percent Change to Median Premium		Change in number of uninsured (thousands)	Change in federal deficit (billions)[d]	Change in employer health spending	Change in household spending
			Nongroup[b]	Employer[c]				
1. Nongroup base case	Nongroup markets nationwide	Medicare rates for all providers	-28	0	-230	$-15.1	$0.3 B (0%)	-$7.0 B (-1%)
2. Nongroup with rural price adjustment	Nongroup markets nationwide	Medicare rates for urban providers, Medicare rates + 20% for rural providers (higher rural prices than reform 1)	-21	0	-211	$-12.7	$0.3 B (0%)	-$5.8 B (-1%)
3. Nongroup with prices modestly above Medicare rates	Nongroup markets nationwide	Medicare rates + 25% for hospitals, Medicare rates + 10% for professionals (higher hospital and professional prices than reform 1)	-13	0	-155	$-7.3	$0.3 B (0%)	-$3.8 B (-1%)
4. Employer and nongroup base case	Nongroup and employer markets nationwide; subset of employers choose public option	Medicare rates for all providers	-28	-32	-1,698	$-42.3	-$142.9 B (-15%)	-$76.3 B (-14%)
5. Employer and nongroup with prices modestly above Medicare rates	Nongroup and employer markets nationwide; subset of employers choose public option	Medicare rates + 25% for hospitals, Medicare rates + 10% for professionals (higher hospital and professional prices than reform 4)	-14	-24	-1,597	$-27.6	-$104.5 B (-11%)	-$54.6 B (-10%)

Reform	Availability of public option	Payment policy[a]	Percent Change to Median Premium		Change in number of uninsured (thousands)	Change in federal deficit (billions)[d]	Change in employer health spending	Change in household spending
			Nongroup[b]	Employer[c]				
6. Employer and nongroup with prices further above Medicare rates	Nongroup and employer markets nationwide; subset of employers choose public option	Medicare rates + 60% for hospitals, Medicare rates + 15% for professionals (higher hospital and professional prices than reform 5)	-10	-16	-1,478	$-12.4	-$38.9 B (-4%)	-$24.0 B (-4%)
7. Employer and nongroup rates capped modestly above Medicare prices	Nongroup and employer markets nationwide; all employer plans pay lower rates	Medicare rates + 25% for hospitals, Medicare rates + 10% for professionals (same provider prices as reform 5, affects more employers)	-14	-25	-1,597	$-52.4	-$223.9 B (-24%)	-$109.2 B (-20%)
8. Employer and nongroup rates capped further above Medicare prices	Nongroup and employer markets nationwide; all employer plans pay lower rates	Medicare rates + 60% for hospitals, Medicare rates + 15% for professionals (higher hospital and professional prices than reform 7)	-10	-17	-1,478	$-37.2	-$157.0 B (-17%)	-$79.7 B (-14%)

Source: Health Insurance Policy Simulation Model, 2019.

Notes: B = billion. Reforms simulated as fully phased in and in equilibrium in 2020. Data in this analysis include health care spending by people below age 65 not enrolled in Medicare. The changes in median premiums shown in this table differ slightly from those in tables 2–5 because they reflect not only the basic changes in premiums but changes in the risk pool that result from introducing the public option.

[a] Prescription drug prices in each reform scenario are assumed to be set halfway between Medicare and Medicaid prices.

[b] This column shows the change in the national median nongroup benchmark premium.

[c] This column shows the change in the national median premium among employers providing the public option to their workers (reforms 4–6). In reforms 7 and 8, provider payment rates are capped for all employer plans, so the median shown includes all employers providing coverage to their workers.

[d] Estimates in this column equal the change in federal spending on Medicaid/the Children's Health Insurance Program acute care for the nonelderly and Marketplace premiums minus the estimated increase in income tax revenue, which result from turning savings in untaxed health care premiums into taxable worker wages.

Estimating the Impact of a Public Option or Capping Provider Payment Rates

Introduction

Several recent health reform proposals call for developing and introducing a public health insurance plan, an insurance option structured and administered by government or a government contractor. [2] The public option would offer a lower-cost insurance plan (or plans) in private insurance markets, which would reduce health care spending for consumers and government, lower overall spending growth, and catalyze greater competition among private insurers. Such a plan would pay health care providers lower rates than typical commercial plans pay, perhaps at Medicare rates or somewhere between such rates and those of commercial plans. Private insurers paying providers higher rates could compete with the public option on customer service, effective care management, or provider networks; however, the number of private insurers might decrease in at least some markets. As such, we estimate an alternative approach that could potentially achieve many of the same goals with less risk of private insurers exiting the market: capping the provider payment rates of all private insurers offering coverage in a particular market at Medicare rates or some multiple thereof. Capping rates would also allow households and employers to lower the cost of their health coverage without changing their current benefit and cost-sharing structure. This approach is based on the structure used in the Medicare program. Table 1 shows how this approach differs from public option reforms.

We present multiple reform scenarios because of the significant uncertainties inherent in a public option or capped payment rate reform, such as the size of the payment rate cuts achievable, the markets in which the new rates would apply, which employers would participate (if allowed), and how providers would respond to lower payment rates. Across these scenarios, we vary payment rates to providers and employer participation to provide a range of possible outcomes to various approaches. For each reform, we estimate the impacts on the distribution of insurance coverage and levels of health care spending by government, households, and employers.

For ease of exposition and comparison, we estimate these reforms as if they were fully phased in and in equilibrium in 2020. However, each approach considered would require a multiyear phase-in, whereby payment rates would be reduced to target levels incrementally. Depending on the target

payment rates chosen, it is also possible to reach desired levels over an extended period by slowing annual increases in payment rates, as opposed to cutting payment rates. Such incremental implementation would allow providers time to adjust their underlying costs to the lower real payment levels and would allow analysts to monitor and evaluate any changes in access to or quality of care that might signal the need for adjustments in payment rate targets for particular services. Slowing the change in payment rates would decrease potential disruption to the health care delivery system but also means potential savings would be moderated.

Several of the bills introduced in Congress that call for public options make reference to using Medicare-like payment rates or at least using the process of determining Medicare rates as a basis for setting public option rates. Though policymakers, advocates, and stakeholders increasingly debate the merits of public option approaches, information on the magnitude of their potential for creating system savings or their implications for coverage and provider revenues is limited. In particular, current variation in insurer competition across the country means the effects of introducing a public option will vary significantly by geography. Though most public option reform proposals include other strategies, such as enhanced financial assistance, this analysis focuses on the implications of such reform proposals without additional strategies.

Though we believe we use the best available data and methods for estimating the potential effects of introducing differently structured public options and capped payment rates, significant uncertainty surrounds our estimates, because data that would make our estimates more precise are not publicly available. Consequently, we rely on some imputation and proxy measures; appendix A contains a full description of our data and methods.

TABLE 1

A Public Option versus Capped Provider Payment Rates

Two approaches for lowering costs in health insurance markets

Public option	Capped provider payment rates for all private insurers
▪ A government-developed insurance plan that pays providers (doctors, hospitals, prescription drug manufacturers) according to a fee schedule that uses lower rates than those typical of commercial insurers.	▪ A requirement that providers (doctors, hospitals, prescription drug manufacturers) accept payment rates no higher than those specified. Rates capped at lower levels than those typical of commercial insurers.
▪ Available in nongroup or employer markets, or both, either nationwide or in particular geographic areas. May be introduced into "bare counties," areas without private insurance options in a given market.	▪ Applicable to insurers in nongroup or employer markets, or both, either nationwide or in particular geographic areas.
▪ Can be implemented alone or with capped provider payment rates, the latter being similar to the Medicare program's structure.	▪ Can be implemented alone or with a public option, the latter being similar to the Medicare program's structure.
▪ Requires consumers (households and/or employers) to enroll in a new plan to take advantage of full cost savings.	▪ Allows consumers (households and/or employers) to take advantage of full cost savings while enrolling with any preferred insurer, or for employers, self-insuring.
▪ New competition from a public option may catalyze more aggressive negotiations between private insurers and providers for lower rates, possibly lowering private plan premiums as well. ▪ If private insurers cannot successfully negotiate provider rates low enough to compete with the public option, at least some may leave the market.	▪ Likely to result in more private insurers entering a market and staying in markets, because large numbers of enrollees are not needed as leverage for negotiating competitive payment rates with providers.

Source: Urban Institute.

Background

According to the Centers for Medicare & Medicaid Services' estimates, US health care spending amounted to 17.7 percent of gross domestic product (GDP) in 2018. The agency projects health spending will amount to 19.7 percent of GDP by 2026.[3] Though overall increases in national health expenditures since passage of the Affordable Care Act (ACA) have been lower than anticipated (Holahan, Blumberg, Clemans-Cope, et al. 2017), concerns with the levels and growth of health care spending remain. Those concerns are particularly acute in the private sector, because per enrollee health spending growth in the largest public programs (Medicare and Medicaid) has been lower than in private insurance and lower in per capita terms than GDP growth in recent years (Holahan and McMorrow 2019).

Premium levels and growth have varied considerably across the ACA's reformed private nongroup insurance markets; many markets, particularly those in highly populated areas, have low premium levels and slow growth, but many others experience the opposite (Blumberg, Holahan, and Wengle 2016; Holahan, Blumberg, Wengle, et al. 2017; Holahan, Wengle, and Elmendorf 2020). High premiums in these markets create barriers to affordable coverage and care for some people ineligible for federal subsidies while driving up the federal costs of such subsidies for people eligible for them. In addition, continually growing medical costs in employer insurance markets—though lower in recent years than before the ACA—continue to have significant implications that could worsen if underlying medical cost growth reverts to prior high rates.

In employer markets, increasing medical costs tend to displace worker wages, because employers shift compensation more heavily toward insurance premiums and/or increase employee cost-sharing requirements (e.g., reduced covered benefits and higher employee premium contributions, deductibles, coinsurance/copayments, and out-of-pocket maximums). Consequently, analysts and policymakers continue to search for effective, politically viable strategies to contain health care costs.

Lack of competition in insurer markets, provider (especially hospital) markets, or both appears to drive high health care prices in many areas. A dominant or monopolistic hospital system can essentially "name its prices," because insurers cannot sell their product in that area without the hospitals in their networks. Again, high payment rates (here demanded by providers to ensure their participation) translate into high premiums. Without competition, a dominant or monopolistic insurer can maintain high premiums. Although such insurers may choose to negotiate aggressively with providers, depending on the insurer's objectives and time horizons (e.g., profit maximization, enrollment increases, community relations).

Health policy experts are reaching a consensus that effective cost containment will necessarily involve lower provider payment rates (Blumberg and Holahan 2017a; Buntin 2018; Future of Health Care Leaders 2020).[4] Analysts and policymakers are considering regulatory approaches to control provider rates for the private sector, grounded in experience with the Medicare program. One approach debated and ultimately rejected during the ACA legislative process has reemerged: developing and introducing a public plan option that uses government-determined provider payment rates (perhaps related to the Medicare fee schedule) to compete with private insurers.[5] A second approach is capping payments insurers make to providers in a given market, like Medicare Advantage insurers do.[6] Such approaches could be implemented independently or simultaneously.

The public option plan is most frequently proposed as a possible addition to nongroup insurance markets. It would operate much like the Medicare traditional fee-for-service plan, and rates would be set at Medicare levels or some multiple thereof. The public option would cover the same comprehensive benefits and satisfy the same standards as those in ACA Marketplace plans, and the cost-sharing would fit into one or more of the ACA's nongroup market actuarial value (AV) tiers. (At a minimum, the plan would have to have a 70 percent AV in the nongroup market, because the standard ACA coverage is required as well as the cost-sharing reduction options associated with it, but public options at each AV level could be offered.[7]) The public option should be particularly attractive to people living in more expensive insurance markets.

An alternative or possible supplement to the public option would be capping all insurers' provider payment rates for their ACA-compliant nongroup market enrollees. Capping rates paid by private insurers would ensure more competing insurers remain in a market, regardless of whether a public option is added, because private insurers could set their provider payment rates no higher than those used by the public option, regardless of hospitals' or physicians' market power in the area. Plus, limiting provider payment rates would allow new insurers to enter a market, because insurers would not need large initial enrollment to negotiate reasonable rates. Capping private insurers' payment rates would also allay insurer fears that they could not compete with a new public option on price; this has been the case with the Medicare Advantage program, which also effectively caps rates while offering a public option.[8] Capping payment rates would also allow people enrolling in commercial plans to reap the savings associated with government-determined rates, whereas the public option alone would provide those savings primarily to people enrolling in the public option. However, even if private insurer rates are not capped but a public option is introduced, private insurers could reduce their rates in response to competition from the public option through tougher negotiations with providers (Blumberg et al. 2019).

Both the public option and capped rates for private insurers in the nongroup market would likely lead to roughly the same savings for the federal government, because premium tax credits are tied to the second-lowest silver premium, which in either approach would be largely determined by provider payment rates. Thus, coverage and government cost estimates should not be materially affected regardless of whether one or both approaches are used. The expected effects are the same because the public option is expected to be the benchmark plan.

Less frequently proposed is introducing a public option or capped provider payment rates into the employer market.[9] In this case, a public option could be designed like a typical employer plan. In the small-group market, ACA-compliant, fully insured coverage would be essentially the same as that offered in the nongroup insurance market: coverage must meet the same AV standards, be modified community rated, and cover the same essential health benefits, among other requirements. Therefore, a small-group public option could look very much like a nongroup one, though, at a minimum, it must offer an 80 percent AV (gold) plan, which is the most typical employer coverage.

Large employer markets operate under fewer regulations and are experience rated, meaning their premiums largely reflect the expected health care costs of a firm's enrollees. Actuarial values of about 80 percent are also typical in these markets. Therefore, a public option in the large-group market would need an 80 percent AV option with experience-rated premiums to be attractive to many employers. If a large-group public option is not experience rated, it will likely attract higher-than-average-cost employers and/or workers, leading to high premiums and endangering the option's stability. Consequently, an employer public option would be a plan employers can choose to purchase for their workers. The government would define the plan's parameters (e.g., benefits, cost-sharing structure), which would be uniform for any large group enrolling. The plan would use regulated provider payment rates (e.g., Medicare rates or some multiple thereof), but the premiums would vary by the enrolling group's characteristics and expected health care risk. Employers and their workers could choose the public option if the mix of benefits, cost-sharing, and lower payment rates were attractive, or they could

offer a self-insured or alternate fully insured plan. Employer participation rate assumptions are detailed in the appendix and table A.3.

If provider payment rates, in conjunction with or as an alternative to a public option, are capped in the employer market for all private insurers, fully insured or self-insured products could use the capped rates and continue to offer the benefits and cost-sharing requirements employers and their workers prefer. All employers and workers with firm-based insurance could therefore reap savings from the lower provider prices, not just those enrolling in a separate public option. Under any of these scenarios that offer employers the public option or allow employer plans to use capped payment rates, wages increase as employer spending on health insurance decreases, meaning income tax revenue increases as well.

Both the public option and capped rate approaches are intended to provide lower-premium insurance options in at least some areas and markets by requiring providers to accept lower prices, thus lowering government and private-sector spending, and improve affordable access to insurance and ultimately necessary care. Capping rates would likely allow more private insurers to remain active in (or newly enter into) a given market than would the public option, because the capped rates reduce the costs faced by all participating insurers, allowing many to be more competitive. The public option guarantees a single, lower-cost insurer in a market but could also decrease the number of private insurers in some markets.

Either approach will have to induce provider participation by paying sufficiently high rates or requiring that participation be linked to participation in other programs, most likely Medicare.[10] Absent payment rates high enough to attract a sufficient provider network, linking Medicare participation to participation in the nongroup public option could successfully induce provider participation. Medicare enrollees generate a large percentage of revenue for many providers; therefore, being excluded from the Medicare program has greater implications for providers than the nongroup insurance market on its own. Introducing a public plan without capping private insurer rates should provide stronger incentives for private insurers to negotiate lower rates with providers and may provide private insurers with additional leverage in those negotiations.[11] The two approaches can also be used in tandem, but ultimately the effect of either approach will be strongly associated with the payment rates used. If payment rates are capped for all private insurers in the nongroup and employer markets, it would be difficult for providers to reject these rates, because only a small share of consumers could pay the higher cost of care outside an insurance arrangement.

As indicated above, the potential savings from either strategy will vary geographically, because some markets already have high insurer and provider competition, which have led to efficient provider payment rates and premiums. In addition, potential savings from a public plan or capped rates will differ if implemented in the nongroup market alone or in both the nongroup and employer-based markets, because these markets' competitiveness and structures differ considerably.

Overview of Analytic Approach

Estimating the effects of a public option requires two general steps. First, because the public option or capped payment rate reforms studied here are designed to set payments at various levels relative to Medicare rates, we must estimate how current provider payment rates compare with Medicare rates. That first step allows us to compute how much lower a public plan's prices might be relative to current commercial insurance prices, and lower prices translate into lower premiums. However, the availability of data reporting the payment rates currently used by commercial insurers in the nongroup and employer insurance markets is severely limited. These data constraints force us to use proxies for some of the actual payment rate information we would like to use and require that we approach this step in different ways for the nongroup and employer-group insurance markets. The data limitations introduce unavoidable uncertainty in our estimates. Below and in detail in the appendix, we describe the methodology used to generate our estimates.

The second step involves feeding the information from the first step into a microsimulation model of the US health insurance system for the nonelderly population. This step allows us to estimate the number of people affected by the public option reforms and the potential implications for private and government health care spending overall. In both steps, geographic variation is a central interest.

Below, we provide an overview of the first step. Here we describe how premiums under a public option would compare with premiums in the current nongroup and employer markets and how they would differ across geographic areas. Appendix A provides details on step 1 and a description of our approach to step 2, which relies on the Urban Institute's Health Insurance Policy Simulation Model (HIPSM).

Estimating Current Provider Payment Rates in the Nongroup Market

No claims data are available to estimate commercial nongroup market payments relative to those of Medicare. Because available data sources combine all commercial claims across markets, they are most reflective of employer-based insurance claims, by far the largest share of the total. Consequently, we must develop a proxy measure for nongroup market payments relative to those of Medicare. For this purpose, we assume nongroup market premiums in the most competitive markets—those with at least five competing Marketplace insurers and at least modestly competitive hospital markets—reflect provider payment rates of approximately Medicare levels. (We provide validation for this assumption in appendix A.) Using regression techniques, we estimate what the benchmark nongroup premium would be in each rating area if each of them met these competitive standards. We then compare current

benchmark Marketplace premiums in each rating region with the benchmark premiums estimated for each area if it met high standards of competitiveness.[12]

For each rating region, we then compute the implied percent reduction in premiums between the area's predicted competitively priced premium (which proxies Medicare prices) and actual benchmark premium. To estimate overall savings, we include an estimated premium reduction associated with policy-driven savings in prescription drug prices (described below). We also simulate several policy approaches, where the public option is assumed to pay providers more than current Medicare rates in all or some areas (i.e., rural areas) and at different levels relative to Medicare prices for hospitals versus physicians.

Estimating Current Provider Payment Rates Relative to Medicare's Payment Rates in the Employer Group Market

Data on employer-sponsored plans' payment rates to hospitals and physicians are also not readily available. Available data frequently provide list prices but not allowed amounts (the actual prices paid by insurers after discounts). We considered several sources of proprietary commercial claims data that could be used to estimate typical commercial prices relative to Medicare rates for both hospitals and professionals. We ultimately chose to use FAIR Health data, because they have the largest and most geographically representative private insurance claims data available to us.[13] The data we used include imputed allowed payment amounts for commercial payers (including but not limited to employer group plans) and Medicare payment rates for 46 professional procedure codes and 45 hospital outpatient services, representing nearly half of all professional and outpatient spending. The commercial allowed payment amounts were drawn from the FH ® Allowed Benchmarks, which were available at the substate level.[14] For hospital inpatient rates, FAIR Health provided ratios comparing commercial allowed amounts to Medicare payments for all hospital inpatient services at the state level.

For each state, we compute the implied hospital and professional price changes if rates were set at Medicare levels. We then combine these price changes with an estimated 30 percent price cut for prescription drugs (as described below) to generate potential employer premium savings when implementing a public option or capping provider payment rates at Medicare levels. As noted earlier, when a simulation assumed payment rates somewhat above Medicare levels, we made appropriate adjustments. We assume price reductions in each provider sector directly translate into premium reductions proportionate to that provider type's share of premium spending.

Estimating Prescription Drug Savings

We assume the public option would pay prescription drug prices below current Medicare prices, because Medicare has been prohibited from negotiating or setting prescription drug prices. Rather, it has relied on pharmacy benefit managers to obtain the best rebates possible.

We obtained current rebate information for each payer relative to current commercial rebates. Using Market Scan data, Kesselheim and Hwang (forthcoming) estimated that Medicare Part D rebates generate savings worth about 12 percent of commercial insurer prices. The full Medicaid rebate, including both basic and inflation rebates, averages about 48 percent in savings relative to commercial insurer prices after rebates.

Kesselheim and Hwang (forthcoming) also estimates that the Canadian health system pays for prescription drugs at prices about 65 percent below US commercial prices after rebates. Countries such as Germany, Switzerland, and the UK face prices comparable to those in Canada. Thus, the US has not lowered drug prices as successfully as other countries, and we assume this continues to hold true, primarily because of the political strength of pharmaceutical manufacturers. We estimate that the public option could establish rebates halfway between those received through Medicare and Medicaid, implying prices 30 percent below those faced by commercial insurers. We find this rebate feasible, but we acknowledge it would be difficult to achieve. However, the resulting prices would still be well above those of other western nations.

We applied this assumed 30 percent prescription drug savings in each simulation analysis. Because prescription drugs account for about 23 percent of private health care spending for the nonelderly, a 30 percent decrease in commercial prices for prescription drugs would reduce spending for the insured nonelderly by 6.9 percent on average. Using the 30 percent savings estimate, we adjust premiums to reflect public option premiums in both the nongroup and employer markets.[15]

Estimating Premium Savings under Public Option or Capped Rate Reforms in the Nongroup Market

Accounting for potential savings for all health care providers, including on prescription drugs, table 2 shows estimated state average percent differences between current benchmark nongroup premiums and premiums using Medicare payment rates for all providers, with prescription drug rebates halfway between those for Medicare and Medicaid. These are our base case assumptions of the percent changes in nongroup premiums under a public option or via capped rates. Premium adjustments are computed at

the ACA nongroup market rating region level, and state averages shown in the table are computed using the rating region population covered by nongroup insurance as weights.[16] These percent changes in premiums reflect changes in provider payment rates only and do not account for any changes that may result from changes in the mix of people enrolling as premiums change. Our simulations, described in the results section, account for such changes.

Table 2 shows that under reform 1, the base public option scenario, average nongroup benchmark premiums would be 19 percent lower across the US. However, average benchmark premiums would fall by less than 12 percent in six states, because the nongroup insurance Marketplaces in these states tend to be quite competitive today. In comparison, we estimate that premium savings would exceed 35 percent in eight states, reflecting the current lack of competition in these nongroup markets.

Table 3 shows the distribution of benchmark premium savings across the country's 502 nongroup market rating regions. As the distribution shows, we estimate that benchmark nongroup premiums would fall by at least 41 percent in 10 percent of rating regions and would fall by no more than 11 percent in another 10 percent of regions. The median decrease would be 28 percent.[17]

TABLE 2

Percent Change in State Average Benchmark Premium, Reform 1 Payment Rate Assumptions, 2020

	Percent change
Alabama	-38
Alaska	-39
Arizona	-18
Arkansas	-18
California	-11
Colorado	-13
Connecticut	-26
Delaware	-42
District of Columbia	-28
Florida	-22
Georgia	-22
Hawaii	-28
Idaho	-9
Illinois	-23
Indiana	-15
Iowa	-23
Kansas	-25
Kentucky	-25
Louisiana	-27
Maine	-16
Maryland	-12
Massachusetts	-7
Michigan	-10
Minnesota	-17
Mississippi	-43
Missouri	-30
Montana	-18
Nebraska	-38
Nevada	-21
New Hampshire	-17
New Jersey	-18
New Mexico	-14
New York	-8
North Carolina	-35
North Dakota	-18
Ohio	-9
Oklahoma	-28
Oregon	-16
Pennsylvania	-23
Rhode Island	-16
South Carolina	-39
South Dakota	-29
Tennessee	-27
Texas	-16
Utah	-18
Vermont	-24
Virginia	-21
Washington	-17
West Virginia	-33
Wisconsin	-14
Wyoming	-40
United States	**-19**

Source: Urban Institute analysis.

Notes: State averages weighted by population with nongroup coverage in each rating region. Reform 1, the nongroup base case, assumes hospital and physician prices are set at Medicare levels and prescription drug prices are set halfway between Medicare and Medicaid prices in 2020. These percent changes in premiums reflect the changes in provider payment rates only and do not account for any changes that may result from changes in the mix of people enrolling as premiums change.

TABLE 3

Rating Region–Level Distribution of Nongroup Benchmark Premium Changes under Reform 1 Payment Rate Assumptions, 2020

Percent

	Estimated premium change
Mean	-19
Percentile	
10th	-41
25th	-40
50th (median)	-28
75th	-16
90th	-11

Source: Urban Institute analysis.

Notes: Mean is weighted by population with nongroup coverage. Reform 1, the nongroup base case, assumes hospital and physician prices are set at Medicare levels and prescription drug prices are set halfway between Medicare and Medicaid prices in 2020. These percent changes in premiums reflect the changes in provider payment rates only and do not account for any changes that may result from changes in the mix of people enrolling as premiums change.

Estimating Premium Savings under Public Option or Capped Provider Payment Rate Reforms in the Employer Market

Table 4 shows (1) the national distribution of commercial-to-Medicare price ratios for hospitals and professionals at the public use microdata area (PUMA) level, (2) the implied premium cut from moving from commercial to Medicare rates, and (3) prescription drug savings (taken together, these changes comprise reform 1). Again, these changes reflect reductions in underlying costs alone and do not account for any risk pool changes resulting from behavior changes; those are accounted for in our simulation results described below. The table shows that the ratio of commercial to Medicare prices was 2.4 on average for hospitals and 1.2 for professionals (physicians and others). The ratios vary considerably across the country, however, particularly for hospitals.[18] In the appendix, we compare our estimates with those of others.

To compute the implied potential premium cuts resulting from moving from current commercial payment rates to base case assumptions (Medicare rates for hospitals and professionals and prescription drug prices halfway between those for Medicare and Medicaid), we combine the relative differences for hospital and professional payments with the assumed prescription drug price cut (weighted by the share of spending attributable to each).Our estimates suggest the resulting mean and median employer insurance premium decreases would be approximately 35 percent each. This is larger than the 19 percent mean and 28 percent median in the nongroup market.

TABLE 4

PUMA-Level Distribution of Commercial Insurance–to-Medicare Price Ratios for Hospital and Professional Services and Implied Premium and Provider Price Changes under Reform 1 Payment Rate Assumptions, 2020

	Hospital ratio	Professional ratio	Hospital price change (%)	Professional price change (%)	Prescription drug price change (%)	Combined premium change (%)
Mean	2.4	1.2	-57	-14	-30	-35
Percentile						
10th	3.1	1.5	-67	-34	-30	-44
25th	2.7	1.3	-63	-25	-30	-40
50th (median)	2.4	1.2	-58	-14	-30	-35
75th	2.1	1.0	-53	-2	-30	-30
90th	1.9	0.9	-47	6	-30	-25

Source: FAIR Health data on commercial prices relative to Medicare.

Notes: PUMA = public use microdata area. Expenditure-weighted ratios constructed across common procedural technology codes at the geozip level. Geozip ratios are distributed to 2,351 PUMAs, and summary statistics are weighted by 2010 PUMA population. Reform 1, the nongroup base case, assumes hospital and physician prices are set at Medicare levels and prescription drug prices are set halfway between Medicare and Medicaid prices in 2020. These percent changes in premiums reflect the changes in provider payment rates only and do not account for any changes that may result from changes in the mix of people enrolling as premiums change.

The percent reductions in premiums resulting from lower provider payment rates are larger in the employer market than the nongroup market because premiums have been quite low in many ACA nongroup insurance markets, because the structure of the premium tax credits drives intense competition.[19] Though a public option likely cannot reduce benchmark premiums as much as private insurers in highly competitive markets, it can generate substantial savings in less competitive markets.

Currently, employer insurance markets do not appear very price competitive, and their provider payment rates tend to be higher than those in nongroup markets. Employers tend to keep provider networks broader (particularly in larger firms' plans), which avoids alienating employees but leads to higher premiums. This also means employer premiums do not vary much across geographic areas because, unlike the nongroup market, few employer markets have low overall private commercial insurance payment rates, particularly for hospitals.[20]

Table 5 presents state-level estimates averaging commercial-to-Medicare payment ratios for hospital and professional services across PUMAs and shows the implied price and premium cuts that would result from moving from the estimated commercial rates to Medicare rates (our base case assumptions). Assuming Medicare rates, hospital payments from commercial private insurance would fall by more than 60 percent in seven states. Professional payments would decrease by more than 25 percent in seven states but would increase on average in eight states.

Combining the hospital and professional payment cuts and 30 percent reduction in prescription drug prices, our estimates suggest potential average employer premium reductions ranging from an average of 40 percent or more in five states to 25 percent or less in seven states under reform 1. The PUMA-level ratios and implied premium reductions underlying these state-level averages produce the geographic variation that informs our simulated reforms below.

TABLE 5

Summary of Commercial Insurance–to-Medicare Payment Ratios for Hospital and Professional Services and Implied Price and Premium Changes under Reform 1 Payment Rate Assumptions

	Number of PUMAs	PUMA hospital ratio (outpatient and inpatient)	PUMA professional ratio	Hospital price change (%)	Professional price change (%)	Prescription drug price change (%)	Combined premium change (%)
Alabama	34	2.6	1.2	-61	-13	-30	-36
Alaska	5	2.2	1.3	-55	-23	-30	-37
Arizona	54	2.5	1.3	-59	-20	-30	-38
Arkansas	20	1.9	1.1	-47	-10	-30	-29
California	265	2.8	1.1	-64	-5	-30	-34
Colorado	42	3.1	1.0	-66	-4	-30	-34
Connecticut	26	2.2	1.0	-55	-3	-30	-30
Delaware	6	2.3	1.0	-56	-2	-30	-30
District of Columbia	5	2.4	1.0	-58	1	-30	-29
Florida	151	3.2	1.4	-68	-27	-30	-44
Georgia	72	2.5	1.3	-60	-24	-30	-40
Hawaii	10	2.1	1.0	-53	2	-30	-27
Idaho	14	2.1	1.0	-52	-2	-30	-28
Illinois	88	2.5	1.2	-60	-16	-30	-36
Indiana	50	2.3	1.3	-57	-18	-30	-36
Iowa	22	1.8	1.2	-45	-17	-30	-31
Kansas	22	2.1	1.1	-51	-9	-30	-30
Kentucky	34	2.2	1.2	-54	-11	-30	-32
Louisiana	34	2.2	1.4	-53	-28	-30	-39
Maine	10	1.9	1.0	-48	1	-30	-25
Maryland	44	1.4	1.1	-26	-5	-30	-19
Massachusetts	52	1.7	1.1	-41	-11	-30	-27
Michigan	68	2.0	1.1	-51	-4	-30	-28
Minnesota	43	1.9	1.4	-48	-30	-30	-37
Mississippi	21	2.1	1.3	-52	-21	-30	-35
Missouri	47	2.1	1.2	-51	-18	-30	-34
Montana	7	2.0	1.0	-49	0	-30	-26
Nebraska	14	2.0	1.2	-50	-15	-30	-32
Nevada	18	2.9	1.3	-64	-23	-30	-41
New Hampshire	10	2.3	1.1	-57	-7	-30	-32
New Jersey	73	2.6	1.1	-60	-9	-30	-34

	Number of PUMAs	PUMA hospital ratio (outpatient and inpatient)	PUMA professional ratio	Hospital price change (%)	Professional price change (%)	Prescription drug price change (%)	Combined premium change (%)
New Mexico	18	2.4	1.3	-57	-18	-30	-36
New York	145	2.3	1.0	-56	-2	-30	-30
North Carolina	78	2.4	1.2	-58	-14	-30	-35
North Dakota	5	1.7	1.4	-42	-26	-30	-33
Ohio	93	2.3	1.3	-56	-19	-30	-36
Oklahoma	28	2.1	1.2	-53	-14	-30	-33
Oregon	31	2.0	1.3	-50	-22	-30	-35
Pennsylvania	92	2.3	0.9	-54	9	-30	-25
Rhode Island	7	2.2	0.9	-54	15	-30	-22
South Carolina	30	2.7	1.1	-63	-11	-30	-36
South Dakota	6	1.8	1.2	-44	-20	-30	-32
Tennessee	49	2.5	1.3	-60	-24	-30	-39
Texas	212	2.9	1.4	-65	-30	-30	-44
Utah	22	1.9	1.0	-47	2	-30	-24
Vermont	4	2.5	0.9	-60	13	-30	-25
Virginia	56	2.5	1.0	-59	0	-30	-30
Washington	56	2.3	1.2	-57	-16	-30	-35
West Virginia	13	1.3	1.0	-24	2	-30	-15
Wisconsin	40	2.4	1.7	-57	-42	-30	-45
Wyoming	5	2.0	1.5	-50	-31	-30	-39
United States	**2,351**	**2.4**	**1.2**	**-57**	**-14**	**-30**	**-35**
State minimum	**4**	**1.3**	**0.9**	**-24**	**15**	**-30**	**-15**
State maximum	**265**	**3.2**	**1.7**	**-68**	**-42**	**-30**	**-45**

Source: FAIR Health data on commercial prices relative to Medicare.

Notes: PUMA = public use microdata area. Ratios and price changes are population-weighted averages across PUMAs in each state. We calculate PUMA-level ratios by distributing expenditure-weighted, geozip-level hospital and professional ratios across PUMAs based on population. Combined premium changes use Medical Expenditure Panel Survey spending on nonelderly to weight hospital, professional, and drug price cuts. The market for prescription drugs is assumed to be national, so price change does not vary by state. Reform 1, the nongroup base case, assumes hospital and physician prices are set at Medicare levels and prescription drug prices are set halfway between Medicare and Medicaid prices in 2020. These percent changes in premiums reflect the changes in provider payment rates only and do not account for any changes that may result from changes in the mix of people enrolling as premiums change.

Simulating the Coverage and Cost Implications of Implementing Different Public Option and Capped Payment Rate Reforms

Appendix A contains a description of our microsimulation approach. Here we present our findings from simulating eight public option or capped provider payment rate reforms.

Reforms Modeled

Of our eight reforms, the first three institute the public option and/or capped rates in the nongroup market alone.[21] In each reform simulated, we assume prescription drug rebates in the public option and/or applicable market subject to capped provider payment rates are set halfway between current Medicare and Medicaid rebates.

NONGROUP MARKETS ONLY

In the nongroup insurance market, a public option and capping provider payment rates have approximately the same effects on coverage and government costs, though more insurers would likely remain in the market if all insurers' provider payment rates are capped. The effects are similar because federal government premium subsidies provided through the Marketplaces are tied to the benchmark (second-lowest silver) premium where each enrollee lives. Consequently, presuming the public option offers the benchmark premium leads to the same premium subsidies as if all current premiums in the market were adjusted by the same percentage. Therefore, our estimates for the reforms affecting nongroup markets alone can be interpreted as consistent with either a public option or capping provider payment rates paid by all private nongroup insurers at the same levels. For ease of exposition below, we simply call nongroup-only reforms "public option reforms" below.

- **Reform 1, nongroup base case,** sets the public option's payment for hospitals and professionals at Medicare rates.
- **Reform 2, nongroup with rural price adjustment,** is the same as the base case, except rural hospital and physician public option payments are set 20 percent above Medicare rates. This reform generates smaller savings than the base case.

- **Reform 3, nongroup with prices modestly above Medicare rates,** sets public option payment rates to all hospitals at Medicare rates plus 25 percent and payments to all physicians at Medicare rates plus 10 percent. This reform generates smaller savings than reforms 1 and 2.

EMPLOYER AND NONGROUP MARKET PUBLIC OPTIONS

Unlike reforms in the nongroup market, a public option in the employer market would have different effects from capping the provider payment rates for all employer insurers. This is because the number of employers and workers with insurance that pays providers at lower rates will drive employer savings and income tax revenue effects. It is unlikely that all employers would choose to switch to a public option, but all would be affected by capping provider payment rates across this market. Consequently, the next three simulations introduce a public option into the employer group market and include parallel reforms in the nongroup market. Employers can continue to offer their current plan or may enroll their workers in the public option. We assume many employers would prefer their current benefits and cost-sharing and thus would be willing to pay higher payment rates; others would not and would opt for the public option instead. (We assume employer participation rates decrease with employer size and average wage; see appendix A). Under the reforms below, provider payment rates are the same in both the nongroup and employer markets.

- **Reform 4, employer and nongroup base case,** allows all employers to buy coverage through the public option. Payment rates are set as in reform 1. This reform generates greater private savings than reform 1.
- **Reform 5, employer and nongroup with prices modestly above Medicare rates,** allows all employers to buy coverage through the public option as in reform 4, but payment rates in the public option are set to Medicare rates plus 25 percent for all hospitals and Medicare rates plus 10 percent for all physicians. This reform generates lower savings than reform 4.
- **Reform 6, employer and nongroup with prices further above Medicare rates,** is similar to reform 5, but provider payment rates in the public plan are set at Medicare rates plus 60 percent for all hospitals and Medicare rates plus 15 percent for all physicians. This reform generates lower savings than reform 5.

EMPLOYER AND NONGROUP CAPPED PROVIDER PAYMENT RATES

The final two simulations assume provider payment rates for all coverage offered in the employer and nongroup markets are capped. Employers do not have to choose the public option to access these lower

prices. Quantitatively, these estimates are consistent with assuming all employers exclusively offer their workers the public option.

- **Reform 7, employer and nongroup provider payments capped modestly above Medicare rates,** replaces the employer public option with a system within which all providers would be paid by all employer and nongroup insurers at the levels assumed in reform 5. Payments are set at Medicare rates plus 25 percent for all hospitals and Medicare rates plus 10 percent for all physicians. This reform generates greater private savings than reform 5.
- **Reform 8, employer and nongroup provider payments capped further above Medicare rates,** is similar to reform 7, but payment rates are capped at the same level as in reform 6 (Medicare rates plus 60 percent for all hospitals and Medicare rates plus 15 percent for all physicians). This reform generates lower private savings than reform 7 but higher private savings than reform 6.

Results for a Public Option Offered in the Nongroup Market

The changes in premiums under any simulation presented below are different than the cuts shown in table 3. These differences result from both (1) the particular payment levels assumed in the reform and (2) the fact that premium differences in a simulation reflect not only changes in provider payment rates but the ensuing changes in enrollment in different forms of coverage, which can affect insurance risk pools and thus have secondary effects on premiums.

Reform 1: Nongroup Base Case

Offers a nongroup market public option in all rating regions; sets payment rates for hospitals and physicians at Medicare prices and sets prescription drug rebates in the nongroup insurance market halfway between current Medicare and Medicaid rebates

Premium effects. This public option reduces median benchmark premiums in the nongroup market by 28 percent (table 6). For ease of exposition, from here forward, we simply call Marketplace benchmark premiums "premiums."

The premium decrease varies considerably across ACA rating regions. The largest premium decreases (the top 10 percent) are of 43 percent or more, whereas the smallest decreases (the bottom 10 percent) are of 12 percent or less. As noted earlier, insurance and hospital competition in nongroup

markets varies considerably by geography. Premiums in markets that are already highly competitive decease the least under the public option; premiums in the least competitive markets decrease the most. We present these geographic variations for reforms 1, 4, and 5 in a later section.

TABLE 6

Rating Region–Level Distribution of Changes in Nongroup Insurance Premiums under Reforms 1 through 3, 2020

Percent change from current premiums

	Reform 1: Nongroup base case	Reform 2: Nongroup with rural price adjustment	Reform 3: Nongroup with prices modestly above Medicare rates
Percentile			
10th	-43	-40	-30
25th	-40	-36	-25
50th (median)	-28	-21	-13
75th	-17	-12	-7
90th	-12	-7	-2

Source: Health Insurance Policy Simulation Model, 2019.

Notes: Reforms simulated as fully phased in and in equilibrium in 2020. These changes in premiums differ slightly from those in tables 2–5 because they reflect not only the basic changes in premiums but also any changes in the risk pool that result from the introduction of the public option.

Under reforms 1 through 3, very small changes occur for a small number of employers when a modest number of workers make different choices about where to obtain insurance given the public option in the nongroup market, but these changes are so small they are not noticeable as percentages. As such, we have excluded them from the table above.

Insurance coverage effects. Because of the premium decreases in the markets, the number of people with nongroup insurance coverage increases modestly by 87,000 (table 7). The number of people receiving Marketplace subsidies decreases because when premiums decrease, fewer people face full premiums that exceed the subsidies' percent-of-income caps. However, this decrease in subsidized coverage is more than offset by the increased number of people purchasing nongroup coverage without a subsidy (i.e., people who pay the full premium in the nongroup market). The decrease in uninsurance is small because only people facing the full nongroup insurance premium (i.e., people with incomes above 400 percent of the federal poverty level or otherwise ineligible for subsidies) can save money under the reform.[22] And because most higher-income people are already insured, coverage increases only slightly, but the federal government and households already paying the full premium achieve savings (shown below).

As more people enroll in nongroup coverage through the Marketplaces, some discover that their dependents (mostly children) are eligible for Medicaid/the Children's Health Insurance Program and they newly enroll, increasing the number of people with such coverage by 208,000 under this reform. The number of people uninsured falls by 230,000, or about 1 percent. An additional 69,000 people drop short-term plans to enroll in minimum essential coverage.

Health spending effects. Federal health spending falls by $15.1 billion (3.5 percent) in 2020 under reform 1 (table 8). This is 3.5 percent of all federal spending on the nonelderly (including Marketplace subsidies and Medicaid and the Children's Health Insurance Program acute care but excluding long-term services and supports and Medicare). The largest source of federal savings is a $15.7 billion (28.0 percent) decrease in Marketplace subsidies, though federal spending on Medicaid increases very modestly by $737.0 million (0.2 percent). Total federal health spending does not change much because the public option only affects the nongroup insurance market, a small share of national insurance coverage. Spending by state governments and employers is virtually unchanged. Household spending (premiums and out-of-pocket costs) falls by $7.0 billion (1.2 percent). Spending for all payers combined falls by $22.0 billion (1.0 percent), which includes both payments to providers for care delivered and insurer administrative costs; as such, it provides insight on the impact on providers.

Reform 2: Nongroup with Rural Price Adjustment

Offers a nongroup public option in all rating regions; sets payments for urban hospitals and physicians at Medicare rates and payments for rural providers at Medicare rates plus 20 percent; sets prescription drug rebates in the nongroup insurance market halfway between current Medicare and Medicaid rebates

Premium effects. This reform modifies reform 1 by increasing hospital and professional provider payment rates to Medicare levels plus 20 percent in rural areas. Consequently, the median rating region's premium decreases by 21 percent, a smaller reduction than in the previously described reform (table 6). Across both the distribution of premium changes and the nation's rating regions, premium decreases are somewhat smaller than under reform 1.

Coverage effects. Under this reform, the number of uninsured falls by 211,000 people compared with current levels, a smaller effect than in reform 1 (table 7). Likewise, nongroup insurance enrollment is slightly lower in reform 2 than in reform 1 because premiums are higher in rural areas. The coverage effects under these two reforms are fairly similar because the higher provider payment rates affect areas with a relatively small share of the US population; the only consumers who face a higher premium under reform 2 than reform 1 are those ineligible for premium tax credits and living in rural areas.

Health spending effects. Like coverage effects, spending levels also differ modestly under reforms 1 and 2 (table 8). Household spending decreases by $5.8 billion under reform 2, compared with $7.0 billion under reform 1, reflecting both the higher premiums for enrollees in rural areas buying nongroup coverage without premium tax credits and the higher out-of-pocket costs for all nongroup enrollees in those areas. Federal spending decreases by $12.7 billion under reform 2, compared with $15.1 billion under reform 1, because the federal government pays more for premium tax credits with the higher premiums in rural areas. Spending by all payers falls by $18.4 billion, or 0.9 percent.

Reform 3: Nongroup with Prices Modestly above Medicare Rates

Offers a nongroup public option in all rating regions; sets payments for all hospitals at Medicare rates plus 25 percent and payments for physicians at Medicare rates plus 10 percent; requires prescription drug rebates in the nongroup insurance market be set halfway between current Medicare and Medicaid rebates

Premium effects. Reform 3 modifies reform 2 by increasing hospital and physician payments across the country (instead of just in rural areas) to Medicare rates plus 25 percent for hospitals and Medicare rates plus 10 percent for physicians. Compared with reform 1, this reform increases underlying costs, and thus premiums, in every rating area. As table 6 shows, the median nongroup market premium decrease is 13 percent under reform 3, compared with 28 percent under reform 1. Likewise, all along the distribution, premiums fall by smaller percentages because of higher payment rates for hospitals and physicians. For example, the highest 10 percent of premium rating regions experience a 30 percent decline in premiums under this approach, compared with 43 percent under reform 1. For the lowest 10th percentile, premiums decrease by 2 percent, compared with a 12 percent decrease in reform 1.

Coverage effects. Because premiums fall by less under reform 3 than under reform 1, the coverage effects are smaller as well. An additional 155,000 people enroll in insurance coverage (table 7). The number of people enrolled in the nongroup market falls modestly by 9,000, the number of people with Marketplace subsidies falls by 165,000, and the number of people in full-pay nongroup coverage increases by 156,000.[23]

Health spending effects. As shown in table 8, federal spending is higher under reform 3 than under reform 1; under reform 3, federal costs drop by $7.3 billion compared with current levels (and compared with $15.1 billion in federal savings under reform 1). Virtually all the difference in federal spending between the reforms owes to higher Marketplace premium tax credits under reform 3. Under this reform, household health care spending falls by 0.7 percent compared with current levels. Employer and state government spending do not change, consistent with the previously described reforms. Under reform 3, spending by all payers falls by $10.8 billion, or 0.5 percent.

TABLE 7

Health Insurance Coverage of the Nonelderly Population Currently and under Nongroup Public Option Reforms 1 through 3, 2020

Thousands of people

	Current	Reform 1: Nongroup base case	Reform 2: Nongroup with rural price adjustment	Reform 3: Nongroup with prices modestly above Medicare rates
Insured (minimum essential coverage)	**240,506**	**240,804**	**240,776**	**240,690**
Employer	147,572	147,575	147,578	147,581
Private nongroup	*15,460*	*15,547*	*15,523*	*15,450*
Marketplace with PTC	9,097	8,753	8,814	8,931
Full-pay nongroup	6,363	6,794	6,709	6,519
Medicaid/CHIP	68,843	69,051	69,043	69,027
Medicare/other public	8,632	8,632	8,632	8,632
Uninsured (no minimum essential coverage)	**34,628**	**34,329**	**34,358**	**34,444**
Uninsured	32,185	31,956	31,974	32,031
Noncompliant nongroup	2,443	2,374	2,384	2,413
Total	**275,134**	**275,134**	**275,134**	**275,134**

Changes from current coverage, thousands of people

Insured (minimum essential coverage)	**—**	**299**	**270**	**184**
Employer	—	3	6	9
Private nongroup	—	*87*	*64*	*-9*
Marketplace with PTC	—	-344	-283	-165
Full-pay nongroup	—	431	346	156
Medicaid/CHIP	—	208	201	184
Medicare/other public	—	0	0	0
Uninsured (no minimum essential coverage)	**—**	**-299**	**-270**	**-184**
Uninsured	—	-230	-211	-155
Noncompliant nongroup	—	-69	-59	-30
Total	**—**	**0**	**0**	**0**

Percent change from current coverage

	Current	Reform 1: Nongroup base case	Reform 2: Nongroup with rural price adjustment	Reform 3: Nongroup with prices modestly above Medicare rates
Insured (minimum essential coverage)	**—**	**0.1**	**0.1**	**0.1**
Employer	—	0.0	0.0	0.0
Private nongroup	—	*0.6*	*0.4*	*-0.1*
Marketplace with PTC	—	-3.8	-3.1	-1.8
Full-pay nongroup	—	6.8	5.4	2.5
Medicaid/CHIP	—	0.3	0.3	0.3
Medicare/other public	—	0.0	0.0	0.0
Uninsured (no minimum essential coverage)	**—**	**-0.9**	**-0.8**	**-0.5**
Uninsured	—	-0.7	-0.7	-0.5
Noncompliant nongroup	—	-2.8	-2.4	-1.2
Total	**—**	**0.0**	**0.0**	**0.0**

Source: Health Insurance Policy Simulation Model, 2019.

Notes: PTC = premium tax credits. CHIP = Children's Health Insurance Program. Cells are marked with a dash when the row does not apply to the column head. Reforms simulated as fully phased in and in equilibrium in 2020. Analysis includes the US population under age 65 not enrolled in Medicare.

TABLE 8

Health Spending for the Nonelderly Population Currently and under Nongroup Public Option Reforms 1 through 3, 2020

Millions of dollars

	Current	Reform 1: Nongroup base case	Reform 2: Nongroup with rural price adjustment	Reform 3: Nongroup with prices modestly above Medicare rates
Household				
Premiums and out-of-pocket costs	560,233	553,266	554,428	556,475
Federal government				
Medicaid/CHIP	347,559	348,296	348,259	348,194
Marketplace subsidies	56,096	40,405	42,819	48,186
Reinsurance	1,227	1,227	1,227	1,227
Uncompensated care	27,531	27,341	27,359	27,463
Subtotal	*432,413*	*417,270*	*419,665*	*425,070*
State government				
Medicaid/CHIP	184,108	184,408	184,394	184,373
Marketplace subsidies	2,990	2,802	2,783	2,778
Reinsurance	475	475	475	475
Uncompensated care	17,207	17,088	17,100	17,164
Subtotal	*204,780*	*204,773*	*204,752*	*204,791*
Employers				
Premium contributions	924,291	924,600	924,619	924,607
Providers				
Uncompensated care	24,089	23,924	23,939	24,030
Total	**2,145,807**	**2,123,832**	**2,127,403**	**2,134,973**
Changes from current spending, millions of dollars				
Household				
Premiums and out-of-pocket costs	—	-6,968	-5,806	-3,759
Federal government				
Medicaid/CHIP	—	737	700	635
Marketplace subsidies	—	-15,690	-13,276	-7,909
Reinsurance	—	0	0	0
Uncompensated care	—	-189	-171	-68
Subtotal	—	*-15,143*	*-12,748*	*-7,343*
State government				
Medicaid/CHIP	—	299	286	265

	Current	Reform 1: Nongroup base case	Reform 2: Nongroup with rural price adjustment	Reform 3: Nongroup with prices modestly above Medicare rates
Marketplace subsidies	—	-188	-207	-212
Reinsurance	—	0	0	0
Uncompensated care	—	-118	-107	-43
Subtotal	—	*-7*	*-28*	*10*
Employers				
Premium contributions	—	309	328	316
Providers				
Uncompensated care	—	-166	-150	-60
Total	**—**	**-21,975**	**-18,404**	**-10,834**
Percent change from current spending				
Household				
Premiums and out-of-pocket costs	—	-1.2	-1.0	-0.7
Federal government	**—**			
Medicaid/CHIP		0.2	0.2	0.2
Marketplace subsidies	—	-28.0	-23.7	-14.1
Reinsurance	—	0.0	0.0	0.0
Uncompensated care	—	-0.7	-0.6	-0.2
Subtotal	—	*-3.5*	*-2.9*	*-1.7*
State government				
Medicaid/CHIP	—	0.2	0.2	0.1
Marketplace subsidies	—	-6.3	-6.9	-7.1
Reinsurance	—	0.0	0.0	0.0
Uncompensated care	—	-0.7	-0.6	-0.2
Subtotal	—	*0.0*	*0.0*	*0.0*
Employers				
Premium contributions	—	0.0	0.0	0.0
Providers				
Uncompensated care	—	-0.7	-0.6	-0.2
Total	**—**	**-1.0**	**-0.9**	**-0.5**

Source: Health Insurance Policy Simulation Model, 2019.

Notes: CHIP = Children's Health Insurance Program. Cells are marked with a dash when the row does not apply to the column head. Reforms simulated as fully phased-in and in equilibrium in 2020. Analysis includes the US population under age 65 not enrolled in Medicare. Medicaid/CHIP includes acute care for the nonelderly. Prescription drug prices in each reform scenario are assumed to be set halfway between Medicare and Medicaid prices.

Results for a Public Option in the Employer and Nongroup Markets

Under reforms 4 through 6, the public option is available in both the nongroup and employer markets. Employers decide whether to offer the public option, their traditional group plan, or neither. We assign employers to offering the public option or traditional group coverage using assumptions detailed in table A.3. The provider payment rates are consistent between the nongroup and employer markets. The small-group (50 or fewer workers) and nongroup markets' risk pools are separate, though both operate under the regulations delineated by the ACA. Large employers can choose to offer the public option, but the premiums they pay are experience rated. Again, in each simulation, we assume prescription drug rebates in the nongroup insurance market and for employers offering the public option are set halfway between current Medicare and Medicaid rebates. In reforms 7 and 8, we assume all employers offering insurance to their employees offer insurance plans that limit provider payment rates to no more than the regulated level. The same prescription drug rebates apply to all private insurers in the nongroup and employer markets under reforms 7 and 8.

We expect that public option reforms affecting the employer insurance market would require multiyear transitions before full implementation. The larger the decrease in provider prices and the larger the number of employers that participate, the longer the phase-in should be. This is because the employer insurance market comprises a significantly larger share of health care provider revenue than does the nongroup market. Large price decreases in this market therefore could lead to significant disruptions in health care access or quality if providers have insufficient time to adjust their underlying costs. For ease of comparison across the simulations, our estimates do not account for phasing prices down over time, but we do not intend to diminish the importance of doing so.

Reform 4: Employer and Nongroup Base Case

Offers a public option in all nongroup and employer markets; sets payments for hospitals and physicians at Medicare rates

Premium effects. The median nongroup market premium decreases by 28 percent compared with current circumstances (table 9). The distribution of nongroup premium effects is virtually identical to that in reform 1, the nongroup-only base case. Comparing premium spending before and after reform only for employers offering the public option, the median premium decreases by 32 percent compared with current levels. Accounting for all employers, regardless of whether they offer the public option,

median premiums fall by 18 percent compared with current levels. The top 10th percentile premium decreases by 20 percent, whereas the bottom 10th percentile premium falls by 15 percent.[24]

Coverage effects. The number of uninsured falls by 1.7 million people under reform 4, and an additional 450,000 people obtain ACA-compliant insurance coverage instead of short-term plans (table 10). Compared with today, employer coverage increases by 2.3 million people, and 78.8 million people with employer coverage obtain it through the public option, over half of all people with employer coverage. The number of people with nongroup coverage declines by 326,000 (2.1 percent) compared with current levels. The number of people buying nongroup coverage without subsidies increases modestly, but this is offset by the decrease in subsidized coverage.

Health spending effects. As 78.8 million people take up coverage through the public option, employer health spending falls by $142.9 billion (15.5 percent), lowering employer-based premiums for many. Household spending falls by $76.3 billion, or 13.6 percent, compared with current levels (table 10). Household savings are considerably larger than under any of the previously discussed reforms, because many more people enroll in the public option once it is opened to people with employer-sponsored insurance. Federal spending falls by $17.5 billion, or 4.1 percent, again largely because of lower Marketplace premium tax credits. In addition to lowering federal health spending, reform 4 would increase federal income tax receipts by $24.8 billion, reflecting the substantial number of employer-based public option enrollees. Total health spending by all payers, an indication of the magnitude of the reduction in provider revenue, decreases by $239.5 billion, or 11.2 percent.[25]

Reform 5: Employer and Nongroup with Prices Modestly Above Medicare Rates

Offers a public option in all nongroup and employer markets; sets payments for hospitals at Medicare rates plus 25 percent and payments for physicians and other professionals at Medicare levels plus 10 percent

Premium effects. The difference between reforms 4 and 5 is the higher public option payment rates in reform 5. Consequently, premiums are higher as well (table 9). The median benchmark premium in the nongroup market falls by 14 percent compared with current levels (as opposed to 28 percent under reform 1). Across the distribution of nongroup premiums, reform 5 leads to smaller decreases than does reform 4. The same is true for employer premiums. Focusing the comparison only on employers offering the public option, the median premium decreases by 24 percent. When accounting for all employers, the median premium decreases by 13 percent.

Coverage effects. The number of uninsured falls by 1.6 million people, and another 412,000 people leave substandard coverage for employer or nongroup plans that meet ACA standards (table 10). The

number of people with employer coverage increases by 2.2 million, with 76.6 million people in the employer-based public option. The number of people in the employer public option is slightly lower than in reform 4 (78.8 million) because the premiums are higher. However, overall enrollment in both employer-sponsored and nongroup insurance are about the same under both reforms 4 and 5. The premium savings resulting from the public option are still significant under reform 5, and the vast majority of people enrolling in the public option currently have coverage.

Health spending effects. Under reform 5, employer health spending falls by $104.5 billion, or 11.3 percent, relative to current spending; this is about 73 percent of the employer health savings achieved by reform 4. Household health spending falls by $54.6 billion, or 9.8 percent, compared with current spending (table 11). Federal government health spending declines by $10.1 billion, or 2.3 percent, compared with current spending; higher premiums lead to smaller savings in premium tax credits than under reform 4. In addition to lowering federal health spending, reform 5 would increase federal income tax receipts by $17.5 billion. Spending for all payers would fall by $171.8 billion, or 8.0 percent.

Reform 6: Employer and Nongroup with Prices Further Above Medicare Rates

Offers a public option in all nongroup and employer markets; sets payments for hospitals at Medicare rates plus 60 percent and payments for physicians and other professionals at Medicare rates plus 15 percent

Premium effects. The difference between reforms 5 and 6 is that hospital payment rates are set significantly higher under reform 6, and professional payment rates are also set slightly higher. Consequently, premiums in the nongroup and employer-based public options are higher than under reform 5 (table 9), and employer participation in the public option is lower. The median nongroup benchmark premium decreases by 10 percent relative to current levels. The benchmark premium at the top 10th percentile of rating regions is 26 percent lower than current levels. Because payment levels and premiums are higher than under reform 5, fewer firms anticipate savings greater than 20 percent; consequently, only around 30 percent of people with employer-sponsored insurance are in the public option, down from more than 50 percent under reforms 4 and 5.

When restricting the comparison only to employers choosing the public option, the median premium decreases by 16 percent. Among all employers, the median premium decreases by 6 percent, reflecting the smaller percentage of employers taking up the public option under reform 6 than under reform 5.

Coverage effects. Compared with current levels, the number of uninsured falls by 1.5 million people, and an additional 390,000 people with short-term coverage obtain ACA-compliant insurance coverage

(table 10). Employer coverage increases by 2.2 million people, with 44.8 million people enrolled in employer-based public option coverage, many fewer than under reform 5 because public option premiums are higher under reform 6. Nongroup insurance coverage decreases by about 473,000 people compared with current levels, with small declines in both subsidized and unsubsidized coverage.

Health spending effects. Employer premium contributions fall by $38.9 billion, or 4.2 percent. Household spending declines by $24 billion, or 4.3 percent, compared with current levels (table 11). Household savings are roughly 44 percent of those in reform 5, because of the higher premiums resulting from higher provider payment rates. Federal government spending falls by $7.6 billion, or 1.8 percent, almost entirely because of a 12.1 percent reduction in Marketplace subsidies. In addition to lowering federal health spending, reform 6 would increase federal income tax receipts by $4.8 billion. Spending by all payers falls by $72.8 billion, or 3.4 percent.

Reform 7: Employer and Nongroup Rates Capped Modestly Above Medicare Prices

Caps provider payment rates for all insurers providing coverage in the nongroup and employer markets; provider payment rates are identical to those in reform 6 (hospital payments set at Medicare rates plus 25 percent and physician payments set at Medicare rates plus 10 percent); all employers, regardless of size and average wage, are assumed to benefit from capped provider payment rates

Premium effects. The difference between reforms 5 and 7 is that everyone covered by employer-sponsored insurance is assumed to benefit from the capped payment rates in reform 7; in reform 5, 51 percent of those with employer-sponsored insurance would enroll in the public option. Because this policy difference only affects employer-sponsored insurance, median nongroup benchmark premiums decrease by the same amount as in reform 5, 14 percent relative to current levels (table 9). The median premium decreases by 26 percent when comparing all employers before and after reform, because all people covered by employer-sponsored insurance benefit from rate cuts, not just a portion who opt in to a public option.[26]

Coverage effects. Compared with current levels, the number of uninsured falls by 1.6 million people under reform 7, and an additional 412,000 people with short-term coverage obtain ACA-compliant insurance coverage (table 10). This is the same as under reform 5. Employer coverage increases by 2.2 million people, with all 149.8 million people covered through employers benefiting from the lower provider payment rates; though this is shown in table 9 as "public option coverage," it refers to people enrolled in employer coverage and affected by capped provider payment rates. Nongroup insurance coverage decreases by about 415,000 people.

Health spending effects. Employer premium contributions fall by $223.9 billion, or 24.2 percent, more than double the reduction under reform 5, because all employers offering coverage to their workers can access the lower provider payment rates. Household spending declines by $109.2 billion, or 19.5 percent, compared with current levels (table 11). Household savings are much larger under reform 7 than under reform 5 because contributions for premiums and out-of-pocket costs fall for the much larger number of people with employer-based coverage benefiting from lower provider payment rates. Federal government spending falls by $10.1 billion, or 2.3 percent, just as in reform 5.[27] In addition to lowering federal health spending, reform 7 increases federal income tax receipts by $42.3 billion. Spending by all payers falls by $345.8 billion, or 16.1 percent, illustrating the potential system-wide effect of a capped rate policy.

Reform 8: Employer and Nongroup Rates Capped Further Above Medicare Prices

Caps provider payment rates for all insurers providing coverage in nongroup and employer markets; provider payment rates are identical to those in reform 6 (hospital payments set at Medicare plus 60 percent and physician payments set at Medicare rates plus 15 percent); all employers, regardless of size and average wage, are assumed to benefit from the capped provider payment rates

Premium effects. In reform 8, premiums fall in the nongroup market by 10 percent, just as in reform 6. When comparing all employers before and after reform, the median premium decreases by 19 percent. Again, all people enrolled in employer-sponsored insurance benefit from the rate cuts, a much larger number of people than those who opt into the public option under reform 6.

Coverage effects. Compared with current levels, the number of uninsured people falls by 1.5 million in reform 8, and an additional 390,000 people with short-term coverage obtain ACA-compliant insurance (table 10). Employer coverage increases by 2.2 million people, with 149.7 million insured through employers benefiting from the reform's lower provider payment rates. Nongroup insurance falls by 473,000 people.

Health spending effects. Employer premium contributions fall by $157.0 billion, or 17.0 percent, an increase more than four times that seen under reform 6, because all employers offering coverage to their workers benefit from lower payment rates. Household spending falls by $79.7 billion, or 14.2 percent, relative to current levels. Federal spending falls by $7.6 billion, or 1.8 percent, just as in reform 6. In addition to lowering federal spending, reform 8 increases federal tax receipts by $29.6 billion. Spending by all payers falls by $246.6 billion, or 11.5 percent, illustrating the potential effect of a capped rate policy even with rates significantly above those of Medicare.

Thus, of all reforms, 4, 7, and 8 contain systemwide costs the most. Reform 4 makes a public option paying Medicare rates to all providers available in the nongroup and employer-based insurance markets. Reforms 7 and 8 cap all private insurer payments to providers at rates above those of Medicare, but the provider rates are still lower than current commercial insurance rates and apply to many people. Therefore, higher provider payment rates or rates applied to smaller numbers of people lead to smaller private and public savings.

TABLE 9

Rating Region–Level Distribution of Changes in Nongroup and Employer Premiums under Nongroup and Employer Public Option Reforms 4 through 8, 2020

Percent change from current premiums

	Public Option			Capped Rates	
	Reform 4: Employer and Nongroup Base Case	Reform 5: Employer and Nongroup with Prices Modestly Above Medicare Rates	Reform 6: Employer and Nongroup with Prices Further Above Medicare Rates	Reform 7: Employer and Nongroup Rates Capped Modestly Above Medicare Prices	Reform 8: Employer and Nongroup Rates Capped Further Above Medicare Prices
			Nongroup		
Percentile					
10th	-43	-29	-26	-29	-26
15th	-40	-24	-18	-24	-18
50th (median)	-28	-14	-10	-14	-10
75th	-17	-6	2	-6	2
90th	-11	0	8	0	8
			Employers offering the public option		
Percentile					
10th	-34	-26	-19	-27	-20
15th	-33	-25	-18	-26	-18
50th (median)	-32	-24	-16	-25	-17
75th	-30	-23	-14	-23	-16
90th	-29	-21	-12	-22	-15
			All employers		
Percentile					
10th	-20	-15	-8	-28	-21
15th	-19	-14	-7	-27	-20
50th (median)	-18	-13	-6	-26	-19
75th	-16	-12	-5	-25	-17
90th	-15	-11	-4	-23	-16

Source: Health Insurance Policy Simulation Model, 2019.

Notes: Reforms simulated as fully phased in and in equilibrium in 2020. These changes in premiums differ slightly from those in tables 2–5 because they reflect not only the basic changes in premiums, but also any changes in the risk pool resulting from introducing the public option.

TABLE 10

Health Insurance Coverage of the Nonelderly Population Currently and under Nongroup and Employer Public Option Reforms 4 through 8, 2020

Thousands of people

		Public Option			Capped Rates	
	Current	Reform 4: Employer and nongroup base case	Reform 5: Employer and nongroup with prices modestly above Medicare rates	Reform 6: Employer and nongroup with prices further above Medicare rates	Reform 7: Employer and nongroup rates capped modestly above Medicare prices	Reform 8: Employer and nongroup rates capped further above Medicare prices
Insured (minimum essential coverage)	**240,506**	**242,654**	**242,514**	**242,373**	**242,514**	**242,373**
Employer	*147,572*	*149,838*	*149,811*	*149,727*	*149,811*	*149,727*
Traditional	147,572	71,009	73,236	104,958	0	0
Public option	0	78,830	76,575	44,769	149,811	149,727
Private nongroup	*15,460*	*15,133*	*15,044*	*14,986*	*15,044*	*14,986*
Marketplace with PTC	9,097	8,520	8,708	8,703	8,708	8,703
Full-pay nongroup	6,363	6,613	6,337	6,283	6,337	6,283
Medicaid/CHIP	*68,843*	*69,051*	*69,027*	*69,029*	*69,027*	*69,029*
Medicare/other public	*8,632*	*8,632*	*8,632*	*8,632*	*8,632*	*8,632*
Uninsured (no minimum essential coverage)	**34,628**	**32,479**	**32,619**	**32,760**	**32,619**	**32,760**
Uninsured	32,185	30,487	30,588	30,708	30,588	30,708
Noncompliant nongroup	2,443	1,992	2,031	2,053	2,031	2,053
Total	**275,134**	**275,134**	**275,134**	**275,134**	**275,134**	**275,134**
Changes from current coverage, thousands of people						
Insured (minimum essential coverage)	**—**	**2,149**	**2,009**	**1,867**	**2,009**	**1,867**
Employer	—	*2,266*	*2,240*	*2,155*	*2,240*	*2,155*
Traditional	—	-76,563	-74,335	-42,614	-147,572	-147,572
Public option	—	78,830	76,575	44,769	149,811	149,727
Private nongroup	—	*-326*	*-415*	*-473*	*-415*	*-473*
Marketplace with PTC	—	-577	-389	-393	-389	-393
Full-pay nongroup	—	251	-26	-80	-26	-80

		Public Option			Capped Rates	
	Current	Reform 4: Employer and nongroup base case	Reform 5: Employer and nongroup with prices modestly above Medicare rates	Reform 6: Employer and nongroup with prices further above Medicare rates	Reform 7: Employer and nongroup rates capped modestly above Medicare prices	Reform 8: Employer and nongroup rates capped further above Medicare prices
Medicaid/CHIP	—	*208*	*184*	*186*	*184*	*186*
Medicare/other public	—	*0*	*0*	*0*	*0*	*0*
Uninsured (no minimum essential coverage)	**—**	**-2,149**	**-2,009**	**-1,867**	**-2,009**	**-1,867**
Uninsured	—	-1,698	-1,597	-1,478	-1,597	-1,478
Noncompliant nongroup	—	-450	-412	-390	-412	-390
Total	**—**	**0**	**0**	**0**	**0**	**0**
Percent change from current coverage						
Insured (minimum essential coverage)	**—**	**0.9**	**0.8**	**0.8**	**0.8**	**0.8**
Employer	—	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*
Traditional	—	-51.9	-50.4	-28.9	-100.0	-100.0
Public option	—	—	—	—	—	—
Private nongroup	—	*-2.1*	*-2.7*	*-3.1*	*-2.7*	*-3.1*
Marketplace with PTC	—	-6.3	-4.3	-4.3	-4.3	-4.3
Full-pay nongroup	—	3.9	-0.4	-1.3	-0.4	-1.3
Medicaid/CHIP	—	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*
Medicare/other public	—	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Uninsured (no minimum essential coverage)	**—**	**-6.2**	**-5.8**	**-5.4**	**-5.8**	**-5.4**
Uninsured	—	-5.3	-5.0	-4.6	-5.0	-4.6
Noncompliant nongroup	—	-18.4	-16.8	-16.0	-16.8	-16.0
Total	**—**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Source: Health Insurance Policy Simulation Model, 2019.

Notes: PTC = premium tax credit. CHIP = Children's Health Insurance Program. Cells marked with a dash when the row does not apply to the column head. Reforms simulated as fully phased in and in equilibrium in 2020. Analysis includes the US population under age 65 not enrolled in Medicare.

TABLE 11

Health Spending for the Nonelderly Population Currently and under Nongroup and Employer Public Option Reforms 4 through 8, 2020

Millions of dollars

		Public Option			Capped Rates	
	Current	Reform 4: Employer and nongroup base case	Reform 5: Employer and nongroup with prices modestly above Medicare rates	Reform 6: Employer and nongroup with prices further above Medicare rates	Reform 7: Employer and nongroup prices capped modestly above Medicare rates	Reform 8: Employer and nongroup prices capped further above Medicare rates
Household						
Premiums and out-of-pocket costs	560,233	483,924	505,610	536,258	450,986	480,557
Federal government						
Medicaid/CHIP	347,559	348,296	348,194	348,200	348,194	348,200
Marketplace subsidies	56,096	39,523	46,965	49,296	46,965	49,296
Reinsurance	1,227	1,227	1,227	1,227	1,227	1,227
Uncompensated care	27,531	25,819	25,973	26,109	25,973	26,109
Subtotal	*432,413*	*414,865*	*422,359*	*424,833*	*422,359*	*424,833*
State government						
Medicaid/CHIP	184,108	184,408	184,373	184,373	184,373	184,373
Marketplace subsidies	2,990	2,504	2,498	2,499	2,498	2,499
Reinsurance	475	475	475	475	475	475
Uncompensated care	17,207	16,137	16,233	16,318	16,233	16,318
Subtotal	*204,780*	*203,524*	*203,579*	*203,666*	*203,579*	*203,666*
Employers						
Premium contributions	924,291	781,420	819,766	885,428	700,386	767,274
Providers						
Uncompensated care	24,089	22,591	22,726	22,846	22,726	22,846
Total	**2,145,807**	**1,906,323**	**1,974,040**	**2,073,031**	**1,800,037**	**1,899,176**
Changes from current spending, millions of dollars						
Household						
Premiums and out-of-pocket costs	—	-76,310	-54,623	-23,975	-109,247	-79,676
Federal government						
Medicaid/CHIP	—	737	635	641	635	641
Marketplace subsidies	—	-16,573	-9,130	-6,799	-9,130	-6,799
Reinsurance	—	0	0	0	0	0
Uncompensated care	—	-1,712	-1,558	-1,421	-1,558	-1,421
Subtotal	—	*-17,548*	*-10,054*	*-7,580*	*-10,054*	*-7,580*

	Current	Public Option			Capped Rates	
		Reform 4	Reform 5	Reform 6	Reform 7	Reform 8
State government						
Medicaid/CHIP	—	299	265	265	265	265
Marketplace subsidies	—	-486	-492	-491	-492	-491
Reinsurance	—	0	0	0	0	0
Uncompensated care	—	-1,070	-974	-888	-974	-888
Subtotal	—	*-1,256*	*-1,201*	*-1,115*	*-1,201*	*-1,115*
Employers						
Premium contributions	—	-142,871	-104,526	-38,863	-223,905	-157,017
Providers						
Uncompensated care	—	-1,498	-1,363	-1,244	-1,363	-1,244
Total	**—**	**-239,484**	**-171,767**	**-72,776**	**-345,770**	**-246,631**
Federal tax offset from ESI change	**—**	**24,766**	**17,497**	**4,824**	**42,297**	**29,631**
Percent change from current spending						
Household	**—**					
Premiums and out-of-pocket costs		-13.6	-9.8	-4.3	-19.5	-14.2
Federal government						
Medicaid/CHIP	—	0.2	0.2	0.2	0.2	0.2
Marketplace subsidies	—	-29.5	-16.3	-12.1	-16.3	-12.1
Reinsurance	—	0.0	0.0	0.0	0.0	0.0
Uncompensated care	—	-6.2	-5.7	-5.2	-5.7	-5.2
Subtotal	—	*-4.1*	*-2.3*	*-1.8*	*-2.3*	*-1.8*
State government						
Medicaid/CHIP	—	0.2	0.1	0.1	0.1	0.1
Marketplace subsidies	—	-16.2	-16.5	-16.4	-16.5	-16.4
Reinsurance	—	0.0	0.0	0.0	0.0	0.0
Uncompensated care	—	-6.2	-5.7	-5.2	-5.7	-5.2
Subtotal	—	*-0.6*	*-0.6*	*-0.5*	*-0.6*	*-0.5*
Employers						
Premium contributions	—	-15.5	-11.3	-4.2	-24.2	-17.0
Providers						
Uncompensated care	—	-6.2	-5.7	-5.2	-5.7	-5.2
Total	**—**	**-11.2**	**-8.0**	**-3.4**	**-16.1**	**-11.5**

Source: Health Insurance Policy Simulation Model, 2019.

Notes: CHIP = Children's Health Insurance Program. ESI = employer-sponsored insurance. Cells are marked with a dash when the row does not apply to the column head. Reforms simulated as fully phased-in and in equilibrium in 2020. Analysis includes the US population under age 65 not enrolled in Medicare. Prescription drug prices in each reform scenario are set halfway between Medicare and Medicaid prices.

Geographic Variation in Premium Tax Credits and Employer Spending

Table 12 presents state-specific estimates of the effects of reforms 1, 4, and 5 on federal spending on Marketplace premium tax credits. For each reform, effects vary by the current premiums and competition in the insurer and provider markets in each state; per person premium tax credits are greater when benchmark premiums are higher and enrollees' incomes are lower. The effects of public option reforms vary considerably by geography because federally funded premium tax credits are tied to benchmark nongroup premium levels, which vary based on market characteristics. For example, under reform 1, federal premium tax credits decrease by over 50 percent in Alaska, Delaware, the District of Columbia, Mississippi, and West Virginia. In addition, in states and under reforms where coverage increases the most, savings due to lower per enrollee premium tax credits can sometimes be offset by increased enrollment in subsidized Marketplace plans.

Federal premium tax credits would fall much less in other states, where current nongroup benchmark premiums are already relatively low. Under reform 1, premium tax credits fall by less than 20 percent in California, Idaho, Massachusetts, Michigan, New York, Ohio, and Wisconsin. Reforms 4 and 5 lead to similar state variations.

Table 13 presents state-level changes in total employer spending on premiums under reforms 4 and 5. Under reform 4, when the public option pays providers at Medicare rates, employer spending on premiums falls significantly in all states. When provider payment rates are set above Medicare levels under reform 5, the savings fall. However, employer spending on premiums varies much less by state than do federal premium tax credits. And for reasons discussed earlier, provider payments rates vary less in the employer market than in the nongroup market. For example, under reform 4, employer spending on premiums decreases by as much as 18 percent in New Mexico and by as little as 13 percent in Maine, Massachusetts, New Hampshire, and Utah.

TABLE 12

Percent Change in Federal Spending on Marketplace Premium Tax Credits under Reforms 1, 4, and 5 Relative to Current Spending, by State, 2020

	Reform 1: Nongroup base case	Reform 4: Employer and nongroup base case	Reform 5: Employer and nongroup with prices modestly above Medicare rates
Alabama	-47	-51	-31
Alaska	-63	-53	-25
Arizona	-33	-43	-34
Arkansas	-30	-27	0
California	-18	-9	-4
Colorado	-25	-35	-23
Connecticut	-38	-34	-3
Delaware	-65	-75	-55
District of Columbia	-65	-47	21
Florida	-30	-34	-18
Georgia	-31	-35	-16
Hawaii	-41	-44	-18
Idaho	-13	-16	-14
Illinois	-35	-37	-13
Indiana	-26	-28	-22
Iowa	-29	-27	-8
Kansas	-33	-37	-16
Kentucky	-41	-43	-27
Louisiana	-44	-49	-23
Maine	-26	-24	-13
Maryland	-24	-30	-22
Massachusetts	-13	-12	-12
Michigan	-18	-17	-12
Minnesota	-32	-22	4
Mississippi	-59	-65	-49
Missouri	-42	-45	-25
Montana	-27	-30	-12
Nebraska	-44	-43	-23
Nevada	-41	-59	-37
New Hampshire	-30	-47	-28
New Jersey	-34	-32	3
New Mexico	-24	-27	-19
New York	-9	-7	-8
North Carolina	-46	-48	-29
North Dakota	-49	-63	-18
Ohio	-19	-28	-23
Oklahoma	-35	-38	-13
Oregon	-26	-27	-14
Pennsylvania	-30	-34	-19
Rhode Island	-31	-32	-19
South Carolina	-49	-52	-33
South Dakota	-35	-39	-20
Tennessee	-36	-41	-23
Texas	-22	-26	-16
Utah	-23	-29	-15
Vermont	-42	-43	-4
Virginia	-31	-42	-31
Washington	-24	-22	-11
West Virginia	-51	-72	-18
Wisconsin	-19	-20	-9
Wyoming	-46	-49	-27

Source: Health Insurance Policy Simulation Model, 2019.

Note: Reforms simulated as fully phased in and in equilibrium in 2020.

TABLE 13

Percent Change in Employer Spending on Premiums under Reforms 4 and 5 Relative to Current Spending, by State, 2020

	Reform 4: Employer and nongroup base case	Reform 5: Employer and nongroup with prices modestly above Medicare rates
Alabama	-16	-12
Alaska	-16	-12
Arizona	-17	-12
Arkansas	-17	-13
California	-15	-11
Colorado	-16	-12
Connecticut	-13	-8
Delaware	-16	-11
District of Columbia	-17	-13
Florida	-16	-12
Georgia	-16	-12
Hawaii	-16	-12
Idaho	-15	-11
Illinois	-16	-12
Indiana	-16	-12
Iowa	-15	-11
Kansas	-15	-11
Kentucky	-17	-12
Louisiana	-17	-13
Maine	-13	-8
Maryland	-16	-12
Massachusetts	-13	-8
Michigan	-15	-11
Minnesota	-16	-12
Mississippi	-17	-13
Missouri	-16	-11
Montana	-16	-11
Nebraska	-15	-11
Nevada	-19	-15
New Hampshire	-13	-8
New Jersey	-14	-10
New Mexico	-18	-13
New York	-14	-9
North Carolina	-15	-11
North Dakota	-16	-12
Ohio	-16	-12
Oklahoma	-17	-13
Oregon	-15	-11
Pennsylvania	-14	-9
Rhode Island	-14	-8
South Carolina	-16	-12
South Dakota	-16	-11
Tennessee	-17	-13
Texas	-17	-13
Utah	-15	-10
Vermont	-13	-8
Virginia	-16	-12
Washington	-15	-11
West Virginia	-15	-11
Wisconsin	-17	-13
Wyoming	-16	-12

Source: Health Insurance Policy Simulation Model, 2019.
Notes: Reforms simulated as fully phased in and in equilibrium in 2020. Percent changes calculated over all employer premium spending, regardless of participation in reform.

Limitations of the Analysis

The effects of reforms introducing a public option or capping provider payment rates for all private insurers in the nongroup or nongroup and employer health insurance markets are inherently uncertain. Estimates of current commercial payment rates and their variability, the payment rate reductions ultimately achievable via an inherently political process, households' and firms' decisions to participate in a public insurance option, and the aggregate savings possible from greater regulation of prescription drug prices are all subject to limitations on available data and uncertain responses from stakeholders. Thus, the range of possible outcomes from these reforms is large.

Estimates of Nongroup Reforms

- Because of data limitations, we proxy Medicare payment rates by assuming the benchmark premiums in highly competitive nongroup markets reflect underlying provider payment rates that approximate Medicare rates. Our estimation depends on hospital market concentration and the number of Marketplace insurers in each rating region. High levels of competition are indicators of lower provider payment rates, and we provide evidence that our proxy is reasonable. However, high premiums in noncompetitive regions could owe to unmeasured factors other than higher provider payment rates.
- Our nongroup market public option simulations do not have plans competing with each other within the same actuarial value tier. The plan represented in the silver tier is the benchmark plan in each rating region. Thus, the public option is assumed to be the benchmark plan, and we cannot estimate the number of people enrolling in that versus other competing commercial plans. This is not a problem for estimating changes in federal spending on Marketplace subsidies, which are tied to the benchmark premium, but does affect household spending, which would be higher than shown here for people enrolling in higher-cost plans than the benchmark.

Estimates of Employer Reforms

- Though FAIR Health has the largest and most geographically diverse sample of claims data available to us, the data do not contain all private plans in a state or substate area, and therefore, the contributing insurers in a specific area may not be entirely representative. For

example, if the plan that pays the highest or lowest prices in a particular area is missing from the database, we may under- or overstate the median price paid in the area.

- We use FAIR Health data to represent the distribution of employer plans' payment levels. However, these data are not limited to employer plans, and we cannot separate employer plans or the rates they pay providers from other private insurance plans and their payment rates (i.e., individual market and Medicare Advantage plans). FAIR Health data include plans that cover approximately 75 percent of the privately insured population in the US. Because other data sources show that the employer market represents the majority of the privately insured market, we assume employer claims likely represent a majority of the FAIR Health sample.
- To compute commercial payment rates relative to Medicare rates for professional and outpatient facility services, we use selected Current Procedural Terminology (CPT) codes based on both their frequency and contribution to total spending. Ultimately, the codes we use represent 47 percent of total professional spending and 42 percent of total outpatient facility spending in the FAIR Health data. It is possible that the services chosen do not represent the true average commercial insurance–to-Medicare price ratio for each service category.
- FAIR Health does not release substate data on commercial payment rates for inpatient hospital services. Consequently, our inpatient estimates include all inpatient services provided in a state, but we have no substate information on inpatient care. We apply these state averages to all substate areas.
- We have little evidence on which to predict employer behavior if given the choice to enroll workers in a public option. Thus, our assumptions for take-up by firm size, wage, and expected savings are, by necessity, somewhat arbitrary. This is one reason we simulate a scenario equivalent to all employers using the public option to provide coverage to their workers.
- Employer behavior around the public option could depend on timing; firms may move to (or away from) the public option as they and their employees gain experience with and knowledge of the plan. Our one-year estimates assume the program is fully phased in and at equilibrium; estimating the time path of enrollment is beyond the scope of this report.
- We do not estimate the implications of employers offering workers both the public option and commercial coverage. If this was an option, employer behavior would differ from that modeled here.

Estimates of Prescription Drug Savings

- We assume drug pricing and rebates for various private payers are uniform across the country. If drugs consumed vary geographically, the rebates we estimate will be inaccurate because we do not have data on the underlying variation.
- Medicare pharmacy benefit managers differ by geography. If some can get better rebates from manufacturers, Medicare rebates could differ across states. Because our public option rebates for prescription drugs are computed relative to Medicare and Medicaid levels, any geographic variation in Medicare rebates we miss would affect our public option estimates.
- We estimate that drug rebates for the public option would lead to prices halfway between those in Medicare and Medicaid, or 30 percent below commercial insurance prices. This seems reasonable to us; it is less than what has been achieved in current Medicaid programs and less than similar rebates in other western nations. However, it could still be too optimistic or pessimistic.
- In our nongroup public option estimates, the share of health spending attributable to prescription drugs is set at the national average. In reality, the share may vary by state or region. However, any measurement error of this type should not significantly affect our estimates because prescription drug spending only accounts for 23 percent of the premium dollar nationwide.

Summary of Findings

We examine the potential health coverage and spending implications of eight reforms implementing a public option or capped provider payment rates. We show that the impact of the reform on federal, employer, and household spending depends on whether the public option is available only in the nongroup market or both the nongroup and employer markets. The effects also depend on how much provider payment rates are reduced below current commercial insurance rates and the number of employers using the lower rates. Finally, we show that the reforms have significantly different effects geographically; areas with the highest current provider payment rates would reap the largest relative savings.

We estimate that the median nongroup benchmark premium would decrease by about 28 percent with a nongroup public option paying providers at Medicare-like rates. The mean reduction would be about 19 percent, because regions that currently have low premiums have significantly larger

populations. In other words, highly populated areas are more likely to be competitive and to currently pay rates closer to Medicare's in the nongroup market.

In the employer market, payment rates are higher on average because insurance markets tend to be less competitive. Employers are more likely to accept higher provider payment rates than risk reducing their employees' access to well-liked providers. Our analysis shows that hospital payment rates are, on average, about 2.4 times greater than Medicare rates; at the 90th percentile (lower-priced geographic area), hospital rates are 1.9 times greater than Medicare rates and at the 10th percentile (higher-priced geographic area) they are 3.1 times greater. Commercial payments to physicians are closer to Medicare rates today; the average is 20 percent above Medicare levels. The ratio of commercial payments to physicians to such payments from Medicare ranges from 1.5 at the 10th percentile to 0.9 at the 90th percentile. We assume prescription drugs are sold on a national market, each manufacturer uses national pricing with uniform rebates, and that a public option could provide prescription drug savings of 30 percent relative to current commercial payments (roughly halfway between today's Medicare and Medicaid pricing).

Our simulations show that a nongroup market public option, paying Medicare-like provider payment rates, and reduced prescription drug prices would reduce federal spending on Marketplace subsidies by about 28 percent, assuming the public option becomes the benchmark plan in each area. Federal health spending (including Medicaid acute care for the nonelderly, Marketplace subsidies, reinsurance for states with such programs, and funding for uncompensated care) would fall by 3.5 percent, because Marketplace subsidies constitute a small share of total federal health spending. Assuming modestly higher provider payment rates in the public option, where hospitals and physicians are paid 25 percent and 10 percent above Medicare rates, respectively, Marketplace subsidies would fall by 24 percent, and total federal health spending would fall by 3 percent.

Making the public option available to employers does not materially change spending on the Marketplace or other public programs. However, this extension results in substantial health care savings for employers and consequently increases income tax revenue, because reductions in employer health care spending are converted to taxable wages. With more workers and their dependents in a public option, households save more as well. If the public option paying Medicare rates is available to all employers and a significant share (about half) take up the public plan, employer health care spending drops by $142.9 billion, or 15.5 percent. Increasing provider payment rates in these approaches reduces savings for employers and income tax revenue gains.

The largest systemwide savings across the scenarios presented occur if provider payment rates are capped in all nongroup and employer plans, a regulatory approach similar to that used for the Medicare Advantage program. Even with payment rates set above Medicare levels (e.g., Medicare rates plus 25 percent for hospitals and Medicare rates plus 10 percent for physicians), employer spending on premiums decreases by 24.2 percent. The increase in federal income tax revenue amounts to $42.3 billion dollars under this scenario in 2020. Total spending by all payers falls by $345.8 billion, or 16.1 percent. If payments were set at Medicare rates plus 60 percent for hospitals and Medicare rates plus 10 percent for physicians, employer spending would still fall by 17.0 percent. The increase in federal income tax revenue would be $29.6 billion, and spending by all payers would fall by $246.6 billion, or 11.5 percent.

Discussion

This analysis has shown that a public option that reduces the prices insurers pay to providers to Medicare rates and reduces prescription drug prices below Medicare prices could significantly reduce insurance premiums and government, employer, and household health spending. Depending on the specifics, such an approach can also reduce the number of uninsured people while increasing cash wages and federal revenues. The magnitude of these effects depends critically on how much payment rates are reduced (i.e., how close to Medicare the professional and hospital prices are set) and the specific markets to which the lower rates are applied (nongroup, employer).

Uncertainty surrounds our estimated impacts of the illustrative public option reforms described here, and the major limitations of our methods are summarized on pages 41 to 43. This uncertainty largely owes to some data that would make our estimates more precise not being publicly available. Consequently, we use imputed or proxied information.

Some scenarios we estimated, particularly those including the employer insurance market, would, if implemented, greatly reduce provider revenues, which could lead to disruptions in the health care delivery system, depending on how fast they are implemented. However, providers could adjust their underlying costs over a multiyear phase-in, decreasing the risk of delivery system disruption and allowing analysts to measure (and policymakers to adjust for) possible health care access or quality concerns as prices decrease. The larger the number of insured people included in a public option, the more important such phase-ins become, because ideal prices for all providers and services are unknown. Medicare prices or multiples thereof make convenient benchmarks, but those prices have been set for a health insurance system that includes an array of public and private prices from different

payers. There is nothing to say that Medicare prices or a defined percentage above them would strike an appropriate balance between cost, quality, and access if applied to a much larger share of the population.

In addition, large changes in provider prices and/or revenue could significantly change employment and/or wages in the health sector. Measuring such effects is beyond the scope of this analysis.

Implementation of any of the public option scenarios presented would require a legislative change, and any of the reforms could be quite controversial. Such political challenges are reflected in the recent effort to address "surprise billing," or large out-of-pocket bills sent to people after emergency or other hospital-based situations who were treated by out-of-network physicians through no fault of their own. Current legislative efforts attempt to set payment for out-of-network services at market rates for in-network services yet continue to face strong opposition from providers. The number of health service claims covered by a public option could be considerably larger, and the provider prices assumed in our scenarios are lower, meaning the political pushback from providers over a public option could be at least as strong.

Appendix A. Data and Methods

Estimating the effects of a public option requires two general steps. First, we assess the provider payment rates in current markets and how they vary geographically. Because the public option or capped payment rate reforms studied here are designed to set payments relative to Medicare rates, we must estimate how current provider payment rates compare with Medicare program rates. Doing so allows us to compute how much lower a public plan's premiums might be relative to current commercial insurance premiums. However, information on payment rates currently used by commercial insurers in the individual nongroup and employer insurance markets is limited. These data constraints force us to use some proxies and require that we approach this step differently for the nongroup and employer insurance markets. The data limitations introduce unavoidable uncertainty in our estimates (see the earlier Limitations of the Analysis section).

In the second step, we feed the information from the first step into a microsimulation model of the US health insurance system for the nonelderly population, which allows us to simulate the number of people affected by the reforms and the potential implications for private and government health care spending overall. In both steps, geographic variation is a central interest.

Step 1. Estimating Current Provider Payment Rates Relative to Medicare Rates in Nongroup and Employer Markets

Because there are no nationally or state-representative sources of claims data for private nongroup insurers, we proxy the geographic variation in nongroup provider payment rates using Marketplace premium data at the rating region (substate) level.[28] Consequently, we cannot directly estimate current nongroup insurance provider payment rates for hospitals or physicians relative to Medicare rates. We use data on Marketplace premiums for 2017, the year before the explicit federal cost-sharing reduction payments ended and threats of repealing the ACA's individual mandate, among other regulatory changes, caused turmoil in these markets. This uncertainty led to dramatic premium increases in 2018. Based on our analyses of Marketplace premiums and competition (Holahan et al. 2019; Holahan, Wengle, and Blumberg 2019; Holahan, Wengle, and Elmendorf 2020), both quantitative and qualitative, we assume Marketplace premiums in highly competitive ACA Marketplaces approximate the premiums

insurers would charge if they were paying hospitals and physicians Medicare rates. We provide evidence supporting this assumption in box A.1.

The ACA's Marketplaces tie income-related premium tax credits to the second-lowest silver premium (the benchmark premium). People who choose a plan with a higher premium than this benchmark must pay the full difference between the selected plan's premium and the benchmark premium. At or below the benchmark premiums, people pay no more than the income-related fixed percentage of income specified under the law. Thus, the tax credits' structure strongly incentivizes insurers to price competitively. Consequently, many Marketplace insurers in competitive markets develop limited provider networks, selecting those willing to accept lower payment rates in exchange for patient market share. However, the number of insurers participating in the Marketplaces varies across the country, meaning price competition varies. In many Marketplaces, only one or two insurers participate; in some others, five or more do. More competitive areas tend to include at least one insurer that only offered coverage through the Medicaid program before the ACA's reforms. These insurers usually are the lowest-cost option in the markets in which they participate (Blumberg et al. 2019). For example, out of the 135 rating regions with four or more Marketplace insurers in 2020, 111 (82 percent) have at least one Medicaid insurer.[29]

We estimate equations that regress the benchmark premium in each of the country's 502 rating regions against the number of nongroup Marketplace insurers (one, two, three, four, five, or more), the area's hospital Herfindahl-Hirschman Index (HHI), and various control variables (e.g., the presence of a Blue Cross insurer, Medicaid insurer, provider-sponsored insurer, and national or regional insurer in the market). We also control for rating region population, whether the state has pure community rating in its nongroup market, whether the state had expanded Medicaid eligibility under the ACA as of 2017, and the area average wage index.

The results show that benchmark premiums tend to fall as the number of insurers increase. Stated differently: controlling for other factors, benchmark premiums are typically highest in markets with only one insurer, and they decrease consistently as the number of participating insurers increases to five or more. Benchmark premiums also tend to be lower if a Medicaid insurer participates in the Marketplace. Finally, as hospital HHI decreases (indicating lower hospital market concentration), benchmark premiums tend to decrease as well. Other researchers have found similar results (Dafny, Gruber, and Ody 2015; Van Parys 2018).

For this analysis, we assume benchmark nongroup insurers in highly competitive markets (with five or more competing insurers and hospital HHI of no more than 5,000) set their provider payments at

approximately Medicare rates. Currently, 45 rating regions, accounting for 27 percent of the US population, meet that criteria. We then use the estimated regression to predict the benchmark premium for a 40-year-old single person for each rating region as if the area were highly competitive (with at least five insurers and HHI set at the lesser of 5,000 and the rating region's actual HHI), holding all other regional characteristics constant. Thus, our adjustment lowers premiums for highly concentrated insurer and provider markets. These computed premiums are our proxy for the benchmark premiums in a plan using Medicare rates in each rating region. Further analysis indicates that this proxy for Medicare payment rates is valid (box A.1).

BOX A.1

Validation of the Assumption That Benchmark Premiums in Highly Competitive Nongroup Insurance Markets Approximate Medicare Provider Payment Rates

Using commercial insurer–to-Medicare payment ratios based on claims data from FAIR Health, which we assume broadly represents employer-based insurance plans, we estimate that reducing payment rates to Medicare levels (all else being equal and with rebates for prescription drugs set halfway between Medicare and Medicaid rebates) would decrease medical expenses by approximately 35 percent (details shown below). In other words, Medicare prices combined with our assumed prescription drug pricing would lower commercial insurance prices by 35 percent.

Using HIPSM, we separately estimate the change in health care costs if people with employer-based insurance were moved into a nongroup market 80 percent AV (gold level, typical of employer-based insurance plans) plan priced consistent with the most competitive markets (the assumption used in our nongroup market public option simulations) and with the same savings on prescription drugs assumed in our public option simulations. That analysis found that spending on the people currently enrolled in employer-sponsored insurance would decrease by 37 percent once they were moved into a competitively priced nongroup gold plan.

This finding supports our assumption that competitive nongroup market pricing roughly approximates Medicare rates, because the former would produce about the same overall savings as the latter. Also, nongroup insurers are prohibited from charging high premiums merely to increase their profits, because the law prohibits medical loss ratios from falling below 85 percent in that market. If medical loss ratios are below that percentage in a year, the insurer must issue rebates to its enrollees. Consequently, in equilibrium, premiums charged in competitive markets should reflect insurer costs plus a normal profit.

We compute the percent difference between a rating region's predicted benchmark premium based on the region's 2019 characteristics and our proxy premium. We then apply the computed percent difference to a rating region's actual benchmark premium to calculate the premium for the public option.[30] Premium differences under Medicare proxy rates are smaller in more competitive markets and larger in less competitive ones.

Depending on a reform's specifications, we adjust the proxy premium for higher provider payment rates for rural areas and/or differentially for physicians versus hospitals. When we apply different payment rates for rural versus urban areas, we use an indicator we developed based on the share of rural or urban counties in the rating region. Though Medicare rates already contain various additional payments for sole-community, low-volume, and Medicare-dependent rural hospitals, the current policy discussion around public option proposals often includes suggestions for additional rural-area adjustments. We do not take a position on the necessity of such adjustments; we merely analyze the implications of using them. We also include an adjustment for prescription drug rebates in each simulation (described below).

We calculate the share of health spending attributable to physicians, hospitals, prescription drugs, and other services by region based on the spending patterns among the nonelderly population in the 2016 Medical Expenditure Panel Survey Household Component.[31] Then, we apply sector-specific payment rate adjustments to the appropriate share of the Medicare-rate proxy premium. For example, if we want to increase hospital payment rates by 10 percent above Medicare rates in a region where 45 percent of the premium is attributable to hospital services, we increase total payment rates by $.45 \times (0.10)$, with 0.45 being the hospital service share and 0.10 reflecting the additional 10 percent added to Medicare hospital rates. When appropriate, we adjust professional services and prescription drug payments in the same manner.

Prescription drug savings. Though we reduce hospital and physician payments to Medicare rates (or some multiple thereof) for all simulations, we assume the public option would pay lower prices for prescription drugs than Medicare does. The assumed prescription drug savings described here apply to public options or capped provider payment rate strategies in both the nongroup and employer insurance markets. Medicare is not a particularly efficient payer for prescription drugs but does pay lower prices than commercial insurers. The program is prohibited from negotiating with manufacturers over prescription drug prices, let alone setting prices as it does with other providers. Rather, Medicare relies on pharmacy benefit managers to negotiate prices, and these benefit managers have considerably less leverage than Medicare would have if it simply set prices as it does for other medical services.

All payers, including Medicare, Medicaid, and commercial insurers, require prescription drug manufacturers to rebate part of the list price of each drug. Commercial insurers receive the smallest rebates, largely because each one covers a smaller share of the market (giving them less power to negotiate), and when insurance markets are not highly competitive, they often do not have strong incentives to negotiate aggressively. Medicare Part D gets somewhat larger rebates than commercial insurers, but they are modest compared with Medicaid's rebates. Medicaid receives both basic and inflation rebates (where the program receives a rebate for any increase in a prescription drug's price above the inflation rate). Together, these rebates result in Medicaid receiving the largest savings compared with prescription drug list prices in the US.

Kesselheim and Hwang (forthcoming) compares post-rebate commercial prices with estimated prescription drug savings achieved by paying higher rebates under each government program. The authors used Market Scan data to identify the largest brand-name drugs and selected 75 drugs that account for two-thirds of spending by commercial payers. They assume savings on current generic drug prices are not achievable, because these prices are already low, and manufacturers seldom provide commercial insurers with rebates for generic prescription drugs. They also calculate the difference between prices paid by commercial insurers and the Medicare program for the 75 selected drugs, the prices paid by Medicaid when accounting for the full rebates (including the inflation rebates), and prices paid by a group of four federal programs with high prescription drug expenditures (the US Department of Veterans Affairs, the Coast Guard, the Department of Defense, and the Public Health Service, also called the "Big Four"). In addition, they use information on supplemental rebates often negotiated by Medicaid programs or the Big Four. Ultimately, they estimate that basic Medicaid rebates generate average savings between 9 and 15 percent off commercial insurer prices, which are considered roughly equal to Medicare rebates. Relative to commercial insurer prices, the full Medicaid rebate, including the inflation rebate, averages 46 to 49 percent savings, and the Big Four see savings of 28 to 34 percent.

Kesselheim and Hwang (forthcoming) also reports that Canada's published prices are about 65 percent below US commercial prices after rebates. Countries such as Germany, Switzerland, and the United Kingdom have prices comparable to those in Canada.

Given the political strength of pharmaceutical manufacturers, achieving savings sufficient to obtain prices as low as those in other nations seems unlikely. In addition, if the US legislated prices at these levels (i.e., international reference pricing), these prices could be below manufacturers' average costs and result in increases in those reference prices agreed to with other nations. For these reasons, the US has been constrained in lowering drug prices. To estimate the potential savings on prescription drugs under our base case public option (reform 1), we assume rebates or other pricing control strategies that

establish final prices halfway between those paid by Medicare and Medicaid. This rebate seems feasible but politically challenging to achieve. Such rebates are significant compared with those received by commercial insurers but still result in prescription drug prices well above those in other western nations. We assume legislation would mandate these rebates for the public option. To make these rebates effective for a large population, it may be necessary to also regulate increases in list prices (which is beyond the scope of this analysis). The price reductions we estimate could also be sought through reference pricing or negotiations; the results reported would apply regardless.

In each reform, we assume prescription drug savings halfway between Medicare savings and the full Medicaid rebate, which would equal about 30 percent off current commercial prices. We apply this assumed 30 percent savings in our simulation analyses. Though such savings may appear optimistic, they are less aggressive than those in several current proposals.[32] We also assume prescription drugs are sold on a national market, with each manufacturer using national pricing and uniform rebates.

According to the Medical Expenditure Panel Survey's most recent publicly available year of data, prescription drugs account for 23 percent of private health care spending. Thus, we estimate that a 30 percent drop in commercial prices for prescription drugs will, on average, reduce private health spending by 6.9 percent; this reduction is applied to premiums in our nongroup simulations. In the simulations of reforms to employer-sponsored insurance, HIPSM applies the 30 percent savings to each person's private health expenditures (insured or household paid) according to that person's specific prescription drug spending, thereby capturing how these savings vary across people and insurance risk pools depending on prescription drug use.[33]

Estimating Premium Savings under A Public Option or Capped Provider Payment Rates in the Nongroup Market

Accounting for potential savings on all health care services, including prescription drugs, table 2 in the body of this report shows the state average percent differences between current benchmark premiums and premiums when using Medicare payment rates for all providers, with prescription drug rebates halfway between those for Medicare and Medicaid. These are our base case, or reform 1, assumptions. Premium adjustments are computed at the ACA nongroup market rating region level, and state averages shown in the table are weighted by the rating region population covered by nongroup insurance (Giovannelli, Lucia, and Corlette 2014).[34] These percent changes in premiums reflect the changes in provider payment rates only and do not account for any possible changes resulting from different people or more people with different average characteristics enrolling in coverage because of

price changes. We account for these behavioral changes and any resulting changes in insurance risk pools in the simulation work described in the results section of the main report.

Table 2 in the body of this report shows that under the assumptions used in reform 1, average nongroup benchmark premiums would be no more than 11 percent below the current premium in six states (California, Idaho, Massachusetts, Michigan, New York, and Ohio). Average benchmark premium savings from a public option are relatively small in these states primarily because their nongroup insurance Marketplaces tend to be competitive. We estimate that premium savings would exceed 35 percent in eight states (Alabama, Alaska, Delaware, Mississippi, Nebraska, North Carolina, South Carolina, and Wyoming), reflecting the lack of competition in their current nongroup markets. Nationwide, the average savings would be 19 percent.

Table 3 in the body of this report shows the distribution of benchmark premium savings across the country's 502 nongroup market rating regions. The distribution shows that we estimate benchmark nongroup premiums would fall by at least 41 percent in 10 percent of rating regions but would fall by no more than 11 percent in another 10 percent of regions. The median savings would be 28 percent. The large gap between median and mean reductions owes to small rating regions generally having higher prices and therefore needing larger price cuts to achieve Medicare levels.

Estimating Current Provider Payments Relative to Medicare Rates in the Employer Group Market

We assume a public option available to employer purchasers would, like a public option in the nongroup market alone, achieve savings by lowering payment rates to providers. Using Medicare payment rates as a benchmark, we calculate premium savings that could be achieved by bringing commercial provider payment rates closer to Medicare rates.

Estimating the likely savings from reducing provider payment rates is challenging because no data are publicly available on the actual rates commercial insurers pay to providers (also known as the insurers' negotiated rates or allowed amounts). Providers, particularly hospitals, often report list prices or charges for specific services, but insurers negotiate substantial discounts off these list prices, and the resulting negotiated rates are confidential. We considered several sources of proprietary commercial claims data for insurers in the employer market that could be used to construct estimates of typical commercial prices relative to Medicare prices. We ultimately chose to use FAIR Health data,[35] the largest and most geographically representative private insurance claims database available to us.

FAIR Health's National Private Insurance Claims (FH NPIC ®) database contains data submitted by approximately 60 insurers and the third-party administrators covering over 150 million people with private commercial insurance nationwide.[36] The claims analyzed include the allowed amounts negotiated between insurers and the providers participating in their networks; this total negotiated fee includes the amount paid by the insurer and the patient's cost share, if any. To protect the interests of both payers and providers, FAIR Health imputes allowed amounts highly correlated to the actual allowed amounts without disclosing confidential in-network rates.[37] FAIR Health regularly produces and licenses "FH ® Allowed Benchmarks," which report the range of imputed allowed amounts for specific CPT codes in each of 493 geographic areas (known as geozips) that generally correspond to combinations of three-digit zip codes. These benchmarks are available for medical, anesthesia, dental, and outpatient facility services.[38]

FAIR Health does not license an allowed amount benchmark database for inpatient hospital services and does not provide details on payments for prescription drugs. So, to estimate overall premium savings from reducing commercial rates, we combine information on commercial payment rates relative to Medicare rates for physician and hospital outpatient services at the geozip level, state-level inpatient services data from FAIR Health, and the national estimate of prescription drug savings detailed above. We describe the details of the FAIR Health estimates below.

For both hospital outpatient and professional services, FAIR Health identified the top 30 CPT codes by frequency and by expenditure nationwide from their claims database. After accounting for overlap in the top codes by frequency and expenditure, we received data on 46 professional and 45 outpatient CPT codes. These codes represented approximately 47 percent of professional spending and about 42 percent of outpatient facility spending in the FAIR Health database.

For each professional and outpatient code, we received the number of claims, the median commercial price, the average commercial price, and the Medicare price for each of 491 geozips in the US. FAIR Health provided the Medicare rates, which were calculated based on the Medicare fee schedule and adjusted for geographic rate differences. Within each geozip, we then calculated the ratio of the median commercial price to the Medicare price for each CPT code and generated expenditure-weighted averages across the professional and outpatient service codes.[39]

FAIR Health could not provide substate-level commercial payment rates for hospital inpatient services, so we received average commercial insurance–to-Medicare ratios for each state. FAIR Health constructed these ratios by estimating the ratio for each hospital inpatient facility claim in their

database from July 2017 to June 2018 and then averaging the ratios for each state. We then assigned these state-level ratios to all geozips in a state.

The Medicare rate used in the inpatient ratio calculation was based on the diagnosis-related group for the specific claim and adjusted for the geographic wage index. However, the rate does not adjust for hospital characteristics that would result in additional Medicare payments for disproportionate share hospitalstatus, indirect medical education, or rural or isolated hospital status. Thus, the commercial insurance–to-Medicare price ratios were overstated. To adjust the inpatient ratios at the geozip level, we used national estimates of the share of hospital inpatient prospective system spending on these payments from the Medicare Payment Advisory Commission.[40] For urban hospitals, the share of spending on indirect medical education, disproportionate share hospitals, uncompensated care, and rural or isolated hospital add-on payments was 15.1 percent; for rural hospitals, the share of spending on these add-ons was 17.3 percent. To account for this issue, we multiplied the inpatient ratios in urban and rural geozips by 0.849 and 0.827, respectively.[41]

Each geozip then has an inpatient facility ratio, an outpatient facility ratio, and a professional ratio, and the outpatient and professional ratios reflect the expenditure-weighted average ratio across CPT codes for the geozip. We combine hospital inpatient and outpatient facility ratios for each geozip using weights derived from the share of expenditures on the nonelderly population from the 2016 Medical Expenditure Panel Survey Household Component.[42] We estimate the share of hospital spending attributable to outpatient events plus emergency department care (37 percent) versus inpatient stays (63 percent) based on the above distribution. So, our hospital ratio for each geozip is a weighted average of the inpatient and outpatient ratio. Ultimately, we end up with 491 geozip-level hospital and professional ratios.

Because our microsimulation model uses the American Community Survey and its PUMAs, we converted the geozip-level ratios to PUMA-level ratios using a zip code tabulation area–to–PUMA crosswalk obtained from the Missouri Research Data Center's Geocorr program.[43] Because there are more PUMAs than geozips in the US, most PUMAs include data from only one geozip and many geozips provide estimates from multiple PUMAs.[44]

For each PUMA, we then generate the implied hospital and professional price cuts if rates were set at Medicare levels.[45] Finally, we combine these price cuts with an estimated 30 percent reduction in drug costs (as described previously) to generate potential employer premium savings from implementing a public option or capping payments at Medicare rates.[46] The weights for hospital, professional, and drug spending again rely on the Medical Expenditure Panel Survey distribution

above.[47] Here we use these weights for illustrative purposes, but the simulations (described below) use the estimated spending on each service in each insurance risk pool.

Table 4 in the body of the report shows the national distribution of PUMA-level hospital and professional commercial insurance–to-Medicare price ratios and the implied premium cut from moving from commercial to Medicare rates. Again, these changes reflect the reduction in premiums alone and do not account for any risk pool changes resulting from behavioral changes; we account for those in our simulation results. The table shows that the ratio of commercial to Medicare prices was 2.4 on average for hospitals and 1.2 for professionals (physicians and others). The ratios vary considerably across the country, however, particularly for hospitals.

We find some variation between our estimates of private prices relative to Medicare's using FAIR Health data and such estimates from other sources (table A.1), but different sources use different geographies, plans, and services, as well as methodological approaches to estimating relative prices. The Congressional Budget Office analyses using Health Care Cost Institute data are limited to metropolitan areas only (Maeda and Nelson 2017; Pelech 2018), whereas Cooper and colleagues (2018) used Health Care Cost Institute data on hospital referral regions covering the entire US. White and Whaley (2019) compiled data from multiple sources, including all-payer claims data and self-insured employers in 25 states only. The Congressional Budget Office selected and reported on prices for 20 professional services and did not attempt to produce a composite measure, whereas the Medicare Payment Advisory Commission reports a single estimate based on claims for preferred provider organization members of a large national insurer (MedPAC 2019a). The sources also vary in whether and how they adjust for geography and disproportionate share hospital and indirect medical education statuses in their calculations of relevant Medicare prices.

The table below includes several national, or overall, estimates found in both the published and grey literature.

TABLE A.1

Estimates of Private Insurance Prices Relative to Medicare Prices from Various Sources

		Ratio of Private Insurance to Medicare Prices			
	Data source	Hospital	Inpatient	Outpatient	Physician/ professional
Urban Institute	FAIR Health (2017–18)	2.4	1.9	3.4	1.2
Congressional Budget Office	HCCI (2013–14)	NA	1.9	NA	1.1–2.4 (service-specific)
Cooper and colleagues	HCCI (2007–11)	NA	2.2	NA	NA
White and Whaley	Multiple (2015–17)	2.4	2.0	2.9	NA
Medicare Payment Advisory Commission	2017	NA	NA	NA	1.3

Sources: CBO estimates come from Maeda and Nelson (2017) and Pelech (2018). See Cooper and colleagues (2018), MedPAC (2019a), and White and Whaley (2019).

Notes: HCCI = Health Care Cost Institute. NA = not available.

Though the exact estimates vary somewhat, some consistent patterns emerge. Private inpatient prices appear to average around twice Medicare prices, and private prices relative to Medicare for outpatient facility services appear at least as high, or higher, than relative prices for inpatient care (where separate estimates are available). Moreover, the relative private price for physician services appears lower than that for hospital services, but the estimates vary considerably; this may depend on the services selected to generate the estimates. Our estimates used 46 services representing 47 percent of spending, whereas the Congressional Budget Office focused on 20 specific services. We have no further details on the Medicare Payment Advisory Commission estimate presented in the table.

For the most expensive 10 percent of geographic areas, our data indicate that the hospital payment ratio (commercial prices divided by Medicare prices) was more than 3, whereas commercial hospital payments in the lowest 10 percent of areas were, at most, 1.9 times Medicare prices. For professional services, commercial payment rates were at least 1.5 times Medicare rates in the highest 10 percent of areas and, at most, 0.9 times Medicare rates in the lowest 10 percent of areas.

The relative differences for hospital and professional payments can be combined with the assumed price cut for prescription drugs (weighted by the share of spending attributable to each) to compute implied potential premium cuts from moving from current commercial payment rates to our base case assumptions (Medicare rates for hospitals and professionals and prescription drug prices halfway between Medicare and Medicaid prices). Our estimates suggest that both the mean and median employer insurance premiums would drop by approximately 35 percent after such payment rate

reductions. This is larger than the 19 percent mean reduction and 28 percent median reduction in the nongroup market.

The percent reductions in premiums resulting from lower provider payment rates are larger in the employer market than the nongroup market because premiums have been quite low in many ACA nongroup insurance markets for reasons described previously.[48] A public option is unlikely to offer much lower premiums than private insurers in highly competitive markets, but savings can be substantial in less competitive markets. Employer insurance markets do not appear very price competitive today, and their provider payment rates tend to be higher. Employers tend to keep provider networks broader (particularly in larger firm plans), which avoids alienating employees but leads to higher premiums. This also means employer premiums do not vary much across geographic areas because, unlike the nongroup market, few employer markets have low overall private commercial insurance payment rates, particularly for hospitals.

Our estimates based on FAIR Health data suggest our base case price assumptions could reduce employer premiums by at least 25 percent in 90 percent of PUMAs, with 10 percent of PUMAs seeing decreases of 44 percent or more. These potential premium reductions reflect the relatively high commercial insurance–to-Medicare ratios for hospital payment rates (national average of 2.4) and the much lower ratio for professional services (national average of 1.2). This suggests that moving to Medicare rates for hospitals could save an average of 57 percent on hospital services and 14 percent on professional services.

Table 5 in the body of this report presents state-level estimates averaging commercial insurance–to-Medicare payment ratios for hospital and professional services across PUMAs. It also shows the implied price cuts resulting from moving from the estimated commercial rates to Medicare rates (our base case assumptions). Assuming Medicare rates, hospital payments from commercial private insurance payers would fall by more than 60 percent in Alabama, California, Colorado, Florida, Nevada, South Carolina, and Texas. Professional payments would be cut by more than 25 percent in Florida, Louisiana, Minnesota, North Dakota, Texas, Wisconsin, and Wyoming. Professional payments would increase on average in eight states if Medicare rates were paid. In our simulations, several reforms assume payments would be set above Medicare rates.

Estimating Premium Savings under a Public Option or Capped Provider Payment Rates in the Employer Market

Combining the base case hospital and professional cost reductions and the 30 percent decrease in prescription drug prices, our estimates suggest potential average employer premium reductions ranging from 40 percent or more in Florida, Georgia, Nevada, Texas, and Wisconsin to 25 percent or less in Maine, Maryland, Pennsylvania, Rhode Island, Utah, Vermont, and West Virginia. The PUMA-level ratios and implied premium reductions underlying these state-level averages provide the geographic variation that informs the simulated reforms.

Step 2. Simulating Public Option or Capped Provider Payment Rate Reforms

The Urban Institute's Health Insurance Policy Simulation Model, or HIPSM, is a microsimulation model of the US health insurance system for those under age 65 who are not disabled and therefore covered by Medicare. It simulates the cost and coverage implications of an array of health care reforms and computes health insurance premiums for people in different insurance risk pools (employer groups, households purchasing coverage on the nongroup market with and without subsidies). Here, we use HIPSM to simulate the cost and coverage implications of our eight public option/capped payment rate reforms. The simulations vary by the assumed provider payment rates (all expressed relative to Medicare's payment rates) and the insurance markets (nongroup, employers) in which the public option/capped provider payment rates are available. Estimates of the coverage effects of changing premiums target elasticities drawn from the literature (Blumberg, Nichols, and Banthin 2001). Table A.2 shows elasticity targets for employer-sponsored insurance. Targets for nongroup insurance are calculated by the Congressional Budget Office (CBO 2005).

TABLE A.2

Target Price Elasticity of Employer-Sponsored Insurance Offers, by Firm Size

Firm size	Elasticity
<10	-1.16
10–25	-0.45
25–50	-0.4
50–100	-0.3
100–500	-0.21
500–1,000	-0.047
1,000+	Not available from the literature

Source: Buettgens (2011).

HIPSM uses the estimates of employer and nongroup insurance payments relative to Medicare for each geographic area described above to adjust the premiums for people simulated to enroll in the public option or capped rate plans. The adjustments vary depending on a reform's assumed payment rates and current payment rates in the applicable market(s). Adjustments for assumed hospital, professional services, and prescription drug savings are applied to spending in each insurance risk pool depending on enrollees' spending on each type of service. Those enrolling in the public option or capped rate plans in currently highly competitive nongroup insurance markets see relatively small adjustments to their premiums, whereas those enrolling in either plan in a currently noncompetitive area will see much larger adjustments to their premiums. People enrolling in a public option in an employer market where payment rates are highest will see larger adjustments to their premiums than will people in employer markets where payment rates are lower. We assume the full savings in payment rates are passed on to enrollees as a premium reduction.

Conceptually, our simulations of nongroup public options are consistent with offerings available at each of the ACA's actuarial value tiers. In addition, we assume the Marketplace benchmark premium decreases by the percent difference between the public option premium and benchmark premium in that rating area. Lower benchmark premiums in the nongroup market mean lower federal spending on premium tax credits, lower household out-of-pocket costs (due to lower prices for care), and lower household spending on premiums for those ineligible for premium tax credits. HIPSM does not model a distribution of different nongroup insurance plans within a single actuarial value tier. Therefore, the model implicitly assumes all ACA-compliant nongroup insurance enrollees are affected by the public option. We assume capping provider payments at the specified rates has the same effect, lowering the benchmark premium and enrollees' out-of-pocket costs.

In the employer market, we assume a public option has characteristics typical of employer plans (e.g., fairly broad benefits and 80 percent AV but lower provider payment rates than those currently paid by commercial insurers). Large firms choosing the public option continue to be experience rated, with premiums adjusted depending on the expected health care costs of each firm's enrollees. Small firms face modified-community-rated premiums for the public option, just as they do in the existing fully insured market. We assume firms compare their plans' current benefits, cost-sharing requirements, and premiums with the those in the public option. We also assume some employers would find that their employees prefer the benefits and cost-sharing in the firm's own plan over those in the public option, and that the public option's premium savings are insufficient to overcome those preferences. If a firm's workers, in aggregate, prefer the public option's benefits, cost-sharing requirements, and premium savings, we assume the firm offers the public option.

How individual firms would react to a public option is difficult to predict. When a public option is offered to employers, we assume that among employers offering coverage to their workers, take-up of the public option varies by employer size, the firm's average wage, and the provider prices facing the firm. As employer size increases and/or average worker wage increases, we assume the employer's likelihood of offering the public option decreases. HIPSM's behavioral model also permits employers not currently offering coverage to their workers to begin to offer it based on the lower public option price available. We use the following matrix of participation assumptions (table A.3) along with an assumption about firms' sensitivity to expected savings to illustrate the potential implications of public option reforms in employer markets.

TABLE A.3

Likelihood That Employers Will Offer the Public Option, by Employers' Number of Employees and Average Worker Wage

	Number of Employees in Firm		
Average worker wage	Fewer than 100	100 to 999	More than 1,000
Lowest 25 percent (below 25th percentile)	90%	80%	80%
Middle 50 percent (25th to 75th percentile)	60%	50%	40%
Highest 25 percent (above 75th percentile)	40%	30%	20%

Source: Authors' assumptions used for modeling purposes.

The participation rates used in these simulations are illustrative and somewhat arbitrary. However, they assume employers with a lower-wage workforce are more likely to value the public option's lower premiums, whereas employers with a higher-wage workforce are more likely to value the plans that have been tailored to meet their workers' collective needs. In addition, we assume larger employers, those most efficiently providing coverage to their workers today, would be less likely to adopt the public option. We also assume firms anticipate savings from participation in the public option, but if those savings are small, the firm does not adopt the public option; specifically, we assume a firm will forgo the public option if expected savings are not at least 20 percent of their current premium costs.[49] In these simulations, an employer does not offer insurance to its workers, offers a private plan, or offers the public option; a single firm does not offer both public and private plan options to its workers.

Under the simulated capped payment rate reforms, all firms take advantage of lower provider prices, because they do not have to change benefits or cost-sharing structures to benefit from the lower payment rates. Any commercial insurer or self-insuring firm could use the lower provider payment rate

schedule developed for these reforms. Such scenarios are consistent with Medicare Advantage, wherein private plans' provider payment rates are limited to traditional Medicare plan rates.[50]

Notes

[1] We describe the source of changes in income tax revenue under public option reforms in a later section. It relates almost entirely to reforms implemented in the employer market, and consequently, income tax revenue essentially does not change under the three nongroup-only reforms described in this section.

[2] Medicare-X Choice Act of 2019, S. 981, 116th Cong. (1st Sess. 2019); Choose Medicare Act, S. 1261, 116th Cong. (1st Sess. 2019); Keeping Health Insurance Affordable Act of 2019, S. 3, 116th Cong. (1st Sess. 2019); Consumer Health Options and Insurance Competition Enhancement Act, S. 1033, 116th Cong. (1st Sess. 2019).

[3] "NHE Fact Sheet," Centers for Medicare & Medicaid Services, accessed February 13, 2020, https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NHE-Fact-Sheet.

[4] Sherry Glied, "Identifying Promising Solutions to Real Problems," New York University Robert F. Wagner Graduate School of Public Service, accessed February 13, 2020, https://altarum.org/sites/default/files/uploaded-related-files/Glied.pdf.

[5] Examples include Medicare-X Choice Act of 2017, S.1970, 115th Cong. (1st Sess. 2017); Choose Medicare Act, S. 2708, 115th Cong. (2nd Sess. 2018); and Medicare at 55 Act, S. 1742, 115th Cong. (1st Sess. 2017).

[6] The Medicare approach limits Medicare Advantage plan payments for out-of-network providers to traditional Medicare rates. This provides sufficient leverage for Medicare Advantage plans to pay no more than those rates for in-network providers as well. As we have proposed elsewhere (Blumberg and Holahan 2017b), we assume capped payment rates in a public option would explicitly apply to both in- and out-of-network providers.

[7] Eligible Marketplace enrollees with incomes below 250 percent of the federal poverty level may purchase Marketplace coverage with reduced cost-sharing requirements when paying an income-related premium for silver coverage. For example, a person with income between 100 and 150 percent of the federal poverty level can choose a 94 percent AV plan when paying an income-related premium for a 70 percent AV plan. These higher value plans lower the out-of-pocket costs (deductibles, coinsurance, copayments) low-income enrollees face when accessing medical care.

[8] As noted, the Medicare program includes private Medicare Advantage plans that cap payments at traditional Medicare program rates. Medicare Advantage plans offer coverage as an alternative to traditional Medicare, which is essentially a public option.

[9] The Choose Medicare Act (S. 1261) includes a public option for employers.

[10] Even under capped payment rates, providers may not want to participate, because a public option operating only in the nongroup insurance market affects a small percentage of the insured population, and providers could therefore choose not to participate with those insurers without substantially affecting their patient base.

[11] Some evidence shows that a public option could induce more aggressive negotiation by private insurers. See Blumberg and colleagues (2019).

[12] The standard is at least five Marketplace insurers and hospital HHI of at least 5,000.

[13] The FAIR Health database contains data submitted by approximately 60 insurers and third-party administrators covering nearly 150 million people with private insurance nationwide.

[14] The substate data are available at the geozip level, which we distributed to the PUMA (census-defined geographic areas with at least 100,000 residents that do not cross state lines) level and then aggregated to the state level.

[15] Estimates of public option spending in the employer market are applied as 30 percent cuts to prescription drug spending by region, not by the overall 23 percent of spending used to adjust nongroup premiums.

[16] ACA rating regions are set by states but must meet particular federal guidelines; each area is defined by counties, metropolitan statistical areas, or three-digit zip codes. States generally have multiple rating areas; however, six states (Delaware, the District of Columbia, Hawaii, New Hampshire, New Jersey, Rhode Island, and Vermont) include the entire state in one rating area. See Giovannelli, Lucia, and Corlette (2014).

[17] The large gap between median and mean reductions owes to small rating regions generally having higher prices and therefore requiring larger price cuts to achieve Medicare rates.

[18] For the highest 10 percent of geographic areas, the hospital payment ratio (commercial prices divided by Medicare prices) was more than 3; in the lowest 10 percent of geographic areas, commercial hospital payments were, at most, 1.9 times Medicare rates. For professional payments in the highest 10 percent of areas, commercial payment rates were at least 1.5 times Medicare rates; in the lowest 10 percent of areas, commercial payment rates were at most 0.9 times of Medicare rates.

[19] Consumers enrolling in plans priced above the benchmark premium must pay the full premium difference out of pocket. Those choosing a plan priced below the benchmark receive savings. Thus, the incentive is strong for consumers to choose a lower-priced plan, pushing many insurers to compete aggressively on price.

[20] Our estimates based on FAIR Health data suggest our base case (reform 1) price assumptions could reduce employer premiums by at least 25 percent in 90 percent of PUMAs, with 10 percent of PUMAs seeing premium decreases of 44 percent or more. These potential premium reductions reflect the relatively high commercial insurance–to-Medicare price ratios for hospital payment rates (national average of 2.4) and the much lower ratio for professional services (national average of 1.2), which suggests that moving to Medicare rates could save an average of 57 percent on hospital services and an average of 14 percent on professional services.

[21] Throughout this paper, when we refer to nongroup insurance coverage, we are referring to ACA-compliant nongroup insurance coverage, not short-term, limited-duration plans or other plans not required to comply with consumer protections, such as modified community rating, guaranteed issue, essential health benefits, and AV standards.

[22] In addition, some people with incomes below 400 percent of the federal poverty level who receive small subsidies (because they have higher incomes within that range) may see their premiums drop below their applicable percent-of-income cap. Their subsidy would fall to zero, but they would spend slightly less on premiums.

[23] It may seem surprising that the number of people with nongroup insurance coverage (subsidized and unsubsidized combined) decreases slightly under reform 3 compared with current levels. This is because the higher provider payment rates and higher premiums under reform 3 bring in fewer unsubsidized enrollees than do the lower payment rates and premiums under reform 1. The smaller number of new unsubsidized enrollees is not large enough to offset some modest disenrollment among people currently buying bronze coverage. As we noted earlier, lower provider payment rates translate into lower nongroup premiums and lower federal premium tax credits per person. Though this decrease does not affect the preferences of people buying silver coverage (because their premium and subsidy decline by the same amount), it does negatively affect people buying bronze (60 percent AV) coverage. Though the bronze premium decreases with lower provider payment rates as well, the differential in silver and bronze premiums means a bronze-plan purchaser will pay more out of pocket for the coverage they currently buy when the subsidy decreases. A modest number of those consumers drop their coverage as a result.

[24] When accounting for all employers, effects in the bottom percentile are not zero, because premium changes are computed at the geographic region level, not the employer level. Because at least some employers take up the public option in all regions, every region sees an effect.

[25] Again, the reduction in spending by all payers reflects both payments for claims made to health care providers and insurer administrative costs.

[26] Under reform 7, the distribution of premium changes are different when accounting for all employers versus only employers taking advantage of the lower payment rates, despite all employers using the capped payment rates in this scenario. That is because for both reform options, the premium changes computed for employers taking up the public option/capped rates compare the prices paid by employers taking the up the reform option with those same employers' premiums under current law. Conversely, the "all employers" approach compares the premiums paid by all employers offering insurance coverage to their workers before and after reform, even when those pre- and postreform employers differ.

[27] Federal (and state and local) government costs for employer premiums would also fall, but the costs associated with these premiums are counted as employer spending in the tables here.

[28] Under the ACA, states can define the substate areas in which nongroup insurance premiums for the same plan do not vary (e.g., people of the same age and tobacco use choosing the same insurance plan face the same premium). These areas may consist of a single county, several counties, a metropolitan area, or a three-digit zip code.

[29] Authors' calculations from federally facilitated Marketplace and state-based Marketplace data.

[30] We predicted the current benchmark premiums using actual 2019 values for most Marketplace rating areas. In some states, 2019 premiums are very low and could not realistically be further reduced; in some of these states, the number of insurers had recently dropped, resulting in predicted premiums even further below actual 2019 levels. In these cases, we used the 2017 number of insurers (instead of the 2019 number) to predict current-law benchmark premiums, assuming the 2017 level of competition caused the low premiums currently seen in these states.

[31] Other spending includes dental visits, home health events, and other medical equipment and services.

[32] See, for example, the Lower Drug Costs Now Act, H.R. 3, 116th Cong. (1st Sess. 2019).

[33] The prescription drug savings are applied differently in the nongroup and employer markets. For our nongroup market estimates, we adjust health care costs by rating region, but not service type . Employer health care costs are adjusted by service type, so the 30 percent drop is assigned directly to drug spending.

[34] See note 16 above.

[35] Visit the FAIR Health website at https://www.fairhealth.org/.

[36] "FAIR Health: Your Independent Source for Healthcare Claims Data," FAIR Health, accessed February 13, 2020, https://s3.amazonaws.com/media2.fairhealth.org/resource/asset/FH%20Overview%20-%20Fact%20Sheet.pdf. FAIR Health data are not limited to employer plans only, and we cannot distinguish employer plans or the rates they pay providers from other private insurance plans and their payment rates (i.e., individual market and Medicare Advantage plans). FAIR Health data include more than 30 billion claims from plans that cover approximately 75 percent of the privately insured population in the US. Because other data sources find that the employer market represents the majority of the privately insured market, we assume employer claims likely represent a majority of the FAIR Health sample. As a frame of reference, according to the Urban Institute's Health Insurance Policy Simulation Model's estimates for 2020, health care expenditures (excluding administrative costs) for people enrolled in employer-based insurance are, in aggregate, 12.7 times as large as aggregate health care expenditures for people enrolled in nongroup insurance. Moreover, the FAIR Health database has been determined to meet sufficiency thresholds and requirements for research sample size and reliability with respect to the privately insured population in all 50 states and DC by the Centers for Medicare & Medicaid Services.

[37] "Allowed Benchmarks," FAIR Health, accessed February 13, 2020, https://s3.amazonaws.com/media2.fairhealth.org/resource/asset/FH%20Product%20Sheet%20-%20Allowed%20Benchmarks.pdf.

[38] FAIR Health also produces and licenses an allowed amount benchmark for Healthcare Common Procedure Coding System codes for equipment, supplies, and services not included in CPT codes, such as ambulance services, durable medical equipment, specialty drugs, prosthetics, orthotics, and supplies when used outside a physician's office.

[39] The expenditure weights are generated by multiplying the average price in the geozip by the claim frequency for a specific code.

[40] See chart 6-14 in MedPAC (2019b).

[41] We made one additional adjustment to Vermont's hospital inpatient ratio because it was an outlier.

[42] "Total Expenditures in Millions, by Event Type and Age Groups, United States, 2016," Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, generated interactively on September 20, 2019.

[43] "Geocorr 2014: Geographic Correspondence Engine," Missouri Census Data Center, accessed February 13, 2020, http://mcdc.missouri.edu/applications/geocorr2014.html.

[44] Geozips are combinations of zip code tabulation areas, so we create a PUMA-to-geozip crosswalk that includes the 2010 Census population for a particular PUMA-geozip intersection. We then generated weighted PUMA-level hospital and professional price ratios using the share of the PUMA population coming from component geozips.

[45] Using the commercial insurance–to-Medicare price ratio, the implied price cut equals *(1 / ratio) – 1*.

[46] Accounting for professional, hospital, and prescription drug costs, no people live in geographic areas where moving to our base case pricing (reform 1) would increase average health care costs.

[47] All nonhospital and nondrug spending is assigned the professional price cut, so the estimated price cut equals *0.396 × hospital price cut + 0.383 × professional price cut + 0.221 × drug price cut*.

[48] As noted earlier, this competition often takes the form of insurers contracting with select providers willing to accept lower payment rates, which allows the insurers to lower premiums.

[49] HIPSM firms include a distribution of employer-sponsored insurance actuarial values and reflect differences in health status across workforces by employer sizes and industries.

[50] More precisely, the Medicare approach limits Medicare Advantage plan payments for out-of-network providers to traditional Medicare program rates. However, this provides sufficient leverage for Medicare Advantage plans to pay no more than those rates for in-network providers as well. Here we assume the capped provider payment rates explicitly apply to both network and nonnetwork providers.

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John Holahan is an Institute fellow in the Health Policy Center, where he previously served as center director for over 30 years. His recent work focuses on health reform, the uninsured, and health expenditure growth, developing proposals for health system reform most recently in Massachusetts. He examines the coverage, costs, and economic impact of the Affordable Care Act (ACA), including the costs of Medicaid expansion as well as the macroeconomic effects of the law. He has also analyzed the health status of Medicaid and exchange enrollees, and the implications for costs and exchange premiums. Holahan has written on competition in insurer and provider markets and implications for premiums and government subsidy costs as well as on the cost-containment provisions of the ACA.

Holahan has conducted significant work on Medicaid and Medicare reform, including analyses on the recent growth in Medicaid expenditures, implications of block grants and swap proposals on states and the federal government, and the effect of state decisions to expand Medicaid in the ACA on federal and state spending. Recent work on Medicare includes a paper on reforms that could both reduce budgetary impacts and improve the structure of the program. His work on the uninsured explores

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Stacey McMorrow is a principal research associate with extensive experience using quantitative methods to study the factors that affect individual health insurance coverage and access to care as well as the impacts of state and national health reforms on employers and individuals. Her current work uses the Affordable Care Act and past Medicaid expansions to explore the effects of expanding insurance coverage on access to care, service use, and health outcomes for various populations. Through this and other work, McMorrow has developed substantial expertise in analyzing data from several federal surveys, including the National Health Interview Survey and the Medical Expenditure Panel Survey. Other research interests include the role of community health centers and safety net providers under health reform, receipt of preventive and reproductive health services among women, barriers to care for low-income children, and the market-level effects of insurance expansions.

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HERITAGE IMPACT

Heritage Recommendations Influence Administration’s Telemedicine Guidance

April 24th, 2020

Long before COVID-19, The Heritage Foundation recommended more Americans have greater access to telehealth.

When the Republican Study Committee released its health reform plan last October, the group included recommendations from Heritage health policy scholars to remove federal barriers that halt widespread use of innovative health care solutions such as telehealth.

The Trump administration has also made telehealth a priority, reflecting Heritage proposals, and amplified those efforts in response to COVID-19.

“The administration, Congress and some states have rightly removed barriers that prevented patients from receiving access to care through telemedicine.This helps with battling COVID-19 and could have even bigger implications for how patients access health care in the future," said Marie Fishpaw, director of Heritage's Domestic Policy Studies. "Doctors and patients have responded to this relief, with telemedicine use up sharply. Policymakers should build on this relief, make it permanent and remove additional barriers."

In battling the pandemic, these Heritage recommendations were initiated under emergency orders and codified in the CARES Act:

Allow greater access to telehealth through high deductible plans and health savings accounts. Allowing telehealth services to be "preventive care" for high deductible health plans and services during this crisis allows patients to have access to video-conferencing and telehealth to talk with health care providers. This helps patients talk with providers without going to a physical office and risk potential exposure to the virus—without incurring deductible costs.

Reimburse telehealth visits like in-person office visits. Heritage recommended that federal and state efforts should focus on removing any financial incentives that advantage in-person visits more than telemedicine visits. Not only did the Centers for Medicare and Medicaid Services declare that telehealth visits are considered the same as in-person visits, but Missouri instructed its Department of Social Services to reimburse health care providers for telehealth services under the same standard of care as in-person services.

Bundle telemedicine activities in pre-existing Current Procedural Terminology (CPT) codes. Medicare and Medicaid's reimbursement policies made it hard for beneficiaries to use telemedicine. Heritage suggested that policymakers bundle telemedicine activities in current CPT codes instead of proposing additional codes. This not only reduces billing and coding burdens but it also gives doctors the flexibility to determine which telemedicine options are appropriate for an individual patient throughout treatment. This change was adopted by the federal government for Medicare and by some states for Medicaid and privately insured patients for the duration of the emergency.

Outline guidance for what constitutes telehealth. The definition of telemedicine varies widely from state to state and among licensure boards. This is difficult for in-state practitioners as well as out-of-state telehealth companies that can provide telemedicine to rural patients. Heritage urged policymakers to ensure that the definitions surrounding telemedicine were broad enough to facilitate innovation while protecting patients from unsafe or inadequate services. The Centers for Medicare and Medicaid Services outlined those telehealth services that met its

standards to ease the use of high-quality and safe telemedicine services during this crisis.

Allow physicians licensed in one state to practice in the rest of America. Licensing is different from state to state and this inhibits physicians and providers from helping out-of-state patients. Heritage encouraged state policymakers to consider ways to ease licensure rules to allow providers licensed in one state to practice telemedicine across state lines. The Centers for Medicare and Medicaid Services temporarily waived Medicare and Medicaid requirements that physicians and non-physician practitioners be licensed in the state where they are providing services, allowing out-of-state providers to remotely help patients in areas highly impacted by the outbreak.

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The Potential Health Care Costs And Resource Use Associated With COVID-19 In The United States

ABSTRACT With the coronavirus disease 2019 (COVID-19) pandemic, one of the major concerns is the burden COVID-19 will impose on the United States (U.S.) health care system. We developed a Monte Carlo simulation model representing the U.S. population and what can happen to each person who gets infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV2). We estimate resource use and direct medical costs per infection and at the national level, with various "attack rates" (infection rates) to understand the potential economic benefits of reducing the burden of the disease. A single symptomatic COVID-19 infection would cost a median of $3,045 in direct medical costs incurred only during the course of the infection. Eighty percent of the U.S. population getting infected could result in a median of 44.6 million hospitalizations, 10.7 million ICU admissions, 6.5 million ventilators used, and 249.5 million hospital bed days, costing $654.0 billion in direct costs over the course of the pandemic. If 20% were to become infected, there would be a median of 11.2 million hospitalizations, 62.3 million hospital bed days, and 1.6 million ventilators used, costing $163.4 billion. [*Editor's Note: This fast-track Ahead-of-Print article is the accepted version of the peer-reviewed manuscript. The final edited version will appear in an upcoming issue of* Health Affairs.]

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With the coronavirus disease 2019 (COVID-19) pandemic, one of the major concerns is the burden COVID-19 will impose on the United States (U.S.) health care system. Elected officials, health professionals, and health care systems have raised concerns that the demand will exceed existing capacity and they have requested additional resources and financial support.[1–3] One of the goals of social distancing measures is to reduce the percentage of the population who get infected to avoid overburdening the health care system.[4,5] Conversely, others have advocated for "herd immunity" strategies that allow certain proportions of the population to become infected (e.g., at least 60–70%) until the virus can no longer spread.

All of this calls for an urgent need to better understand the potential health care costs and demand for resources due to COVID-19 in the U.S. when different percentages of the population become infected. Computational models have helped quantify the potential impact of and guide decision making for epidemics and outbreaks in the past, such as the 2009 H1N1 pandemic,[6–16] the ongoing Ebola outbreak that emerged in 2018,[17] and the 2015–2016 Zika outbreak.[18,19] Therefore, we developed a computational model to represent what may happen to

each patient infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) and quantify potential resource use and direct medical costs (i.e., costs directly attributable to health care resource use for interventions and care that are specific to COVID-19 illness and would typically be paid out by third-party payers) in the U.S. under various conditions.

Study Data And Methods

MODEL STRUCTURE We developed a Monte Carlo simulation model using Microsoft Excel (Microsoft Corporation, Redmond, WA) with the Crystal Ball add-in (Oracle Corporation, Redwood Shore, CA) representing the entire population of the U.S. and what can happen to each patient who ends up getting infected with SARS-CoV2. At the beginning of each simulation run, we determine what percentage of the population ends up getting infected (i.e., the attack rate) with the age distribution of cases matching the reported age distribution of COVID-19 cases. Each infected person then travels through a probability tree of different possible sequential clinical outcomes. Below we describe these probabilistic events and the associated health care needs for a simulated person in our model.

First, the person has a probability of being asymptomatic throughout the entire course of the infection. If this person is symptomatic, we assume that the person would start with a mild infection, and then has probabilities of either seeking ambulatory care or calling his/her physician (i.e., telephone consult). Next, this person has a probability of progressing to severe disease and requiring hospitalization. If this person is not hospitalized and has only a mild illness he/she self-treats with over-the-counter (OTC) medications (e.g., acetaminophen, ibuprofen). If hospitalized, this person then has a probability of having severe pneumonia or having severe non-pneumonia symptoms. After hospital admission, this patient has a probability of being admitted to the intensive care unit (ICU). This patient then has a probability of having either sepsis or acute respiratory distress syndrome (ARDS), with or without sepsis. If this patient has ARDS, he/she requires the use of a ventilator. If hospitalized, this patient has a probability of dying, and if surviving, he/she could require additional care after hospital discharge (e.g., ARDS or sepsis care).

For each of the aforementioned steps and possible outcomes, the person accrues different associated costs. If a person only has a mild illness, these costs include either ambulatory care or a telephone consult, and OTC medications. If a person is hospitalized, these costs include either ambulatory care or a telephone consult, hospitalization, and post-discharge care. This patient incurs the cost of hospitalization associated with the highest ward level of care he/she receives (e.g., if admitted to the ICU, incurs the cost of only the ICU-related diagnosis, sepsis or ARDS, but not the general ward stay) and his/her most severe clinical outcome (e.g., if the patient has ARDS, incurs the cost of ARDS to account for ventilator use, regardless of sepsis). After hospital discharge, this patient accrues outcome-specific post-discharge costs for associated health care use for one year.[20,21] If this patient has ARDS, he/she incurs the reported median direct medical cost per patient, which includes additional hospitalization, skilled nursing facility stays, rehabilitation stays, and outpatient visits (including specialist, primary care provider, and occupational therapist visits).[21] If this patient has sepsis, he/she incurs the median cost paid to the providers for all-cause emergency department visits, outpatient visits, inpatient stays, and pharmacy costs for a patient surviving severe sepsis.[20]

DATA SOURCES Online appendix exhibit 1 shows the model input parameters, values, and data sources, and is divided into costs, probabilities, and population.[22] All inputs are age-specific when available and come from the scientific literature or nationally representative data sources, which are listed in the appendix.[22] The cost section of appendix exhibit 1 includes the costs associated with an ambulatory visit, a telephone consult, total cost of OTC medications (based on age-specific dosing), age- and outcome-specific hospitalization costs, and outcome-specific post-discharge costs.[22] Hospitalization costs came from the Healthcare Cost and Utilization Project,[23] which includes the cost for the entire hospital stay, excluding professional (e.g., physician) fees. In the absence of data on COVID-19-specific and SARS-specific hospitalization costs, the cost of pneumonia due to *Streptococcus pneumoniae* served as a proxy for COVID-19 hospitalization with severe pneumonia symptoms, as these patients present with similar symptoms and would require a similar level of care. Similarly, influenza due to an unidentified virus with other manifestations served as a proxy for hospitalization with non-severe pneumonia symptoms. We performed a literature search (searching PubMed and Google Scholar) to identify papers reporting direct medical costs for the year after hospital discharge for patients with an ARDS and sepsis diagnosis, excluding the index hospitalization. We report all costs in 2020 values, using a 3% discount rate.

The probabilities section of appendix exhibit 1 reports the probability of the various outcomes

as a person travels through the SARS-CoV2 probability tree.[22] This includes the probability of developing symptoms, seeking ambulatory care, hospitalization, subsequent ICU admission, the different clinical outcomes (e.g., pneumonia, ARDS), and death. The probability of being symptomatic came from a recent study which conducted daily time series laboratory testing of cases on board the Diamond Princess cruise ship.[24] In the absence of COVID-specific data, the probability of ambulatory care for influenza served as a proxy for seeking ambulatory care.[25] Age-specific COVID-19 probabilities for hospitalization and ICU admission came from a recent report from the Centers for Disease Control and Prevention (CDC) and are specific to the U.S. context as of March 16, 2020.[26] We used this data to calculate relevant COVID-19 probabilities because at the time of conducting this study, it was the only up-to-date and age-specific data available for the U.S. context. Other COVID-19-specific data came from peer-reviewed literature, and incorporated all studies reporting the input available at the time of the search (published prior to March 10, 2020). Other inputs include the total number of persons in the U.S. population, which uses the 2018 population estimate.[27]

SCENARIOS AND SENSITIVITY ANALYSES For each scenario, we ran Monte Carlo simulations consisting of 1,000 trials varying each parameter throughout its range (appendix exhibit 1).[22] Scenarios consisted of varying the attack rate from 20% to 80%. Given that new data on SARS-CoV2 continues to emerge, as well as variability and uncertainty in currently available data, we performed sensitivity analyses, varying several key parameters to determine their impact on results. Specifically, we varied the type of initial care received (from all persons having a telephone consult with their physician to all having a probability of a doctor's visit or telephone consult), the probability of severe disease requiring hospitalization (decreasing the reported values by a relative 20%–50% and increasing the reported values by a relative 20%), the probability of ICU admission (varying the reported values by a relative +/−20%), and the probability of death given hospitalization (decreasing the currently reported values by a relative 95%). We also varied the post-discharge costs to 50% of the reported values, such that they were comparable to values reported for other high-income countries.[28]

LIMITATIONS All models, by definition, are simplifications of real-life and cannot account for every possible outcome.[29] Our model inputs drew from various sources, and new data on SARS-CoV2 continues to emerge. For example, our clinical probabilities derived from data based on testing regimens that capture live infections and may not be representative of the population. As such, these probabilities may be lower than what is reported given these data may be subject to selection bias with a lack of seroprevalence studies. Additionally, we used existing data for hospitalization costs that are not necessarily specific to COVID-19. For example, the cost of ARDS decreased with age (since mortality increases with age,[30] older patients have a shorter hospital stay and therefore lower hospitalization costs),[31] which may not necessarily be the case for COVID-19. As another example, the studies that measured post-discharge costs for ARDS and sepsis included all health care costs and not just those specific to ARDS and sepsis. Thus, we explored a large range of values in sensitivity analyses, which helped determine the impact of uncertainty and variability in the available data. The purpose of this study was not to evaluate the value of specific interventions such as social distancing, but to determine the direct impact of the pathogen itself. Therefore, costs of various epidemic responses were not included.

Study Results

DIRECT MEDICAL COSTS PER COVID-19 CASE Appendix Exhibit 2 shows the median cost per COVID-19 case.[22] A single symptomatic SARS-CoV2 infection would cost a median of $3,045 [95% uncertainty interval (UI): $2,873–$3,205] in direct medical costs when only including costs that accrue during the course of the infection (this estimate is based on a symptomatic case traveling through the probability tree). When adding costs that may be incurred after the infection, such as outpatient visits and hospitalization, the cost per case increases to $3,994; when decreasing post-discharge costs by 50%, a single case would cost a median of $3,517 (95% UI: $3,355–$3,695) (data not shown). A person with mild illness (i.e., that does not require hospitalization) who either has an in-person doctors visit or a telephone consult costs a median of $57 to $96, varying with age (appendix exhibit 2).[22] If a person only uses a telephone consult, the median cost decreases to $32 (95% UI: $19–$56) for a 0–17 year old and $17 (95% UI: $16–$67) for a person 18 years and older (data not shown).

A single hospitalized case would cost a median of $14,366 (95% UI: $13,545–$15,129) when including only costs during the course of the infection (appendix exhibit 2).[22] Appendix exhibit 2 provides the break-down of cost by age-group. The costs begin to decline for those 65 years and older because of their lower hospitalization costs and probabilities for accruing these costs (e.g., those 85 years and older have a lower probability of ICU admission and lower ICU hospitalization

costs than those 45–64 years). Decreasing post-discharge costs by 50% decreases the age-specific cost per case by a relative 0%–14%, with the largest decrease for a 65–84 year old (median of $17,682) (data not shown).

For any given symptomatic case, decreasing the probability of hospitalization by a relative 50% of the reported values decreases the cost to a median of $1,529 (95% UI: $1,450–$1,608) (data not shown). Decreasing the probability of ICU admission by a relative 20% decreases the cost to a median of $2,895 (95% UI: $2,746–$3,066), while for a single hospitalized case it decreases costs to a median of $13,708 (95% UI: $12,838–$14,515). For any given hospitalized case, increasing the probability of ICU admission by a relative 20% increases costs to a median of $14,991 (95% UI: $14,236–$15,812), while decreasing the probability of death has little impact on costs including those that may be incurred post-discharge (median $18,629; 95% UI: $17,643–$19,666).

HEALTH CARE RESOURCE USE AND COSTS WHEN 80% OF THE US POPULATION GETS INFECTED

Appendix exhibit 3[22] shows the number of cases and their resource use (e.g., hospital bed days, ventilator days) in the U.S. when various example percentages of the population get infected with SARS-CoV2. In a scenario using the currently reported values for key parameters, an 80% attack rate would result in 215.0 million (95% UI: 208.7–221.2 million) symptomatic COVID-19 cases in the U.S., with 44.6 million total hospitalizations.

Appendix exhibits 4 and 5[22] show the median direct medical costs of COVID-19 in the U.S. incurred during the course of the infection and in the year following hospital discharge when different percentages of the population get infected with SARS-CoV2. The band depicts the range in the median direct medical cost when varying key parameters. An 80% attack rate corresponds to a median cost of $654.0 billion (95% UI: $615.8–$692.8 billion) (appendix exhibit 4) including only costs during the course of the infection and $859.6 billion (95% UI: $809.5–$911.7 billion) when including costs for a year post-discharge (appendix exhibit 5)[22] [$756.1 (95% UI: $712.5–$802.6 billion) if post-discharges costs were 50% lower (data not shown)]. When decreasing the probability of severe disease leading to hospitalization by a relative 50% of the values reported in the literature, costs incurred during the course of the infection decrease by a relative 49.7% to $328.9 billion (data not shown). Decreasing the reported value for the probability of death by a relative 95% had no impact on cost when including those that may be incurred post-discharge [median $859.6 billion (95% UI: $813.7–$909.1 billion) (data not shown)].

HEALTH CARE RESOURCE USE AND COSTS WHEN 50% OF THE US POPULATION GETS INFECTED

A 50% attack rate would result in 134.4 million (95% UI: 130.6–138.2 million) symptomatic COVID-19 cases in the U.S. (appendix exhibit 3).[22] This results in a median of $408.8 billion (95% UI: $385.4–433.5 billion) in direct medical costs during the course of the infection (appendix exhibit 4)[22] and a median of $536.7 billion (95% UI: $507.6–$570.8 billion) when including post-discharge costs (appendix exhibit 5),[22] and $472.5 billion (95% UI: $447.0–$501.3 billion) when post-discharge costs are 50% the reported values (data not shown).

HEALTH CARE RESOURCE USE AND COSTS WHEN 20% OF THE US POPULATION GETS INFECTED

With an attack rate of 20%, there would be 53.8 million (95% UI: 52.2–55.3 million) symptomatic COVID-19 cases in the U.S. (appendix exhibit 2),[22] costing $163.4 billion (95% UI: $154.5–$173.1 billion) in direct medical costs including only costs occurring during the course of the infection (appendix exhibit 4).[22] Including costs for a year post-discharge, cases cost a median of $214.5 billion (95% UI: $202.4–$227.9 billion) (appendix exhibit 5).[22] When decreasing post-discharge costs by 50%, COVID-19 cost a median of $188.6 billion (95% UI: $178.8–$199.8 billion) (data not shown). Decreasing the currently reported values for the probability of death by a relative 95%, had little impact on the total cost ([median $214.9 billion (95% UI: $202.8–$227.2 billion) (data not shown)].

Discussion

Our results show that, even when only considering the costs during the acute infection and not the costs of follow-up care after the infection, the direct medical costs of a symptomatic COVID-19 case tend to be substantially higher than other common infectious diseases. For example, the cost on average is four times that of a symptomatic influenza case ($696 in medical costs in 2020 values)[25] and 5.5 times that of a pertussis case ($412–$555 in 2020 values).[32] The cost of a hospitalized case in infants was greater for COVID-19 than for infants with respiratory syncytial virus ($7,804 in 2020 values),[33] but for older adults, the cost per hospitalized case was similar ($20,463 in 2020 values).[34] The direct medical costs are higher than other common infectious diseases because COVID-19 infection can have a higher probability of hospitalization and mortality compared to seasonal influenza[25] and other pathogens. While the COVID-19-specific probabilities are based on emerging data, our results were robust to varying the probability of

ICU admission and death. Additionally, a potential lingering medical cost after the acute infection has run its course is the cost of caring for those who have survived major complications such as ARDS and sepsis. Existing studies have shown that the cost of such care can be considerable,[20,21] often requiring follow-up care and potentially re-hospitalization because long-lasting damage has been done, making the person susceptible to other problems such as other infections. These costs further increased the cost of a single case, in particular a hospitalized case, by approximately $4,000.

The significant difference in medical costs by attack rate show the value of any strategies that can keep the attack rate as low as possible and, conversely, the potential cost of any "herd immunity" strategies that allow people to get infected. As can be seen, the difference between 80% and 50% of the population getting infected is 80.6 million symptomatic cases, 16.7 million hospitalizations, and $245.4 billion in direct medical costs (incurred during the course of the infection), which is 11.7% versus 18.7% of the 2017 total national health expenditures ($3.5 trillion).[35] Similarly, the difference between 50% and 20% of the population being infected is 161.2 million cases, 33.4 million hospitalizations, and $490.7 billion. Currently, the primary strategy to keep the attack rate lower is social distancing, which includes maintaining physical space from other persons and avoiding group gatherings and crowds. Any discussion regarding the cost or burden of social distancing should include the costs on the other side of the equation such as health care costs, which are the costs that such approaches are potentially reducing. The alternative, or in many ways the opposite to social distancing, are herd immunity strategies, which have been considered in the United Kingdom.[36] These would involve having certain proportions of the population be exposed to the virus until it no longer spreads. However, it must be kept in mind that this strategy is not without its cost.

Our study also provides an idea of the magnitude of resources needed to take care of COVID-19 cases. Various state and local leaders have been calling for assistance, such as more hospital beds and ventilators to bolster existing capacity. Companies such as General Motors are repurposing factories to make emergency ventilators, stadiums are being converted into make shift hospitals to increase capacity, tents to treat cases are popping up, and Navy ships are aiding in the care of non-COVID-19 patients.[37–40] Even a quick look at the numbers shows that current health care system capacity is falling well below what is needed. For example, there are approximately 96,596 ICU beds and 62,000 full-featured mechanical ventilators in U.S.,[41] which are orders of magnitude lower than what would be needed, even with a 20% attack rate. Available ICU beds would, of course, depend on the timing of COVID-19 patient admissions.

Our study focused on direct medical costs and therefore did not include the potentially substantial non-medical costs that may be associated with COVID-19, such as productivity losses due to absenteeism and premature mortality, as well as declines in economic activity (e.g., decreased production, equity losses, business closures). In fact, our results may even underestimate direct medical costs given our interest to remain conservative in calculating costs. For example, we did not include additional costs that may result from COVID-19 and its health care impact exacerbating other medical conditions (e.g., respiratory illnesses can worsen other chronic health issues).[42] Our analysis drew from costs accrued during situations that were not public health emergencies and did not account for the possibility that costs could change during a pandemic. In actuality, the scarcity of critical supplies could drive up costs, as suppliers may increase prices or charge higher premiums (e.g., hospitals are paying up to 15 times the price of personal protective equipment and medical supplies).[43,44] Moreover, our analysis did not include indirect medical costs or effects such as reductions in elective procedures decreasing revenue,[45] or potential costs from worse disease outcomes due to increases due to postponement of preventive care and diagnosis. Additionally, recruiting health care professionals to focus on COVID-19 could lead to shortages for other patients.[46] Thus, health care systems that lack extra capacity could experience increases in operating costs.

Conclusion

Our study suggests that over the course of the pandemic, COVID-19 coronavirus in the U.S. could result in direct medical costs incurred during the course of the infection from $163.3 billion if 20% of the population gets infected to $654.0 billion if 80% of the population gets infected. Even when only considering the costs during the acute infection and not those of follow-up care after infection, the direct medical costs of a symptomatic COVID-19 case tends to be substantially higher than other common infectious diseases. The significant difference in costs by attack rate across the U.S. population show the value of strategies that keep the attack as low as possible and, conversely, the potential cost of any "herd immunity" strategies that allow

people to get infected. Our study also highlights the magnitude of resources needed to take care of COVID-19 cases. ■

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States Can Quickly Expand Medicaid to Provide Coverage and Financial Security to Millions

By Jessica Schubel

Millions of low-income uninsured people would gain much-needed coverage if the remaining 15 states quickly implemented the Affordable Care Act's (ACA) Medicaid expansion. Expanding Medicaid now would cover over 4 million currently uninsured adults in these states and potentially many more who lose their jobs or much of their income in coming months.

Some have claimed that states that haven't yet expanded coverage can't do so in time to make a difference during the current public health crisis. For example, Nebraska Governor Pete Ricketts recently said that expanding Medicaid during the COVID-19 pandemic "isn't feasible."[1] Such claims are mistaken. Swift action to adopt and implement expansion could allow people to enroll in Medicaid coverage as early as June or July. And people signing up for coverage this summer could also be eligible for retroactive coverage through Medicaid. Retroactive coverage could cover medical costs — including COVID-19 treatment — incurred up to three months prior to actual enrollment, providing financial protection for patients getting treatment *now* and for providers whose costs would otherwise go unpaid.

Implementing expansion on this timeline would require significant effort from states, but motivated states have moved quickly in the past. Moreover, implementing expansion any time this year would leave states better equipped for any subsequent waves of COVID-19 infections and help prevent large spikes in uninsured rates during the economic downturn, which forecasters now expect will be worse than the Great Recession and will continue through 2021.

[1] KCAU staff, "Gov. Ricketts Says Medicaid Expansion Not Feasible During Pandemic," KCAU, March 25, 2020, https://www.siouxlandproud.com/news/local-news/gov-ricketts-to-update-nebraska-on-covid-19-need-for-blood-donations/; and Chip Brownlee, "Governor: It Would [Be] 'Irresponsible' for Alabama to Expand Medicaid Right Now," *Alabama Political Reporter,* April 14, 2020, https://www.alreporter.com/2020/04/14/governor-it-would-irresponsible-for-alabama-to-expand-medicaid-right-now/.

Medicaid Expansion Ensures People Have Coverage When They Need It

Over 4 million currently uninsured people would gain coverage if the remaining 15 states implemented Medicaid expansion.[2] And the importance of expansion will only grow during the economic downturn. In states that have expanded Medicaid, most people who have lost their jobs or seen sharp drops in income will be able to get covered, while in non-expansion states, many will become uninsured. Prior to the crisis, fewer than 20 percent of unemployed people were uninsured in expansion states, compared to over 40 percent in non-expansion states.[3]

The benefits of expanding Medicaid extend beyond the current crisis. Research shows that Medicaid expansion increases access to care, improves financial security, and saves lives. For example, expansion has increased the share of low-income adults getting check-ups and regular care for chronic conditions, reduced medical debt and housing evictions, and saved over 19,000 lives just among older adults in states that adopted it.[4]

But expanding access to health insurance is especially important during a public health crisis. Without health coverage, people with COVID-19 symptoms may be afraid to seek testing or treatment because they worry they can't afford it, which can endanger their health, delay detection, and needlessly spread the disease. Medicaid covers testing and treatment for COVID-19 as well as for other health conditions, such as diabetes, hypertension, or heart disease, that make people more vulnerable to the virus.

States Can Provide Immediate Financial Security by Quickly Adopting Expansion

It's not too late for the remaining 15 states to implement Medicaid expansion and improve access to care during the current public health crisis. A few states are especially well positioned to act fast, as explained later in this paper. But all remaining non-expansion states could begin enrolling people in coverage this summer and provide them with some financial protection almost immediately.

States Can Obtain Approval for Expansion Retroactive to April 1

States can always expand Medicaid quickly by amending their Medicaid state plans to take up the ACA option to cover low-income adults up to 138 percent of the poverty line. States must submit three state plan amendments (SPAs) to the Centers for Medicare & Medicaid Services (CMS): one expanding eligibility, one outlining the expansion group's benefit package, and one describing the

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[2] Matthew Buettgens, "The Implications of Medicaid Expansion in the Remaining States: 2018 Update," Urban Institute, May 2018, https://www.urban.org/sites/default/files/publication/98467/the_implications_of_medicaid_expansion_2001838_2.pdf.

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procedures for determining the appropriate federal match rate for expansion enrollees. When Louisiana expanded Medicaid in 2016, it took CMS only three weeks to approve Louisiana's SPAs. [5]

What's more, a state can always ask CMS to approve its SPAs retroactive to the start of the quarter in which it submitted them. So if a state is ready to begin accepting applications for Medicaid expansion coverage while its SPAs are still pending at CMS, it can do so. Once CMS approves the SPAs, the state can enroll people immediately and make expansion effective as early as the first of the quarter in which the SPAs were submitted.

That's important, because it means people enrolling in Medicaid this summer could receive *three full months of retroactive coverage.* A feature of Medicaid since 1972, retroactive coverage helps prevent medical debt and bankruptcy for enrollees and uncompensated care costs for providers by paying costs that a Medicaid beneficiary incurred during the three months before applying, if they were otherwise eligible for Medicaid. If a state submits its expansion SPAs before June 30, it can make its expansion retroactive to April 1, allowing Medicaid to pay for medical costs incurred starting April 1, even if people don't formally apply for Medicaid until July.

In addition to helping vulnerable individuals, retroactive coverage will help ensure the financial stability of health care providers by reducing their uncompensated care costs. Many hospitals are struggling with the combined burden of COVID-19 costs and reduced revenue from elective procedures, and other providers are struggling with reduced revenue from plummeting demand.

States Can Begin Implementing Expansion Quickly

States expanding Medicaid will need to revise their eligibility systems to enroll a new group of people. While fast turnarounds aren't typical, motivated states can implement quickly, especially if they begin making system changes as soon as they announce their intention to expand. For example, Alaska's expansion took effect just a month and a half after Governor Bill Walker announced the state's intention to expand. In Maine, expansion enrollment began one week after Governor Janet Mills signed an executive order to start implementation.[6]

Implementing expansion during the COVID-19 crisis could prove especially challenging.[7] But even with a rocky or slow rollout, making expansion coverage available would immediately provide options for those experiencing serious illness, including COVID-19 patients.

In addition, states can use various strategies to get people covered while limiting the burden on eligibility staff. These include:

- **Automatically enrolling people from family planning programs.** Many non-expansion states provide low-income adults with limited Medicaid coverage for family planning services

[5] Linda Blumberg and Cindy Mann, "Quickly Expanding Medicaid Eligibility as an Urgent Response to the Coronavirus Pandemic," Urban Institute, March 2020, https://www.urban.org/sites/default/files/publication/101910/quickly-expanding-medicaid-eligibility-as-an-urgent-response-to-the-coronavirus-pandemic_1.pdf.

[6] Blumberg and Mann.

[7] Jennifer Wagner, "Medicaid Agencies Should Prioritize New Applications, Continuity of Coverage During COVID-19 Emergency," Center on Budget and Policy Priorities, March 19, 2020, https://www.cbpp.org/blog/medicaid-agencies-should-prioritize-new-applications-continuity-of-coverage-during-covid-19.

and supplies. These states already have the information needed to determine these adults' eligibility for expansion and can seamlessly enroll them into full Medicaid coverage. Louisiana, for example, used this strategy when it expanded in 2016, automatically enrolling 197,000 people from its family planning program and its limited coverage section 1115 demonstration project.[8]

- **Enrolling people based on their enrollment in other federal programs.** Most non-elderly, non-disabled adults enrolled in the Supplemental Nutrition Assistance Program (SNAP) are eligible for Medicaid, and states have the information necessary to make a full Medicaid determination for the majority of these adults.[9] Using the SNAP data available to them, states can quickly identify and enroll people who would also be eligible for Medicaid, without a separate Medicaid application. In 2016, Louisiana was the first state approved to implement this strategy, which Virginia also adopted when implementing expansion in 2018.[10]
- **Enrolling parents based on their children's Medicaid eligibility.** Medicaid eligibility levels for parents in non-expansion states are generally very low, but all states cover children with family income up to 138 percent of the poverty line, which means many parents whose children are already enrolled in Medicaid would likely qualify if a state expanded. Using the household information in the child's file, states can identify these parents and quickly enroll them into coverage.[11] Several states have implemented this strategy, including California, New Jersey, Oregon, and West Virginia.[12]
- **Expanding presumptive eligibility (PE).** PE allows hospitals, clinics, and other entities to screen individuals for Medicaid eligibility and temporarily enroll those who appear eligible; individuals can then submit a full Medicaid application for ongoing coverage. States have broad authority to designate health care providers to conduct PE and should consider expanding the types of entities that can conduct PE, including the state Medicaid agency. PE is a valuable option to quickly enroll people when they seek care and guarantee payment to hospitals and providers during the PE period — an especially important feature given providers' increasing financial strain due to the pandemic.[13]

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[8] Kaiser Family Foundation, "Becoming Healthy Louisiana: System-Assisted Medicaid Enrollment," July 2016, http://files.kff.org/attachment/fact-sheet-Becoming-Healthy-Louisiana-System-Assisted-Medicaid-Enrollment.

[9] Dorothy Rosenbaum, Shelby Gonzales, and Danilo Trisi, "A Technical Assessment of SNAP and Medicaid Financial Eligibility Under the Affordable Care Act (ACA)," Center on Budget and Policy Priorities, June 6, 2013, https://www.cbpp.org/research/food-assistance/a-technical-assessment-of-snap-and-medicaid-financial-eligibility-under-the.

[10] Kaiser Family Foundation, "Becoming Healthy Louisiana," *op. cit.;* and Centers for Medicare & Medicaid Services, "SPA# 18-013," September 19, 2018, https://www.medicaid.gov/sites/default/files/State-resource-center/Medicaid-State-Plan-Amendments/Downloads/VA/VA-18-013.pdf.

[11] Centers for Medicare & Medicaid Services, "SHO#13-003: Facilitating Medicaid and CHIP Enrollment and Renewal in 2014," May 17, 2013, https://www.medicaid.gov/sites/default/files/Federal-Policy-Guidance/downloads/SHO-13-003.pdf.

[12] Centers for Medicare & Medicaid Services, "Targeted Enrollment Strategies," August 1, 2014, https://www.medicaid.gov/medicaid/national-medicaid-chip-program-information/targeted-enrollment-strategies/index.html.

[13] For more information on PE and how states can further streamline enrollment processes, see Jennifer Wagner, "Streamlining Medicaid Enrollment During COVID-19 Public Health Emergency," Center on Budget and Policy

- **Minimizing paperwork and further streamlining enrollment.** States can minimize paperwork by leveraging electronic data sources to verify eligibility and maximizing the use of self-attestation. States can also streamline enrollment by leveraging the federal Healthcare.gov site to conduct Medicaid eligibility determinations and by expanding real-time eligibility determinations.

Timeline for Expansion in a Motivated State

Suppose a state decides to expand Medicaid and completes its three Medicaid expansion SPA templates in May. (See Figure 1.) The state can submit two of these SPAs, on eligibility and claiming procedures, immediately to CMS and request approval effective April 1. The third SPA, on benefits, requires a state to provide the public a "reasonable opportunity to comment,"[14] but since the state has discretion over the length of the public notice process, suppose it lasts 14 days and then submits on May 30, again requesting approval effective April 1. During this public notice process, the state should also seek technical assistance from CMS to identify potential issues during the approval process, as the benefits SPA is often the most complex of the three.

Simultaneously, the state can — and should — make needed eligibility system changes to expedite the enrollment process. For example, the state could use this time to make the necessary changes to automatically enroll people from other programs, as described above, and to accept applications in May so it can easily effectuate coverage upon approval. States can receive an enhanced federal match for costs related to these system changes.

Suppose CMS approves the SPAs on July 1. Then:

- Beginning that same day (July 1), coverage can take effect for people who applied in May or June, with retroactive coverage going back to April 1.
- The state may decide to adopt additional enrollment strategies, such as expanding PE, to enroll more people starting in July.
- For people enrolling in July or beyond, coverage will take effect as normal, including three months of retroactive coverage that cover costs going back to April for July enrollees.

As this timetable illustrates, a motivated state could use expansion to: (a) reimburse costs for COVID-19 cases being treated *right now;* (b) provide comprehensive coverage and ready access to care for people who will contract COVID-19 in the summer and fall; and (c) prevent the state's uninsured rates from spiking during the economic crisis, in which unemployment is expected to peak later this year and remain elevated at least through 2021.[15]

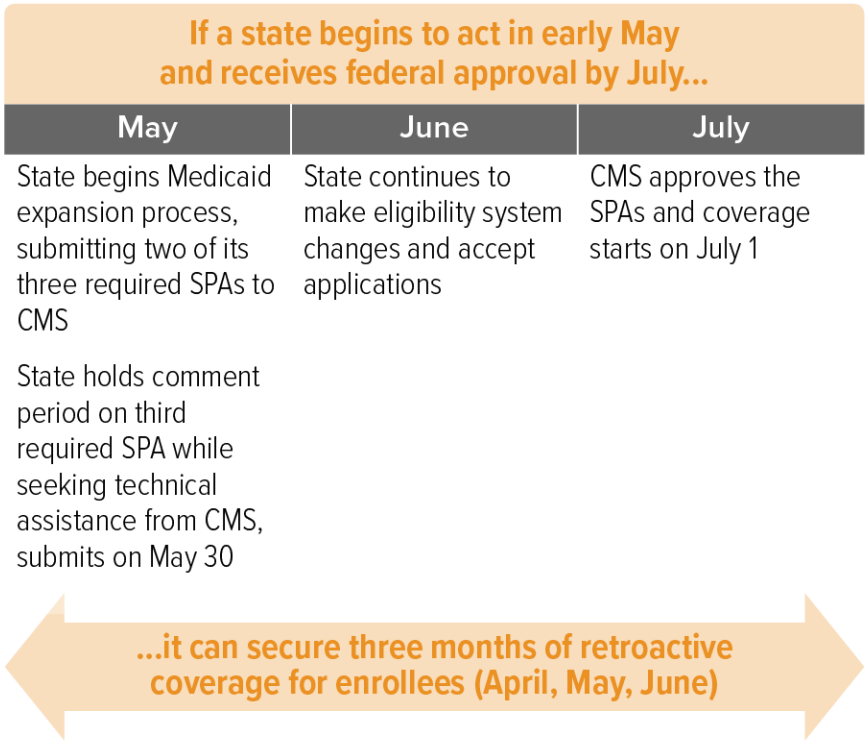
Priorities, April 7, 2020, https://www.cbpp.org/research/health/streamlining-medicaid-enrollment-during-covid-19-public-health-emergency.

[14] 42 CFR §440.386. In addition to soliciting public comment, a state may need to consult tribes in accordance with its approved tribal consultation process prior to submission.

[15] Phill Swagel, "Updating CBO's Economic Forecast to Account for the Pandemic," Congressional Budget Office, April 2, 2020, https://www.cbo.gov/publication/56314; and Jan Hatzius, *et al.,* "The Sudden Stop: A Deeper Trough, A Bigger Rebound," Goldman Sachs, March 31, 2020, https://www.courthousenews.com/wp-content/uploads/2020/04/US-Economics-Analyst-3-31.pdf.

FIGURE 1

States Can Expand Medicaid Quickly and Provide Three Months of Retroactive Coverage for Enrollees



SPA = state plan amendments; CMS = Centers for Medicare & Medicaid Services

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Some States Especially Well Positioned to Move Quickly on Expansion

All states can move quickly to implement Medicaid expansion, but a few could do so especially easily.

- **Nebraska** received CMS approval for two of its three Medicaid expansion SPAs on March 10; the outstanding SPA has been under review at CMS since December 2019.[16] The state announced that it won't start accepting applications until August 1 and that coverage won't be effective until October 1, but it can take steps *now* to implement expansion faster.[17] First, it should resolve any outstanding issues with the remaining expansion SPA to expedite CMS

[16] Centers for Medicare & Medicaid Services, "State Plan Amendment: #19-0002," March 10, 2020, https://www.medicaid.gov/sites/default/files/State-resource-center/Medicaid-State-Plan-Amendments/Downloads/NE/NE-19-0002.pdf; Centers for Medicare & Medicaid Services, "State Plan Amendment: #19-0003," March 10, 2020, https://www.medicaid.gov/sites/default/files/State-resource-center/Medicaid-State-Plan-Amendments/Downloads/NE/NE-19-0003.pdf; and Nebraska Department of Health and Human Services, "State Plan Amendment; #19-0014," December 12, 2019, http://dhhs.ne.gov/Pages/Medicaid-State-Plan-Amendments.aspx.

[17] Nebraska Department of Health and Human Services, "Nebraska Medicaid Issues Expansion Update," April 10, 2020, http://dhhs.ne.gov/Pages/Nebraska-Medicaid-Issues-Expansion-Update.aspx.

approval. Second, it should amend its already approved SPAs to change the coverage effective date to April 1; that way it can start accepting applications and effectuate coverage when it gets CMS approval. Even prior to the recession, expansion was predicted to provide Medicaid coverage to 80,000 Nebraskans.[18]

- **Wisconsin** already covers adults with incomes up to the poverty line through a section 1115 demonstration. But it pays 41 percent of the cost of covering them, rather than the 10 percent it would pay under expansion, because it hasn't adopted expansion and covered people with incomes up to 138 percent of the poverty line. Those additional costs far exceed what the state would pay to cover near-poor adults. In fact, Wisconsin already has left more than $1 billion in federal funding on the table by not fully expanding Medicaid.[19] Adopting Medicaid expansion effective April 1 would help Wisconsin address budget shortfalls almost certain to result from the downturn, while making more affordable coverage available to near-poor residents now covered through the marketplace. Even prior to the recession, expansion was projected to provide Medicaid coverage to an additional 82,000 Wisconsonites.[20]
- **Oklahoma** submitted its Medicaid expansion SPAs to CMS on February 21, with a coverage effective date of July 1.[21] The state should amend its request to make its expansion retroactive to April 1 so people obtaining coverage this summer can qualify for retroactive coverage of costs incurred now. It also should begin accepting applications now, to get people enrolled as quickly as possible. Even prior to the recession, expansion was projected to provide Medicaid coverage to 220,000 Oklahomans.[22]
- **Kansas** Governor Laura Kelly and Senate Majority Leader Jim Denning reached a bipartisan agreement in January to expand Medicaid. The Kansas legislature had to suspend its session due to COVID-19 but plans to resume work later this month. The expansion bill has already received committee hearings, and policymakers could fast-track its passage and implementation in order to provide Medicaid coverage to 120,000 Kansans.[23]

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[18] Nebraska Department of Health and Human Services, "Section 1115 Heritage Health Adult Expansion Demonstration," December 12, 2019, http://dhhs.ne.gov/Documents/1115_HHA_Application.PDF.

[19] Scott Bauer, "Evers' Health Agency Leaders Dedicated to Medicaid Expansion," *U.S. News & World Report,* March 12, 2019, https://www.usnews.com/news/best-states/wisconsin/articles/2019-03-12/evers-health-agency-leaders-dedicated-to-medicaid-expansion.

[20] Wisconsin Department of Health Services, "Expanding Medicaid: Positive Economic Impacts," Governor Evers' 2019 Budget, February 2019, https://www.dhs.wisconsin.gov/publications/p02366.pdf.

[21] Oklahoma Health Care Authority, "Medicaid Adult Expansion SPAs: Eligibility, Alternative Benefit Plan, and FMAP Claiming," February 21, 2020, http://okhca.org/xPolicyChange.aspx?id=24565&blogid=68505.

[22] Oklahoma Health Care Authority, "SoonerCare 2.0 HAO Information Session," https://www.okhca.org/soonercare2/.

[23] Kansas Division of the Budget, "Fiscal Note for SB 252," January 22, 2020, http://www.kslegislature.org/li/b2019_20/measures/documents/fisc_note_sb252_00_0000.pdf.

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Medicaid Protections in Families First Act Critical to Protecting Health Coverage

By Judith Solomon, Jennifer Wagner, and Aviva Aron-Dine

The Families First Coronavirus Response Act temporarily increased the federal government's share of Medicaid costs (known as the federal medical assistance percentage, or FMAP) to help states deal with the impact of the COVID-19 public health emergency. Similar to temporary FMAP increases during economic downturns in 2009 and 2003, states accepting the additional federal funds are subject to "maintenance of effort" (MOE) protections that keep them from making their Medicaid eligibility standards and eligibility determination procedures more restrictive. This prevents states from cutting coverage while the FMAP increase is in place and ensures that they use the extra federal dollars to keep their Medicaid programs intact.

Because the public health crisis makes it even more important that people have health coverage, the Families First Act MOE adds an additional protection. In addition to prohibiting new eligibility restrictions, the Families First MOE prevents states from terminating people's coverage during the public health emergency. This "continuous coverage" provision not only guarantees that people will be able to access needed care during the pandemic, but also allows state agencies operating with reduced capacity to prioritize enrolling people who lose their jobs and job-based coverage over requiring people to prove they remain eligible.

Unfortunately, there's an ongoing effort to convince Congress that the next round of legislation dealing with the pandemic and recession should weaken the MOE protections. At the end of the debate on the CARES Act, Senate Republicans unsuccessfully sought to insert language that would have let states terminate people's coverage while receiving the added federal funds. And now the Foundation for Government Accountability (FGA) is arguing that the MOE's continuous coverage provision requires states to keep large numbers of ineligible people enrolled, will cost states more than the FMAP increase will save them, and will disqualify some states from the FMAP increase altogether. These arguments are specious. Weakening the MOE during the current crisis could cause hundreds of thousands of people — or more — to lose coverage and become uninsured in the months ahead.

Continuous Coverage Provision Important to Keeping People Insured

Continuous coverage — letting people keep their Medicaid coverage for a set time period, irrespective of changes in their circumstances — isn't a new concept, and there's ample precedent

for it in Medicaid. States have had the option to provide 12 months of continuous coverage to children enrolled in Medicaid and the Children's Health Insurance Program (CHIP) since CHIP's enactment in 1997. This "continuous eligibility" option gives children a full year of coverage regardless of changes in their family's income. States can also elect to provide continuous eligibility to adults through a Medicaid waiver. To date, 23 states have adopted continuous eligibility for children in Medicaid, and 25 have adopted it for CHIP.[1] So far, Montana and New York are the only states with continuous eligibility for adults.

Providing continuous coverage appeals to many states largely because it helps eligible people stay covered. Without continuous coverage, states frequently require eligible people to submit paperwork demonstrating their continued eligibility. Research and decades of experience in enrolling low-income children and adults in coverage show that increasing paperwork exacerbates caseload "churn" by leading eligible people to lose coverage due to difficulties completing processes and providing documentation.[2] Over the past year, in fact, declines in Medicaid coverage for children and adults partly reflect some states' increased emphasis on frequent wage checks, more stringent documentation requirements, and terminations based on returned mail.[3]

In addition, low-income people often experience frequent fluctuations in income that can lead them to become temporarily ineligible for Medicaid but then regain eligibility within a few months.[4] Continuous coverage reduces the churn from these frequent changes in eligibility.

People who churn in and out of coverage are more likely to change doctors, more likely to use the emergency room, and less likely to take medication as prescribed.[5] They also have higher health care costs, some studies suggest.[6] Churn also creates problems for health care providers and Medicaid managed care organizations, limiting their ability to provide effective care and increasing their administrative costs. Churn is costly for states as well, creating extra work to process new applications for people who lose coverage but remain eligible and reapply.

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[1] Tricia Brooks *et al.,* "Medicaid and CHIP Eligibility, Enrollment, and Cost Sharing Policies as of January 2020: Findings from a 50-State Survey," Kaiser Family Foundation, March 26, 2020, https://www.kff.org/medicaid/report/medicaid-and-chip-eligibility-enrollment-and-cost-sharing-policies-as-of-january-2020-findings-from-a-50-state-survey/.

[2] Samantha Artiga and Olivia Pham, "Recent Medicaid/CHIP Enrollment Declines and Barriers to Maintaining Coverage," Kaiser Family Foundation, September 24, 2019, https://www.kff.org/medicaid/issue-brief/recent-medicaid-chip-enrollment-declines-and-barriers-to-maintaining-coverage/.

[3] Robin Rudowitz *et al.*, "Medicaid Enrollment & Spending Growth: FY 2019 & 2020," Kaiser Family Foundation, October 2019, http://files.kff.org/attachment/Issue-Brief-Medicaid-Enrollment-and-Spending-Growth-FY-2019-2020.

[4] Benjamin D. Sommers and Sara Rosenbaum, "Issues In Health Reform: How Changes In Eligibility May Move Millions Back And Forth Between Medicaid And Insurance Exchanges," *Health Affairs,* February 2011, https://www.healthaffairs.org/doi/pdf/10.1377/hlthaff.2010.1000.

[5] Benjamin D. Sommers *et al.*, "Insurance Churning Rates For Low-Income Adults Under Health Reform: Lower Than Expected But Still Harmful For Many," *Health Affairs*, October 2016, https://www.healthaffairs.org/doi/pdf/10.1377/hlthaff.2016.0455.

[6] Anthem Public Policy Institute, "Continuity of Medicaid Coverage Improves Outcomes for Beneficiaries and States," June 2018, https://www.communityplans.net/wp-content/uploads/2019/04/13_Report_Continuity-of-Medicaid-Coverage-Improves-Outcomes-for-Beneficiaries-and-States.pdf.

Continuous Coverage Especially Important During Current Crises

The current public health emergency and economic crisis provide a particularly strong argument for providing continuous coverage and avoiding churn.

First, maximizing the number of people with comprehensive coverage during a pandemic is important for public health. People who are uninsured may delay testing and treatment for COVID-19 because they worry that they won't be able to afford needed care. Providing people with continuous coverage through the public health emergency guarantees they can get care and treatment for all their health care needs. It also frees them from paperwork they would otherwise need to submit to show they remain eligible.

Second, during an economic crisis, most people with Medicaid coverage likely remain eligible, but eligible people are at particular risk of losing coverage due to wage checks against outdated data. With experts now predicting the deepest recession since the Great Depression, few people will likely experience income increases that would lead them to lose Medicaid eligibility. But for people who lose their jobs or see sharp reductions in income, the periodic data matches that states conduct against lagging earnings records often will significantly overstate current income levels. If states continue to terminate coverage based on these checks or require people to submit extra paperwork to prove their income and keep their coverage, large numbers of people will likely lose coverage just when they need it most.

Third, the MOE's continuous coverage provision allows states to prioritize enrolling new applicants who become eligible when they lose their jobs or experience other changes in circumstances.[7] That's important because applications will likely surge in coming months as more people lose jobs and job-based coverage, while social distancing measures have forced states to close eligibility offices and many state caseworkers can't work full time due to caregiving responsibilities stemming from school closures or their own health concerns.

Increased Federal Funds Far Outweigh States' Increased Costs From MOE

The Congressional Budget Office (CBO) confirmed that the MOE adds little to the federal cost of the FMAP increase and will neither outweigh the increased federal funds states will receive nor exacerbate state budget crises, as the FGA claims.[8] According to the CBO estimate, which assumes the public health emergency will last through March 2021, the FMAP bump will increase federal spending by about $50 billion. Most of this $50 billion is due to the 6.2 percentage point increase in state FMAPs, with "only a small additional amount" of the added federal spending due to the MOE's continuous coverage requirement, according to CBO.[9] This indicates that CBO assumes the requirement will have only a small impact on Medicaid enrollment, which means it would have only

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[7] Jennifer Wagner, "Medicaid Agencies Should Prioritize New Applications, Continuity of Coverage During COVID-19 Emergency," Center on Budget and Policy Priorities, March 19, 2020, https://www.cbpp.org/blog/medicaid-agencies-should-prioritize-new-applications-continuity-of-coverage-during-covid-19.

[8] Jonathan Ingram *et al.*, "Extra COVID-10 Medicaid funds come at a high cost to states," Foundation for Government Accountability, April 8, 2020, https://thefga.org/wp-content/uploads/2020/04/Extra-COVID-19-Medicaid-funds-come-at-a-high-cost-to-states-research-paper.pdf.

[9] Congressional Budget Office, Preliminary Estimate of the Effects of H.R. 6201, the Families First Coronavirus Response Act, April 2, 2020, https://www.cbo.gov/system/files/2020-04/HR6201.pdf.

a small impact on state costs — one that wouldn't come close to exceeding states' benefit from the increased FMAP.

Every State Can Qualify for Increased Federal Funds

March 24 guidance from the Centers for Medicare & Medicaid Services (CMS) says that all states can "take steps to be compliant and earn the enhanced funding."[10] The FGA and others claim that some states won't be able to qualify for the enhanced match because they have laws requiring periodic data matching or because their eligibility systems are set up to automatically conduct periodic income checks and redetermine eligibility. In reality, however, state laws do *not* keep states from complying with the MOE, and states can address any operational barriers to compliance by changing their systems or procedures.

All States Can Comply With MOE Regardless of State Laws

The Families First Act requires that people receiving Medicaid benefits as of the law's enactment and those who become eligible during the public health emergency "shall be treated as eligible" during the emergency, regardless of any change in circumstances other than moving out of state. CMS is leaving it up to states whether to suspend or continue income checks or redeterminations during the emergency. Its guidance is explicit, saying that the Families First Act does not prohibit states from conducting regular renewals or conducting periodic data matching, but that the MOE *does* prevent states from terminating coverage during the emergency.[11]

CMS guidance issued on April 2 confirmed CMS' position that states have discretion as long as they don't terminate people's coverage, saying that states can stop acting on changes in circumstances during the public health emergency or stop conducting periodic eligibility checks altogether.[12]

Forgoing periodic income checks is the best course for states, since their priority should be enrolling newly eligible people who lose their jobs. Moreover, data matches conducted over the coming months will be based on data covering the last quarter of 2019 or the first quarter of 2020; clearly, many people's incomes will have fallen since then, so many people will be eligible despite income checks suggesting they are not. States should not require people to obtain proof of job loss or other verification of income while they are practicing social distancing and dealing with the impact of the public health emergency on their families and loved ones.

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[10] Centers for Medicare & Medicaid Services, "Families First Coronavirus Response Act – Increased FMAP FAQs," March 24, 2020, https://www.medicaid.gov/state-resource-center/downloads/covid-19-section-6008-faqs.pdf.

[11] The FGA points to nine states (Kentucky, Mississippi, Missouri, North Carolina, Ohio, Oklahoma, Tennessee, West Virginia, and Wyoming) that it claims have state laws requiring that they "quickly remove ineligible enrollees." As the footnotes to the FGA's report show, these laws actually require that the state conduct periodic data matches and redetermine eligibility when it receives information that an enrollee's circumstances may have changed. States can still conduct these periodic income checks and eligibility redeterminations and qualify for the increased federal match. But since federal law requires that people remain eligible throughout the public health emergency regardless of changes in circumstances, these state laws do not apply.

[12] Centers on Medicare & Medicaid Services, "COVID-19 Frequently Asked Questions (FAQs) for State Medicaid and Children's Health Insurance Program (CHIP) Agencies," updated April 2, 2020, https://www.medicaid.gov/state-resource-center/Downloads/covid-19-faqs.pdf.

But a state that wants to conduct periodic data matches (or believes state law requires it to do so) can still comply with the MOE, provided it postpones acting on these data matches during the public health emergency. If the state does that, it will receive the FMAP increase.

Complying With MOE Is Operationally Feasible for States

States have several options to avoid involuntary coverage terminations during the public health emergency. If a state's eligibility system automatically conducts periodic data matches, the state could reprogram the system to stop the matches. If reprogramming is too difficult or would divert resources from other priorities, the state could allow the matches to continue but stop acting on the results. In most states, caseworkers decide whether a request for information should be sent to the enrollee, and they could forgo sending such requests. If the system automatically sends out requests for information, the state could change its system to stop generating or mailing the notices to avoid enrollee confusion and unnecessary paperwork for caseworkers.

Moreover, the CMS guidance makes clear that states will not lose eligibility for the enhanced match if they terminated cases in the weeks immediately following passage of Families First, before they could make systems changes. The guidance recognizes that some incorrect terminations may have occurred and requires a good-faith effort by the state to identify and reinstate these individuals.

As discussed above, the MOE can also alleviate operational strain on states. In particular, it allows states to adjust renewal dates during the public health emergency to eliminate the burden on staff from acting on renewals. Making these operational changes will help state and local agencies that administer Medicaid address the intense pressures from the public health emergency, shifting resources from checking whether people are still eligible to making sure newly eligible and uninsured people can enroll.

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Original Investigation | Public Health

Assessment of Perspectives on Health Care System Efforts to Mitigate Perceived Risks Among Immigrants in the United States
A Qualitative Study

Altaf Saadi, MD, MSc; Uriel Sanchez Molina, BA; Andreé Franco-Vasquez, BA; Moira Inkelas, PhD, MPH; Gery W. Ryan, PhD

Abstract

IMPORTANCE Increases in the enforcement of immigration policies, deportations, and rhetoric critical of immigration during and after the 2016 US presidential election have been associated with a decrease in health-seeking behaviors and an increase in adverse health outcomes among immigrants. Efforts to address the health care needs of immigrants after the 2016 presidential election have centered on individual-level patient-practitioner strategies or federal- and state-level policy changes. However, these approaches have not captured the role of health care systems and the range of health care facilities encompassed within them.

OBJECTIVE To characterize policies and actions implemented by health care facilities to address immigration status–related stressors.

DESIGN, SETTING, AND PARTICIPANTS This exploratory qualitative study involved semistructured interviews in a purposive sample of health care facilities across 5 states (California, Texas, New York, Florida, and Illinois) with the largest populations of individuals with undocumented immigration status. Data from media sources and informational interviews with local immigration advocacy leaders were used to identify health care facilities that had implemented welcoming policies and strategies. Stakeholders, including administrators, frontline clinicians involved in policy implementation, and senior executive leaders, were interviewed. Interviews were conducted between May 1 and August 9, 2018, and were recorded, transcribed, and coded using constant comparative analysis. Data analysis was performed from June 29, 2018, to February 5, 2019.

MAIN OUTCOMES AND MEASURES Stakeholder perspectives on the range, scope and content of policies and actions implemented to address immigration-related stressors at health care facilities.

RESULTS A total of 38 in-depth interviews were conducted spanning 25 health care facilities in 5 states; these facilities included 13 federally qualified health centers, 7 academic or private hospitals, and 5 public institutions. Interviewees described policies and actions that mitigated one or more of the following perceived risks: (1) risk of exposure to immigration enforcement personnel at or near facilities, (2) risk of immigration status–related information disclosure, (3) risk associated with patient-level stressors, (4) risk associated with practitioner-level stressors, and (5) coordination of risk mitigation. Most personnel at health care facilities emphasized that their policies and actions fit within a larger mission and history of addressing the social needs of diverse patients and mitigating risks for patients.

CONCLUSIONS AND RELEVANCE Health care facilities can implement both active and reactive measures to address perceived immigration-associated risks among patients and practitioners. Population health and immigration policies are at the forefront of current policy debates. An

(continued)

Key Points

Question How have health care facilities in 5 states with the largest populations of individuals with undocumented immigration status responded to enforcement of immigration policies after the 2016 US presidential election?

Findings In this qualitative study involving 38 interviews across 25 health care facilities, such facilities were found to have implemented institutional policies and actions to mitigate perceived risks among patients who are immigrants and health care practitioners. Patients and practitioners identified risks related to exposure to immigration enforcement personnel at or near facilities and of immigration status disclosure; these risks were associated with patient-level stressors, with practitioner-level stressors, and with coordination of risk mitigation.

Meaning This study suggests that understanding the ways in which health care facilities address risks to their patients and employees may help to optimize care for patients who are immigrants and health care practitioners.

+ Invited Commentary

Author affiliations and article information are listed at the end of this article.

Abstract (continued)

understanding of the ways in which health care facilities can serve to mitigate perceived risks among their patients and employees can be one step toward optimizing health care for immigrants.

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Introduction

Studies have suggested that increased enforcement of immigration policies, deportations, and rhetoric critical of immigration during and after the 2016 US presidential election have reduced the willingness of immigrants to access health and social services[1-3] and have been associated with adverse health outcomes, such as decreases in birth weights and increases in mental health disorders.[4,5] Similar consequences have been documented after the increased enforcement of state immigration policies[6-8] and the occurrence of immigration enforcement actions in the workplace.[9,10] The consequences may extend to the physical and mental health of US-born ethnic minority populations who are perceived to be immigrants.[11,12] Children born in the United States in families with mixed immigration status may also experience consequences. For instance, 1 in 4 American children with Latino ancestry belong to families with mixed immigration status[13]; such families appear to have lower than expected rates of participation in federally funded health and social programs, such as Medicaid; the Special Supplemental Nutrition Program for Women, Infants, and Children; and the Supplemental Nutrition Assistance Program.[14,15]

As a consequence, some health care facilities, such as hospitals and clinics, are adopting policies and actions to welcome immigrants, address immigration status–related stressors, and mitigate fears associated with accessing health care services. These efforts are embedded within a larger social and political landscape that includes media reports of immigration enforcement actions at or near health care facilities[16] and state or city sanctuary policies limiting the involvement of local law enforcement agencies with federal immigration enforcement agencies.[16] The ways in which health care facilities are responding to the increased enforcement of immigration policies has been discussed in media and medical literature editorials but has not been empirically studied. This study offers a systematic multistate exploration of institutional policies and actions undertaken to mitigate perceived risks among patients who are immigrants and health care practitioners.

Methods

Study Design and Sample

This study used a 3-stage sampling design. First, we purposefully selected the 5 states (California, Texas, New York, Florida, and Illinois) with the largest populations of individuals with undocumented immigration status.[17] Within each state, we used informational interviews with local immigration advocacy leaders to identify 38 health care facilities that had implemented welcoming policies and strategies. One of us (A.S.) identified these local leaders from community partnerships established in previous immigration status–related advocacy efforts. This snowball sampling procedure was supplemented by Google searches to identify news articles written about sanctuary clinics and hospitals within each state. We contacted stakeholders at each institution to recruit study participants. Stakeholders included administrators, frontline health care practitioners involved in policy implementation, and senior executive leaders. We performed the study using the Standards for Reporting Qualitative Research (SRQR) reporting guideline. All study procedures were approved by the institutional review board of the University of California, Los Angeles. All participants provided verbal informed consent.

Data Collection

We developed a 45- to 60-minute semistructured interview guide based on input from the literature and community organizations.[18] Drawing from the Consolidated Framework for Implementation Research,[19] the interview protocol included questions about potential barriers and facilitators to the implementation of risk-reduction strategies (**Box**).

Two of us (A.S. and A.F.V.) conducted interviews between May 1 and August 9, 2018. We conducted most of the interviews in person, with the remainder conducted by telephone. Interviewees provided verbal informed consent for audio recording and transcription in all but one instance, in which extensive notes were taken instead. Most of the interview refusal reasons were nonspecific because the individuals did not respond. Two individuals who declined to participate implied that the bureaucratic requirements at their institutions were too difficult to overcome to allow for an interview. Interviews continued until we reached thematic saturation (ie, until no new thematic information could be obtained).[20]

Data Analysis

Interviewers took notes and discussed emerging themes as the interviews progressed so that thematic saturation could be assessed. We analyzed the data using constant comparative analysis,[21] an iterative procedure in which codes and themes evolve as a result of the comparison of new data with previous data. We identified the range of policies and actions considered and/or implemented at participating health care facilities. An initial codebook was used to categorize interventions at the levels of the institution, practitioner, and patient. To manage the data, we used Dedoose qualitative data analysis software, version 8.0.42 (SocioCultural Research Consultants). We focused this article on the range of policies and actions implemented at participating facilities. Data analysis was performed from June 29, 2018, to February 5, 2019.

Results

We conducted 38 in-depth interviews (26 conducted face to face and 12 conducted by telephone). Interviews spanned 25 institutions, including 13 federally qualified health centers (FQHCs), 7 academic or private hospitals, and 5 public institutions, across the 5 states. Most of the interviews were conducted in California (n = 10), followed by New York (n = 9), Texas (n = 8), Illinois (n = 7), and

Box. Interview Guide

1. Tell me about the history of how you/your institution became involved in implementing these interventions?
2. What are the range of policies you have implemented at your institution? What have you considered implementing?
   - Hospital/administrative interventions
   - Provider-focused interventions
   - Patient-focused interventions inside and outside the hospital setting
   - Policies promoting the use of health care services
   - Policies outlining boundaries of interactions with immigration enforcement personnel
3. Can you tell me about how these policy interventions were decided on and implemented?
   - Leadership?
   - Champions? Teams?
   - Community or legal consultation?
   - Patient involvement?
   - Resources?
4. What was difficult about the process? What challenges or resistance did you face? What did you have to overcome? What could you not overcome? (Ask for each intervention.)
5. What would you do differently?
6. What would you recommend to other people?
7. Tell me about the plans for evaluation of these interventions? How will you measure "success"?
8. Tell me about the challenges you perceive to affect immigrant populations and how they have changed over the past 2 years. What kind of local or state measures or policies have influenced these challenges?
9. Can you speak to how this local/state policy context has affected your health care institution in particular?
10. Do you know other health care facilities that have implemented similar policies?

Florida (n = 4). The interviewees included individuals with clinical and/or administrative positions (n = 27) and senior executives (n = 11).

Although we had originally asked about institution-level, practitioner-level, or patient-level interventions, our analyses found that interviewees described policies and actions that mitigated one or more of the following perceived risks: (1) risk of exposure to immigration enforcement personnel at or near facilities, (2) risk of immigration status–related information disclosure, (3) risk associated with patient-level stressors, (4) risk associated with practitioner-level stressors, and (5) coordination of risk mitigation. The **Table** lists subcomponents of these categories that emerged from the interviews.

Interviewees at all facilities reported that they addressed at least one of these risk categories. A few facilities had implemented policies or actions that addressed all risk categories, with the exception of 2 FQHCs. Interviewees at most facilities emphasized that their policies and actions fit within a larger mission of addressing the social needs of diverse patients and mitigating perceived risks among patients.

Immigration Enforcement

Many administrators and employees of health care facilities perceived the presence of immigration enforcement personnel on their premises as a risk to their patients and reported that they had implemented internal protocols regarding the ways in which staff members should respond in such an event. The administrators of the facilities shared several rationales for their internal policies, including the intention to reassure patients and staff members about what the law permits on the premises, prepare them for a worst-case scenario, and reduce fear and its spread in the local community. One FQHC administrator in Texas described the spread of fear "like tuberculosis, a public health issue."

Interviewees described considering or adopting a range of active and reactive staff protocol components. Examples of these components included requiring visitors to present identification and describe the purpose of their visit upon entry; establishing a code or phone number to alert staff of the presence of immigration enforcement personnel on the premises, thereby activating a facility-wide response system; documenting enforcement officers' names, badge numbers, and affiliations; documenting enforcement officers' actions with photographs or video; training an internal team to respond; and determining if and when to notify patients. The personnel at one facility had practiced these protocols as "a drill [because] you never know" and reported that, as part of a training exercise, they had "pulled out a patient and had them be the person that's being detained." They informed

Table. Health Care Facility Risk-Reduction Strategies

Category	Policies and actions
Risk of immigration enforcement personnel on or near facilities	• Implementing a policy that limits cooperation with immigration enforcement personnel • Designating public and private spaces • Pursuing alternative models for providing health care services (eg, telehealth)
Risk of immigration status–related information disclosure	• Limiting acquisition and documentation of immigration status in medical records • Ensuring protection and confidentiality of patient information • Offering alternative payment models
Risks associated with patient-level stressors	
Legal stressors	• Pursing medical-legal collaborations to meet the legal needs of immigrants • Educating patients about their legal rights • Incorporating deportation preparedness into larger patient emergency preparedness
Resiliency promotion	• Promoting affirming care messages • Finding ways to nurture empowerment and engagement (eg, advocacy skills, media and story-telling skill-building programs, and voter registration) among immigrants
Risks associated with practitioner-level stressors	• Providing supportive services for employees who are immigrants • Educating and offering clinicians health-focused training for providing care to immigrants
Coordination of risk mitigation	• Designating an immigration point person or task force

patients in advance that this was a training simulation to avoid the spread of fear. Other facilities shared the protocols with personnel but not with patients.

Administrators of health care facilities reported preparing their personnel to recognize and distinguish between administrative warrants, judicial warrants, and subpoenas. At most facilities with a training protocol, personnel had focused on preparing a core response team—stating that "our directive was that you should call senior management"—to reduce the burden on health care practitioners who "were terrified this was going to be all on them" in terms of engaging immigration enforcement personnel. Interviewees at a few facilities reported developing a response protocol that was integrated with a larger rapid response team that included attorneys, community leaders, and city officials.

At some health care facilities, staff members delineated differences between public and private spaces on the premises because law enforcement personnel are legally permitted to enter only public, but not private, spaces without a judicial warrant or permission from the facility.[22] Specific policies included performing an internal review and environmental scan of current signage, posting clear signage in areas requiring further clarity, and sharing information with staff. Interviewees from several facilities noted that the physical layout of the facility constrained their choices. A senior-level executive at an FQHC in California explained that "at our main sites, you can't get into the waiting area without going through security. In our smaller sites, you walk straight into the waiting area, which is a public space. We should have thought of that." One facility used a table as a room divider to create a public waiting area for all patients and a second waiting area for patients who had already signed in. A practitioner at an academic medical center in New York expressed concern about people being "afraid because, at a lot of hospitals, they ask for IDs at the front desk," highlighting the potential for unintended consequences at facilities that had not established community trust.

To address the risk of exposure to immigration enforcement personnel who were en route to a health care facility, staff members at some facilities had established or expanded telemedicine services or offered home visits. Employees at facilities that had expanded such activities reported mixed results. One employee at a California FQHC reported that their telemedicine expansion "failed horribly. A lot of our patients are not technologically savvy. We tried to do the calling… [but] half the time we had the wrong number or [the patients] used a burner phone."

Immigration Status–Related Information Disclosure

Interviewees at health care facilities noted that asking about and documenting immigration status could stigmatize patients, discourage them from seeking care, and expose them to unnecessary risk should immigration enforcement officers gain access to medical records. Staff members at some facilities reviewed intake forms and clinical assessment and documentation practices to ensure this information was not being requested or recorded. This policy became formal at some facilities, informal at others, or was practiced only by select health care practitioners at others. One county administrator in Florida described their facility's policy as a "don't ask, don't tell" attitude among practitioners and patients, while another practitioner reported telling patients, "I just need to know the parts where I can help you. I don't need to know your whole story." Several interviewees, however, noted that the effort to avoid eliciting patients' immigration information was counter to a broader effort to assess the social factors associated with patients' health.

In addition, administrators at several facilities clarified with employees that existing patient privacy laws, such as the Health Information Portability and Accountability Act, applied to immigration status and medical records. Administrators at other facilities reported an emphasis on best practices, such as ensuring that patient information was not in plain view. Some facilities posted information about confidentiality using clear visible signage. One senior executive leader at an FQHC in California expressed her view that patients should be given more information about risks and benefits to make the best-informed decisions, stating, "I can't guarantee anyone their information is safe. How many times has [nearby tertiary academic medical center] been breached? We're small

potatoes compared with [them]. I'm never going to promise fake things. They [the patients] have to choose whether they disclose it or not."

Some health care facilities devised unique payment models, such as out-of-pocket bundled payments for prenatal visits among pregnant individuals who refused to enroll in Medicaid owing to concerns about data sharing with federal agencies, which they feared would have consequences on their future immigration status through public charge policies.

Patient-Level Stressors

Legal Stressors

Risks associated with patient-level legal stressors were addressed in several ways. First, administrators and employees at health care facilities recognized that many patients struggled with daily fears and legal issues associated with their immigration status. In response, some facilities expanded or initiated new medical-legal partnerships focused on providing legal immigration assistance. Other facilities included legal partners in local resource fairs or resource guides, or they coordinated efforts to have practitioners contribute to patients' legal cases (eg, provide medical evaluations for asylum cases or letters of support to prevent the deportation of family members). One administrator at an FQHC in California explained their facility's model of offering free legal consultations to patients, stating, "For the patients that we serve, [a legal consultation] can be a fortune. We developed an agreement where particular law firms would be listed in our brochure free of charge. Then, as long as the person said, '[clinic] is sending me,' that consultation would be free."

Second, personnel at health care facilities addressed confusion and misinformation among patients by providing a Know Your Rights educational program, which is traditionally offered by legal or community-based organizations. These facilities offered brochures, wallet cards, or other informational packets in examination rooms or clinic waiting areas. In a few facilities, clinic personnel or community health workers delivered the Know Your Rights educational program. Employees at these facilities integrated some of their health educational program with immigration educational efforts, saying, "Half the time when the promotoras [community health workers] are out, they give one particular session on cancer education and screening, then follow it up with nutrition and fitness, and then go into immigration." Some interviewees reported difficulty in providing up-to-date accurate information to patients "because of all the uncertainty right now." Another practitioner in Texas recommended that her patients speak to an attorney rather than offering advice herself.

Third, personnel at health care facilities also prepared patients for the risk of deportation, which was sometimes incorporated within broader emergency preparedness plans. Deportation preparedness involved "who do you leave your children to, where are their birth certificates, who's going to handle your bank account should you be deported. It becomes a full kit so that everybody knows exactly what to do in the time of emergency."

Promotion of Resiliency

Administrators and staff at some health care facilities promoted resiliency among patients and their families, seeking to respond both reactively and actively to perceived risks. One common active action was the provision of affirming care messages, such as "you are welcome here." The form of dissemination and the language used to communicate this message varied based on the local facility's context within the larger community. A county administrator in Florida noted that they had to consider negative feelings about immigration in the local community before taking action, stating, "We don't want a red target on the organization."

Most interviewees reported that they avoided using the word sanctuary because it was falsely reassuring, too politically charged, too ambiguous (ie, did not have a definitive meaning), or did not translate well in the languages spoken by their patients. In the words of an administrator at an FQHC in California, "There is a connotation around sanctuary where people believe they can stay there, [that] they can lock themselves in the clinic, be bathed, clothed, and given food and shelter. [But] no. This is a community health center. We cannot do that." A senior-level executive at an FQHC in Illinois

stated, "We can't promise people something we can't be. We cannot harbor patients. We cannot hold someone longer than needed for clinical care." Some interviewees emphasized the importance of providing accurate messages in multiple languages.

Several interviewees reported using patient-empowerment strategies, such as (1) the development of community advisory boards with representation from immigrants; (2) the creation of targeted programming, such as summer youth programs, story-telling events, or media advocacy skill-building programs; (3) outward engagement and policy engagement opportunities, such as visits to local or state legislators; and (4) voter registration efforts to encourage civic participation. One administrator in Texas explained, "We've been taking on multiple initiatives on registering people to vote, empowering them to say this is why it's so important that you go out and vote."

Interviewees underscored the importance of "partnerships with community-based organizations and legal help organizations [that] are strong" so that "they are eyes and ears on the ground getting constant feedback in both directions." Interviewees at a number of health care facilities stated that their successes in implementation were owing to the involvement of community stakeholders as active partners, unifying health care facility and community interests regarding the health of immigrants. Community partner organizations varied and included local police forces and foreign consulates. For example, one interviewee discussed a collaboration with the Mexican consulate to provide patients with health education and referrals to case management or primary care.

Practitioner-Level Stressors

Another identified theme was the consequence of stressors among health care practitioners. Administrators of health care facilities responded by bolstering their legal services and increasing behavioral health support for their personnel. One senior level administrator in Illinois explained, "Many of our staff are from the communities we serve, so this was personal for [them]." Some interviewees at facilities reported hearing biased and demeaning remarks from patients, such as, "Now that Trump's elected, you can't speak Spanish here. They're going to kick you back."

Interviewees at several facilities emphasized the importance of discussing patients' anxiety and fears among clinic personnel, addressing sources of burnout, brainstorming ideas, or sharing best practices. These facilities hosted town hall events or dedicated staff meetings to discussing immigration status–related concerns.

Furthermore, interviewees at health care facilities described practitioner education as a crucial component in assisting patients who are immigrants, particularly because practitioners have different levels of experience, training, and comfort in navigating these patients' concerns. A number of interviewees reported addressing practitioner misconceptions, such as the belief that only non-English speakers are immigrants. Health care facilities that offered education for clinicians focused on reviewing the changes to local and federal government immigration policies; providing guidance for communicating with patients who have immigration status–related questions, including whether and how to ask patients about their immigration status without eliciting fear or stigma; and explaining the ways in which immigration status is associated with health. Interviewees noted that conversations about immigration status were especially delicate, saying, "it's like you're in a forest, it hasn't rained in a year, and anything can just start a fire." In addition, several senior executive leaders emphasized the limits to clinicians' knowledge about immigration issues because "they're doctors, not lawyers, and this is a very changing environment."

Coordination of Risk Mitigation

Interviewees at a number of health care facilities reported that, given the pace of change in immigration policy, they had assigned a point person or team designated to stay abreast of policy changes and ensure clinicians and executive leadership were updated about best practices. The process of identifying and connecting with key stakeholders may have otherwise been delayed, which may have hindered the facility's ability to respond effectively. Team representatives commonly

included administrators, frontline practitioners across departments (eg, physicians, nurses, and social workers), and risk management personnel. The point person or team was either newly created or incorporated within existing groups. As one administrator in Illinois explained, "[Our team's] original purpose was to work…on community outreach. But now, this committee is in charge of reviewing the immigration guide."

Discussion

This exploratory multistate qualitative study identified several main areas of response by health care facilities to perceived immigration-associated risks among patients and practitioners, thereby creating an environment that was both physically and psychologically safe. The range of policies and actions described in this study highlights the ways in which health care facilities can implement both active and reactive measures that address risks to the health of immigrants. Previously discussed efforts to improve the health of these patients after the 2016 presidential election have focused on individual patient-practitioner communication[23] or policy changes at the federal or state level. However, these approaches did not capture the role of health care facilities and the health systems in which they are embedded. The description of these policies and actions is an essential first step in building an evidence base for health system approaches that optimize health care among immigrants. An understanding of these policies and actions may also serve as a guide to personnel at other health care facilities who seek to address the needs of all their patients, regardless of immigration status.

Among most of the facility personnel we interviewed, these policies and actions fit within a larger patient-centered or health equity mission and did not represent controversial actions. Historical and current parallels exist regarding such immigration status–related policies and actions, as health care facilities have responded to nonmedical perceived risks to emphasize their commitment to patients regardless of the political or legal landscape. For example, in war zones, hospitals use distinctive emblems, such as large flags or red crosses on white roofs, to underscore their independent status.[24] Furthermore, although immigration violations are civil and not criminal, parallels can be drawn with patients with substance use disorders who have committed illegal acts but have continued to have their clinical care prioritized. In addition, personnel at health care facilities have sought to reduce the risks associated with the disclosure of sensitive information in patients' medical records. This approach was used when HIV infection and AIDS first emerged; during this period, clinicians were hesitant to record the HIV status of patients because of the potential for stigma and discrimination. In the past, practitioners were also reluctant to share patients' DNA pedigrees and other genetic information that could be used by insurance companies or employers to target asymptomatic patients based on their genetic susceptibilities.[25]

Personnel at health care facilities have also tried to make their environments welcoming, trusting, and supportive by addressing patient and practitioner stressors in other contexts. The connection of patients with legal resources, for example, is akin to the prescription of fruits and vegetables for patients with food insecurity.[26] Deportation preparedness or planning is similar to advanced care planning. Another example is the fostering of lesbian, gay, bisexual, transgender, and queer (LGBTQ)–friendly health care services.[27] The Human Rights Campaign, one of the largest civil organizations working to achieve LGBTQ equality, publishes an annual Healthcare Equality Index,[28] a benchmarking tool that evaluates health care facilities' policies and practices for the equity and inclusion of patients and employees with LGBTQ identification. Some of the criteria used in the benchmarking tool mirrors the policies and actions that we found had been implemented by health care facilities to serve immigration status–related needs, such as staff training, welcoming signs, and the development of an internal planning or advisory committee focused on issues associated with the care of patients with LGBTQ identification. The creation of age-friendly health systems[29] to meet the needs of older adults represents the ways in which health care facilities have sought to accommodate patients with less-stigmatized demographic characteristics.

Policies and actions implemented in the immigration context are similar to those that health care facilities have been performing across the disease and policy spectrum for many years, such as reducing risks to their patients, responding to the physical and mental health needs of their patients and employees, and fulfilling their mission for care equity. Coincident with a mission for care equity, these policies and actions were implemented alongside other efforts that addressed common barriers to care, such as language, transportation, or insurance barriers.

Limitations

Our study had several limitations. The study did not evaluate the policies and actions reported by interviewees. Future studies can assess the efficacy of these interventions and evaluate which variations are most effective. Although this study was not statistically representative, it was purposefully designed to identify a range of perspectives from facilities in regions with large populations of immigrants but with potentially different political pressures and health care delivery challenges. The results suggest that institutions of various sizes and structures across states with different political leanings could potentially apply these policies and actions. Other studies have suggested that the prevalence of fear of deportation is not associated with the use of medical care at FQHCs, in particular,[30] so the variations across health care facility types require further exploration.

Conclusions

Population health and immigration policies are at the forefront of current policy debates. An understanding of the ways in which health care facilities serve to mitigate risks to their patients and employees can be one step toward optimizing care for immigrants and health care practitioners. Health care facilities can, in changing policy environments, consider and implement processes to adapt to and address evolving patient and practitioner concerns.

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Marketplace Pulse: COVID-19 and the Individual Market

The Known Unknowns

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With its dramatic impacts on both population health and the economy, COVID-19 is disrupting every segment of health insurance.

The individual insurance market, recently more stable after a precarious beginning, will undoubtedly feel the impact of large changes which fall into three major buckets—the costs of the coronavirus, changes in use of other health care services, and the impact of the recession.

Coronavirus Costs

The cost of testing could grow

The seemingly simple issue of testing first engaged the public in thinking about the health insurance aspects of the response to coronavirus. An initial flurry of state, federal, and voluntary actions were followed by provisions in the Families First and CARES Act which greatly limited patient cost sharing in private insurance for COVID-19 testing and associated visits, regardless of where administered, for the duration of the public emergency. As a prior analysis showed, in most individual market plans, lab test costs are usually subject to a deductible. This is the case for approximately 90 percent of bronze plans and 70 percent of silver plans, making this a fairly large transfer of financial responsibility to plans.

The CARES Act attempts to preclude balance billing by requiring plans to reimburse test providers at their "cash price," provided such prices are posted on a public website, or a negotiated rate with those providers. With many novel test providers, including some hospital systems that have recently developed their own tests, at least some out-of-network billing seems likely.

Hospitalization Costs chart (JPG) →

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The volume of testing could grow considerably. Testing is still constrained by supply, even for those with symptoms. Much more widespread testing is considered key to any strategy to ease social distancing, particularly as testing for antibodies is further developed. At the high end of the range of their recently published (https://hbex.coveredca.com/data-research/library/COVID-19-NationalCost-Impacts03-21-20.pdf) cost estimates, Covered California estimated that about one third of commercial members would be tested. Yet it seems that the amount of testing could greatly exceed that, if widespread testing becomes normal and at least some enrollees may be tested multiple times. Recent CMS guidance (https://www.cms.gov/files/document/FFCRA-Part-42-FAQs.pdf) indicates continued plan responsibility for the cost of new testing, including serological tests once developed. Yet at the same time, more widespread testing is designed to prevent infection, so the costs of increased testing should reduce treatment costs, at least at the population level.

Treatment costs may be lower than initially projected

Even if testing costs are significant, most believe they will pale in comparison to potential treatment costs. Many carriers offered to cover patient cost sharing for treatment, but even those that do not will have a significant degree of exposure. There are a few reasons to think the individual market may have higher per-member coronavirus treatment costs than the commercial market. The individual market has more enrollees with chronic conditions such as diabetes or cardiac risk factors, potentially increasing the likelihood of hospitalization and severe illness, relative to the rest of the commercial market. The impact of the novel coronavirus will also certainly vary by geography, and the individual market may have relatively more members in urban areas where infection rates have so far been higher. The narrow networks that are common in the individual market may also make carriers in this market more vulnerable to out-of-network or surprise billing. As a condition of receiving federal stimulus funding, hospitals must agree not to balance bill patients for testing or treatment, yet carriers may receive some out-of-network charges. Doctors can still bill out of network.

The Covered California analysis estimated (https://hbex.coveredca.com/data-research/library/COVID-19-NationalCost-Impacts03-21-20.pdf) a range of costs between $35 billion and $251 billion for both testing and treatment for the commercial market as a whole. More recent cost estimates from America's Health Insurance Plans (AHIP (https://www.ahip.org/wp-content/uploads/AHIP-COVID-19-Modeling.pdf)) suggest a range within their baseline scenario of $70.8 billion to $126.1 billion for the commercial market in 2020 and 2021, of which 75 percent was assumed to be incurred in 2020. Applying the AHIP baseline scenario assumptions to a 10 million-member individual market results in an estimate of approximately 215,000 hospitalizations, of which about 47,000 would require treatment in an intensive care unit. The estimated cost of these hospitalizations would be approximately $4 billion dollars.

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Yet there is some reason to think this estimate of hospitalization rates may be too high. As the most recent version of the IHME model (https://covid19.healthdata.org/united-states-of-america) has greatly reduced the projected number of deaths, the estimated hospitalization levels have also been revised downward. The current high end of the IHME estimate of hospital bed-days is approximately 6 million. Assuming a conservative length of stay of about six days, this implies about 1 million hospitalizations in total, or an adult population hospitalization rate of about 0.34 percent, about 15 percent as high as the rate assumed in the AHIP model. Assuming the same unit costs, this suggests 600,000 hospitalizations in the commercial market with an estimated cost of $11 billion, and 34,000 hospitalizations at a cost of $623 million in the individual market.

For some perspective, the individual market in 2019 reported (https://www.markfarrah.com/products/health-coverage-portal/) about 650,000 total inpatient hospitalizations and total premium revenue of nearly $65 billion. The higher estimate derived from the AHIP assumptions yields a number of covid hospitalizations that is about one-third the size of all hospitalizations in 2019, and an associated cost that is about 6 percent of premium revenues. The lower estimate puts the number of hospitalizations at about 5 percent of 2019's total and an associated cost of about 1 percent of premium revenues. Combining these lower hospitalization estimates with assumptions about more widespread testing, it is not impossible to imagine a scenario where testing ends up costing more than treatment. If each member of the individual market is tested once at an average cost of $200, for example, testing costs could reach $2 billion dollars.

Changes in Use of Other Health Care Services

Non-COVID-19-related health care costs are down, but the future is uncertain

The extra testing and treatment costs associated with the novel coronavirus are being offset by significant reductions in other health care services, since elective procedures have been postponed in most places. Non-COVID-19 emergency room visits are reportedly down by approximately 30 percent (https://www.documentcloud.org/documents/6834618-ACEP-Follow-Up-Letter-to-Secretary-Azar-on-CARES.html) . There is a sharp drop in office visits, with some practices reporting a 70 percent decline (https://jamanetwork.com/channels/health-forum/fullarticle/2764547) in volume. The reduction in office visits reduces the volume of new prescriptions. Many office-based providers are experiencing significant cash flow problems. Some are closing their offices and laying off workers, while others are requesting early reimbursements and/or loans from carriers to keep their practices open. Some of these appointments and procedures will be rescheduled later in the year or in 2021, but many will not. Some of this delayed or foregone treatment will worsen patient outcomes, which could increase costs for some non-COVID-19 patients who did not receive needed care. If providers return to non-COVID-19 treatment in Fall of 2020, many insured individuals will be incentivized to get treatment this year since they may have met their deductibles and perhaps even their out-of-pocket annual maximum with COVID-19 treatment.

Impact of Recession

Recession is a wild card

The economic catastrophe wrought by the novel coronavirus could affect individual market carriers in multiple ways. Recession will be a first-time experience for the individual market, which even in good times is particularly prone to membership churn. The downturn has the potential to increase enrollment, as some new members may arrive from the group market. Yet there will also be an outflow, as self-employed members with eroding income may migrate to Medicaid. The specifics will vary by the characteristics of labor markets and state Medicaid expansion status, but a considerable amount of churn seems inevitable. The unsettled nature of the labor market will likely persist into 2021 and continue to impact open enrollment. Another feature of a recession is a greater potential for premium non-payment, and a number of states are considering the extension of grace periods (https://www.shvs.org/grace-periods-a-good-start-but-not-sufficient/) . On the other hand, the combination of high deductibles and low incomes may continue to drag down demand for health care services even after the pandemic has subsided, a tendency which could be more evident in the individual market where deductibles are higher than those in the employer market.

Outlook uncertain for carriers and premium costs

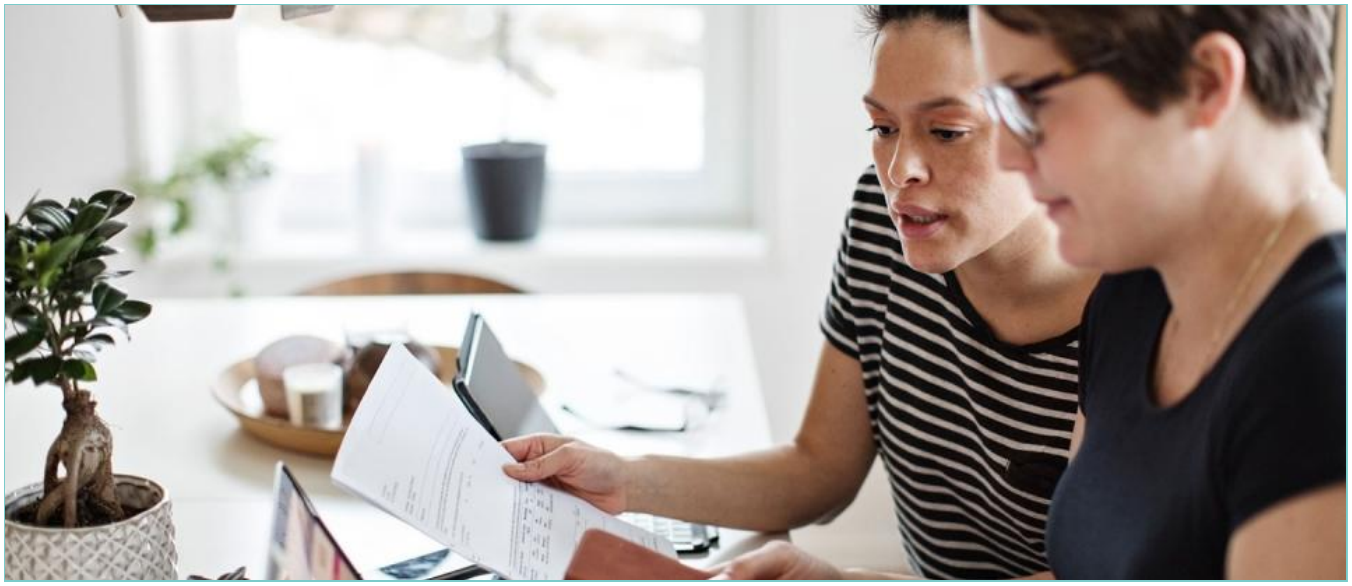
There are currently no widespread concerns about insurer solvency. In fact, current trends are probably favorable in the short run, as the benefits of reduced demand for care are being realized before most of the claims costs associated with coronavirus hit. The recent United Health Group earnings announcement (https://www.unitedhealthgroup.com/investors.html) for the first quarter of 2020 is consistent with this scenario. Some carriers have advanced payments or made loans to providers, suggesting a degree of financial comfort. Those that are diversified nationally and with other segments of the health industry will be in a stronger position. For those that are challenged, the nature of their reinsurance may make a difference. Novel coronavirus costs may involve many members, but lack the astronomical per-patient costs associated with some rare diseases. Carriers with reinsurance that has an aggregate stop-loss—one which is triggered by total cost—will be better served than those with stop-loss coverage based on the cost of individual claims.

In the next few months, individual market carriers must submit proposed rates for initial regulatory review. These rate submissions should reflect projected costs in 2021 rather than current costs, so expectations about the future are important. In that regard, there are many unknowns. There will be costs associated with COVID-19—hopefully a vaccine, but also potentially much more testing and treatment if there is another wave of infection before a vaccine is developed. The question of how much currently delayed care will take place next year is another key factor for consideration. Finally, the recession will continue to affect both members and providers. Deterioration in provider finances may lead to requests for increased rates or different payment terms. A recession will likely change the size and composition of enrollment and could continue to depress health care spending into next year, as members with high deductibles conserve their resources. The establishment of premiums for 2021 will reflect expectations about a newly uncertain future.

The Commonwealth Fund

Catastrophic Out-of-Pocket Health Care Costs: A Problem Mainly for Middle-Income Americans with Employer Coverage

April 17, 2020 | Sherry A. Glied and Benjamin Zhu



ABSTRACT

- **Issue:** Many studies report that high out-of-pocket health spending is an increasing problem, despite expanded insurance coverage under the Affordable Care Act (ACA). Little is known about how Americans' out-of-pocket spending has changed over time.
- **Goals:** To observe trends in high out-of-pocket spending and describe the distribution and composition of out-of-pocket spending over time, focusing on the top 5 percent and 1 percent of spenders.
- **Methods:** Analysis of Medical Expenditure Panel Survey (MEPS) data.

- **Key Findings and Conclusions:** Expansions in insurance coverage and in the quality of coverage through the ACA have protected most Americans from high out-of-pocket costs. Recently, however, out-of-pocket costs for the highest out-of-pocket spenders (the 99th percentile) have been increasing. In 2017, one in 100 Americans under age 64 spent $5,000 or more out of pocket for medical services, and about one in 20 spent more than $1,700. High out-of-pocket spending mostly affects those with employer coverage and those with incomes above 400 percent (and, in particular, above 600 percent) of the federal poverty level. The plurality of this spending is for physician services. High deductibles and out-of-pocket maximums in private insurance, combined with exposure to out-of-network bills for physician services, leave many Americans facing very high out-of-pocket costs.

Introduction

Americans are increasingly concerned about the high cost-sharing requirements in their health insurance coverage.[1] According to federal data, average deductibles in employer plans more than doubled between 2008 and 2017, from $869 to $1,808.[2] Although most Americans have insurance coverage, only 62 percent of adults in a recent Commonwealth Fund survey reported they were very or somewhat confident in their ability to afford health care, while those earning less than 250 percent of the federal poverty level (FPL) — $12,490 for a single person and $21,330 for a family of three in 2019 — were even less confident.[3]

Despite recent increases in cost-sharing requirements, both average per capita out-of-pocket spending and the out-of-pocket share of national health expenditures have remained relatively flat in the past 15 years.[4] Analysis of average out-of-pocket spending, however, may offer a misleading picture of the risks people, especially those with serious illnesses, face.

Health care spending is highly concentrated among the highest spenders. In 2016, the top 5 percent of spenders accounted for half of health care spending, spending about $50,000 annually.[5] Out-of-pocket spending was similarly concentrated: the highest 5 percent accounted for 46 percent of overall out-of-pocket spending.[6]

Very high out-of-pocket expenses may have dangerous consequences: high costs have been linked to poor medication adherence and treatment delays in patients with rheumatoid arthritis, kidney disease, diabetes, oral cancer, and breast cancer.[7] We find that, in 2017, one in 100 Americans under age 65 spent $5,000 or more out of pocket for medical services, and about 1 in 20 spent more than $1,700. Protecting people from such catastrophic spending is among the most important roles of health insurance.

Many provisions of the Affordable Care Act (ACA) were designed to help reduce the incidence of high out-of-pocket spending. Nearly 20 million more Americans now have health insurance coverage than before the ACA took effect, and the duration of coverage gaps also has declined.[8] The ACA's expansion of access to preventive services without copayments reduced out-of-pocket bills for these services, while the elimination of annual and lifetime maximums provided financial protection to those with the highest medical costs.[9] Current coverage offered in the individual market has more generous benefits and lower cost-sharing provisions than was the case before the ACA. In[10] 2019, ACA-compliant coverage could not have an out-of-pocket maximum above $7,900 for individuals and $15,800 for families.[11] While these out-of-pocket requirements are lower than those seen in the individual market before the ACA, these deductibles and out-of-pocket maximums remain very high relative to household incomes.

Other developments in health care markets have increased the risks of high out-of-pocket spending, especially among those with employer-sponsored insurance. Since 2003, tax policy has encouraged employers to offer high-deductible insurance plans with tax-favored health savings accounts. Today, 19 percent[12] of employees are enrolled in such plans, but few — only 5 percent of taxpayers in 2014 — contributed to their health savings accounts.[13]

This issue brief examines trends in the level and distribution of high out-of-pocket spending across insurance coverage, age, and income categories. Focusing on the population under age 64, we examine trends in out-of-pocket spending at the 50th, 75th, 90th, 95th, and 99th percentiles. We then examine the composition of spending among those in the top 5 percent and 1 percent of the spending distribution.

Findings

Between 1996 and 2006, out-of-pocket spending (adjusted for economy-wide inflation) increased rapidly for most Americans (Exhibit 1). At the median, out-of-pocket expenses over this period increased by 19 percent. Since 2006, however, patterns have diverged considerably across the spending distribution. For those who spend very little out of pocket on health care (about three-quarters of the population), out-of-pocket spending has fallen. Between 1996 and 2017, out-of-pocket spending at the lower end of the spending distribution declined, from $65 to $33 at the 50th percentile and from $285 to $260 at the 75th percentile.

Add to ChartCart

For those with higher levels of out-of-pocket spending (above the 90th percentile), spending was relatively flat between 2006 and 2014, and then dropped sharply in 2014. Since 2014, however, out-of-pocket spending has begun to increase again among those at the 99th percentile of the spending distribution.

Increases in out-of-pocket spending have been most apparent among those holding employer coverage.

Because of fairly steady annual increases over a decade, inflation-adjusted out-of-pocket expenses among the top 1 percent of spenders with employer-sponsored coverage in 2017 were 15 percent higher than in 2007 (increasing from $4,675 to $5,426) (Exhibit 2).

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Increases in spending at the 99th percentile are also evident in the individual health insurance market, where out-of-pocket expenses have consistently been much higher. Because the individual market is small, we report three-year moving averages for this population (Appendix Exhibit 1). From 2015 to 2017, the top 1 percent of spenders in the individual market spent, on average, more than $10,509 out of pocket annually, up 9 percent from $9,679 in 2005 to 2007.

Policy changes have afforded much more risk protection to low-income groups but have increased out-of-pocket risk for higher-income groups.

Exhibit 3 shows the spending trend among the top 5 percent of out-of-pocket spenders within each income group.

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In 2001, about one in 20 people in households with incomes above 400 percent of FPL (about $81,700 for a family of three) and about one in 20 people in households with incomes below 100 percent of FPL (about $21,300 for a family of three) each spent more than $1,300 on out-of-pocket medical expenditures. By 2017, spending patterns in the two income groups had diverged. The top 5 percent of spenders in higher-income households spent about $2,200 on out-of-pocket expenses, 70 percent more than in 2001. Meanwhile, the top 5 percent of spenders in the lowest income households spent about $650 out of pocket, half as much as in 2001.

The main reason for this divergence is that before 2014, many high out-of-pocket spenders were uninsured, and most uninsured people had lower incomes.[4] Since then, there has been a substantial reduction in the share of very high out-of-pocket spenders who are uninsured (Exhibit 4). In 2006, 28 percent of those in the top 5 percent of out-of-pocket spenders and 32 percent of those in the top 1 percent had spent at least part of the year uninsured. In 2017, only 16 percent of those in the top 5 percent and 20 percent in the top 1 percent had spent any time uninsured.

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This reduction in the percentage of the uninsured population means that a greater percentage of the highest out-of-pocket spenders today have employer-sponsored and individual health insurance coverage. Among those in the top 1 percent of spenders, the proportion that had been insured all year rose from two-thirds in 2009 to 80 percent in 2017.

An even more striking shift has occurred by income, especially since 2014 (Exhibit 5). Most of the new coverage options available through the ACA expansions were targeted at those with incomes below 400 percent of FPL. Improvements in the quality of coverage since 2014 also have benefited lower-income people. Medicaid expansions, cost-sharing subsidies, and improvements in the scope of private insurance under the ACA have led to absolute reductions in out-of-pocket spending among those with incomes below 400 percent of FPL within each insurance category.

Consistent with this pattern, the share of high out-of-pocket spenders with lower incomes has declined substantially. In 2013, 49 percent of those in the top 5 percent of out-of-pocket spending had incomes below 400 percent of FPL. In 2017, that share had fallen to 39 percent. Conversely, the share of those in the top 5 percent of spending in the highest income groups rose; the percentage of the highest spenders with incomes over 600 percent of FPL rose from 25 percent in 2013 to 35 percent in 2017.

Reductions in out-of-pocket spending among lower-income groups might have occurred because of better insurance protection — but they might also have occurred because high cost-sharing reduced overall service use in these groups. To assess this possibility, we examined how total spending for these groups changed over time. Both the 95th percentile of total health care spending and average total health care spending among those in the top 5 percent of out-of-pocket spenders increased similarly for all income groups during this period (Appendix Exhibits 2 and 3). These patterns suggest that better risk protection, rather than less utilization, explains the reduced out-of-pocket spending of lower-income groups.

Physician services, not prescription drugs, account for a greater share of out-of-pocket spending among high spenders.

Finally, we examined trends in out-of-pocket spending on specific services among high spenders (Exhibit 6). Average out-of-pocket spending on prescription drugs peaked in 2006 but has declined quite steadily since then. Average out-of-pocket spending on hospital and emergency care has remained relatively stable over time. Average out-of-pocket spending on physician care, however, has been increasing since 2014.

The consequence of these patterns is that retail prescription drug costs have diminished as a share of out-of-pocket spending among high spenders (Exhibit 7). In 2003, about 55 percent of all spending among those in the top 5 percent of the spending distribution was for prescription drugs. In 2017, only 24 percent of all spending for these high spenders went toward prescription drugs. By contrast, the share of spending among the top 5 percent of spenders that went to physician and related services rose from 27 percent in 2003 to 44 percent in 2017.

We see similar patterns when we focus only on those with private insurance. These findings are consistent with a recent analysis of National Health Expenditure Accounts data, which similarly show that per capita out-of-pocket spending on prescription drugs has decreased since the mid-2000s, both as a share of spending and in absolute value, while out-of-pocket spending on physicians and hospitals has been increasing.[15]

The growing share of out-of-pocket spending that pays for physician services may reflect, in part, increased use of out-of-network services, both through surprise bills and other out-of-network uses. Health insurance plans typically provide much more limited financial protection for out-of-network use than for in-network use,

including higher cost-sharing, higher out-of-pocket maximums, and no limitations on provider balance billing. Recent research shows that a large number of privately insured patients face unexpected out-of-network physician bills.[16]

Policy Implications

As prior analysts have observed, rising cost-sharing requirements and concerns about out-of-pocket exposure do not correspond to rising out-of-pocket spending levels on average. We find, however, that out-of-pocket spending has been increasing since 2014 among Americans with the highest out-of-pocket spending levels. Those with private insurance and those with incomes above 400 percent of FPL (and especially above 600 percent of FPL) have been most affected by rising out-of-pocket costs.

Several factors likely drive these results. First, the ACA insurance expansions led to increases in the number of people with health insurance, reducing the share of high spenders who are uninsured. Second, particularly for those with low incomes, the ACA provided much better protection against out-of-pocket costs. Third, the proliferation of high-deductible plans with health savings accounts among people in these higher income groups may lead to higher out-of-pocket spending in this group.

One concern is that the growing share of high spenders who have higher incomes reflects a reduction in total health care utilization among those with lower incomes. We do not find evidence of this pattern — total spending for all groups has increased over this period. We also find that a growing share of out-of-pocket costs among those with high out-of-pocket spending goes toward paying for physician services. This increase may be, in part, because of the rise of surprise (and nonsurprise) bills for out-of-network physician service use.

Our results show that out-of-pocket spending for most Americans has been flat or declining, and that for most people, the ACA has reduced the risk of very high out-of-pocket spending. However, we also find that a small percentage of Americans increasingly bears the brunt of high out-of-pocket costs. High deductibles and out-of-pocket maximums shift the burden of health care costs away from premiums paid by the average insured person to those with serious illnesses and substantial health service use. This pattern undermines a principle purpose of health insurance: to protect people against catastrophic expenses.

HOW WE CONDUCTED THIS STUDY

We analyzed Medical Expenditure Panel Survey (MEPS) data from 1996 to 2017 and excluded all respondents age 64 or older to focus on the nonelderly population. The analysis excluded dental care, home health care, and vision care. The median, mean, 75th percentile, 90th percentile, 95th percentile, and 99th percentile of out-of-pocket spending were then calculated across various insurance statuses and income groups.

The second part of the analysis, which was restricted to the top 5 percent and top 1 percent of out-of-pocket spenders in a given year, examined the composition of these populations by insurance status and income group. Results were confirmed by comparing trends of spending in the Current Population Survey by insurance coverage, income categories, age categories, and racial categories from 2011 to 2018.

ACKNOWLEDGMENTS

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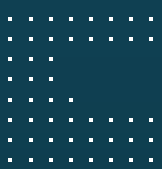
U.S. Health Reform—Monitoring and Impact

Perspective from Brokers: The Individual Market Stabilizes While Short-Term and Other Alternative Products Pose Risks

April 2020

By Sabrina Corlette, Erik Wengle, Ian Hill, Olivia Hoppe



Robert Wood Johnson Foundatio

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With support from the Robert Wood Johnson Foundation (RWJF), the Urban Institute is undertaking a comprehensive monitoring and tracking project to examine the implementation and effects of health reform. The project began in May 2011 and will take place over several years. The Urban Institute will document changes to the implementation of national health reform to help states, researchers and policymakers learn from the process as it unfolds. Reports that have been prepared as part of this ongoing project can be found at **www.rwjf.org** and **www.healthpolicycenter.org**.

EXECUTIVE SUMMARY

Changes in federal and state policy have caused turmoil in the individual health insurance market in the last several years. For policymakers and other stakeholders, it is important to understand how these changes have affected consumers' access to affordable, high-quality coverage. Health insurance brokers sell almost half of all Affordable Care Act (ACA) marketplace policies, as well as many non-ACA-compliant products, such as short-term plans. Thus, brokers are a critical resource for understanding the impact of policy changes on consumers' health insurance experiences.

In this study, we assess market trends in seven states—Colorado, Georgia, Iowa, Mississippi, New Hampshire, Texas, and Utah—through a review of insurer participation, premiums, and enrollment data and through structured interviews with health insurance brokers.

Findings

Consistent with national trends, the individual market appears to be stabilizing in our seven study states. At least as many insurers are participating in each state's marketplace as did in 2018, and five of the seven states have more participating insurers in 2020. Marketplace plan selections have also remained stable in our study states, with increases in five states and small, single-digit reductions in the other two. After a few years of significant hikes, average benchmark premiums in our study states have been moderating.

Brokers Report Improved Competition and Products in ACA Marketplaces but Continued Concern over Narrow Networks

Brokers universally welcomed the additional insurer competition in their state marketplaces. In at least a few cases, the new insurers built their networks using different providers, giving consumers new choices of both insurers and providers. At the same time, individual market insurers are continuing to offer only health maintenance organization–style products, and brokers expressed frustration about the lack of plans with preferred provider organization networks.

Incentives to Serve Individual Market Consumers Have Improved but Are Still Limited

Several brokers have either stopped marketing their services to individual market consumers or have discontinued selling marketplace plans altogether. Though brokers cited several factors for this trend, the precipitous decline in compensation for selling ACA-compliant individual policies has been a significant factor. However, several brokers noted that some insurers have increased their compensation slightly as insurer competition has increased. Conversely, brokers across our study states reported that compensation for selling short-term plans and other products that do not comply with the ACA is significantly more generous than that for selling ACA-compliant plans.

Coverage Affordability Remains a Top Concern

Several brokers reported that declines in average benchmark premiums resulted in net premium *increases* for their clients eligible for ACA subsidies. Brokers noted that these enrollees, though still protected from the full cost of the premium, had to pay more for their coverage than they did the prior year

because their subsidy amount decreased. However, brokers' unsubsidized clients were generally happy about, though often confused by, the decline in their premiums. At the same time, brokers reported that premiums for people remaining in transitional policies have been rising faster than premiums for ACA-compliant coverage in recent years.

Better Prices and Products in the Employer Group Market Limit Use of Health Reimbursement Arrangements and Attract Sole Proprietors

The Trump administration has touted Individual Coverage Health Reimbursement Arrangements (ICHRAs) as mechanisms to encourage employers that have not heretofore offered a health benefit to workers to do so. Brokers reported that few to no employers have taken up individual coverage health reimbursement arrangements.

Brokers in three of our study states—Iowa, Utah, and Texas—reported that their clients have benefited from the relaxation of rules prohibiting the self-employed from purchasing small-group market health plans. Several brokers noted that they work to offer clients that option whenever possible.

Brokers Hold Mixed Views on the Value of Alternative Coverage Options

Despite federal rules designed to expand their sale, short-term plans have been slow to get off the ground, according to brokers in our study states, and few of the brokers with whom we spoke had positive opinions of short-term plans. Several noted these plans' risks for clients with preexisting conditions, but others thought they were a good option for healthy people who could not afford ACA-compliant coverage.

Health care sharing ministries (HCSMs) are another form of coverage that does not have to comply with the ACA's consumer protections. Though brokers reported that HCSMs have been actively marketing to consumers in their states, most were reluctant to sell HCSM coverage, primarily because it is not insurance.

Several brokers also expressed concerns about association health plans, which the Trump administration has promoted as a more affordable alternative to ACA-compliant insurance. Many brokers described very negative experiences with association health plans that existed before the ACA.

Companies selling fixed indemnity plans, which provide a fixed dollar amount for specified health care services, often market their products as cheaper substitutes for comprehensive, ACA-compliant insurance. The brokers we interviewed almost universally criticized these products, citing their caps on benefits and skimpy coverage.

Conclusion

Brokers in our study generally felt positive about moderating premiums and the introduction of new participating insurers in the individual market. However, though they applauded signs of stabilizing and even healthier markets, many noted that premiums are still unaffordable for many consumers, and they criticized the lack of broader network options. Many brokers expressed interest in the new ICHRAs but reported that where legally permissible, they direct individual market clients to the group market to take advantage of better rates and products, not the other way around.

Though the brokers in our study generally appreciated the availability of alternative coverage options, such as short-term plans and HCSMs, many refuse to sell products they view as overly risky for consumers, despite the higher compensation brokers receive for selling those products.

INTRODUCTION

Changes in federal and state policy have buffeted the market for individual health insurance in the last several years. Such market shocks include Congress's repeal of the penalty for failing to maintain insurance coverage, the expansion of short-term and association health plans (AHPs) as cheaper alternatives to coverage that meet Affordable Care Act (ACA) standards, and the introduction of Individual Coverage Health Reimbursement Arrangements (ICHRAs) through which employers fund employee accounts for purchasing individual health insurance. At the same time, states have taken increasingly diverse approaches to regulating the individual market; some have worked to maintain or expand robust enrollment in ACA plans, while others have facilitated the sale of short-term plans or other alternative options, such as Farm Bureau health plans and health care sharing ministry (HCSM) memberships.

Policymakers and other stakeholders need to understand how these changes have affected consumers' access to affordable, high-quality coverage. Currently, almost half of ACA marketplace plans are sold through an insurance broker[1]; many short-term, AHP, Farm Bureau, and HCSM products are also sold through brokers. Thus, brokers are a critical resource for understanding the impact of policy changes on consumers' experiences with individual market coverage. Through a review of market trends in seven states and structured interviews with brokers who sell insurance products to individuals, we assess how consumers are affected by the evolving policy environment.

APPROACH

This study assesses trends in premiums, insurer participation, and enrollment in seven states—Colorado, Georgia, Iowa, Mississippi, New Hampshire, Texas, and Utah.[2] We chose these states to reflect geographic diversity and because they had all experienced recent individual market instability or policy changes. In addition to scanning market trends, we conducted structured interviews with 18 insurance brokers across the seven states between January 9 and February 10, 2020.

Insurance markets differ across states, making it difficult to extrapolate the findings from our seven study states to the nation. All the brokers interviewed for this study sell insurance in the individual market, and many sell both ACA-compliant and alternative (non-ACA-compliant) health coverage options. Most primarily serve people in their communities and generate customers largely through referrals, instead of actively marketing themselves to individual market clients. Many of the brokers primarily serve people whose income makes them unlikely to qualify for Medicaid or significant premium tax credits (PTCs), though by necessity, these brokers have become adept at navigating consumers through determining eligibility for subsidies.

BACKGROUND

The ACA reformed the individual health insurance market with the goal of making insurance more affordable, adequate, and accessible. In the two years after ACA implementation, enrollment in the nongroup market increased 81.5 percent, from 12.5 million people in 2013 to 21.2 million people in 2016.[3] However, that number declined to 18.9 million by 2018.[3,4] Most people leaving the individual market have had incomes above 400 percent of the federal poverty level and thus were ineligible for ACA subsidies.[5]

One critical ACA implementation decision contributed to early market instability: in 2013, the Obama administration gave states the power to exempt certain health plans issued after March 2010 but before 2014 (called transitional plans) from many of the ACA's consumer protections. Consequently, insurers in most states could retain enrollees that had passed the insurer's underwriting standards and were healthier, on average, than those signing up for ACA-compliant plans.[6]

More recently, an improved economy and federal policy changes, such as the deep cuts to marketplace advertising and consumer assistance budgets, repeal of the individual mandate penalty, and promotion of short-term plans, have likely contributed to the decline in individual market enrollment. Evidence suggests that the sale and marketing of other cheaper, non-ACA-compliant products, such as HCSMs, fixed indemnity products, and Farm Bureau plans (available in three states), have also grown, though no national enrollment numbers for these products are available (Table 1).[7]

Table 1. Alternative Coverage Options in the Individual Market

Type	Description
Transitional plans	Individual health insurance policies purchased between March 23, 2010, and January 1, 2014. At state option, insurers are permitted to renew existing enrollees. These plans are exempt from many ACA consumer protections, including the ban on health status underwriting.
Short-term, limited-duration insurance	Insurance products originally designed to fill temporary gaps in coverage but now allowed to be sold in most states for 364 days' worth of coverage, which can be renewed for up to three years. Generally, consumers must pass medical underwriting to enroll in the plan, and the plans do not cover preexisting conditions. In most states, these policies do not have to meet any of the ACA's consumer protections.
Association health plans	Health insurance plans sponsored by an employer-based association, such as a professional or trade group. Federal rules adopted in 2018 would allow association health plans (AHPs) to be sold to employers of all sizes, including the self-employed. Such rules would treat the AHP as a large employer group plan for the purpose of federal law, rendering the AHP exempt from ACA consumer protections that otherwise apply to individual and small-employer health insurance. Though the federal rules are on hold pending the outcome of litigation, AHPs could have a significant impact on the individual market if they become widely available.
Health care sharing ministries	Entities that ask their members to adhere to a set of religious beliefs and contribute funds to pay for other members' qualifying medical expenses. Health care sharing ministry coverage is not insurance and does not have to meet any ACA consumer protections.
Fixed indemnity plans	Policies that generally pay a fixed dollar amount per health care service, regardless of the actual cost of the service. They are not considered health insurance under federal or state laws and do not have to meet any ACA consumer protections.
Farm Bureau plans	Health plans sponsored by Farm Bureau associations that have been exempted from state insurance regulation. As such, they are exempt from the ACA consumer protections. They are currently available in Iowa, Nebraska, and Tennessee.

Conversely, the federal government adopted rules in 2019 that could expand enrollment in individual market health insurance. Beginning January 1, 2020, employers are allowed to offer employees an Individual Coverage Health Reimbursement Arrangement (ICHRA) in lieu of a group health plan. The ICHRA is a tax-exempt account, funded by the employer, that can be used to reimburse employees' premiums for individual market, ACA-compliant coverage.[8] Employees offered an ICHRA may not qualify for premium subsidies for marketplace coverage, unless they can demonstrate that after-ICHRA premiums for the lowest-cost silver-level marketplace plan available would exceed a specified percentage of their household income (currently 9.78 percent), adjusted annually. How popular ICHRAs will be with employers is unclear.

Though the proportion of consumers using brokers to enroll in a marketplace plan has grown, the number of brokers selling individual market coverage has declined significantly.[9] Insurers have reduced brokers' compensation for selling individual market policies since enactment of the ACA, because they were pressured to reduce administrative and marketing costs. Further, many insurers suffered significant financial losses on marketplace plans from 2014 to 2016, causing them to reduce brokers' commissions even further.[9] At the same time, evidence shows that companies marketing alternative coverage products, such as short-term plans, HCSMs, and fixed indemnity plans, offer significantly higher commissions than those available for ACA plans to encourage brokers to sell these products.[10]

Consistent with National Trends, Studied Markets Are Stabilizing

Nationally, marketplace plan premiums have declined for two consecutive years (2019 and 2020), while insurer participation in the marketplaces has increased.[11] This follows a tumultuous 2017–18 enrollment period, where many states experienced large, double-digit—sometimes even triple-digit—percent increases in state average benchmark premiums for the 2018 plan year (Table 2). Our seven study states have generally followed these national trends. All seven states have at least as many insurers participating in their marketplace as they had in 2018, and five of the seven states have more participating insurers in 2020 (Table 2).

Table 2: Marketplace Participation, Changes in Average Benchmark Premiums, and Marketplace Plan Selections, 2018–20

State	Number of Insurers Participating in the Marketplace			Percent Change in Benchmark Premium		Marketplace Plan Selections*			Percent Change in Plan Selections	
	2018	2019	2020	2018-19	2019-20	2018	2019	2020	2018-19	2019-20
Colorado	7	7	8	16	-24	165,777	169,762	167,000	2	-2
Georgia	4	4	6	-4	14	480,912	458,437	464,061	-5	1
Iowa	1	2	2	-11	-4	53,217	49,210	54,596	-8	11
Mississippi	1	1	2	-5	-2	83,649	88,542	98,868	6	12
New Hampshire	3	3	3	-18	5	49,573	44,581	44,496	-10	0
Texas	8	8	8	2	1	1,126,838	1,087,240	1,117,882	-4	3
Utah	2	3	5	-4	-7	194,118	194,570	201,272	0	3

Sources: Premium data are authors' calculations based on data taken from Helathcare.gov premium data files and Connect for Health Colorado for all three years, found at https://www.healthcare.gov/health-and-dental-plan-datasets-for-researchers-and-issuers/ and https://planfinder.connectforhealthco.com/.

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**Notes: Plan selections reflect the number of consumers who have selected a marketplace plan during the annual open enrollment period (November 1–December 15 in most states). Marketplace selections for 2020 are rounded to the nearest thousand, whereas previous years include exact numbers of plan selections.*

Nationally, marketplace enrollment has stayed generally constant in 2020.[12] Among our study states, two had minor declines in plan selections this year (0.02 percent in New Hampshire and 2 percent in Colorado). The remaining states all saw increases in plan selections in 2020. Further, premium trends in our study states have been moderating after a few years of significant hikes. All study states but Georgia experienced either a decline or only a slight increase in benchmark premiums in 2020.

State-level policy and market conditions can affect the overall stability of the individual market. Colorado's establishment of a reinsurance program in 2019 helped lower premiums, and Colorado's and New Hampshire's decisions to limit the sale of underwritten short-term plans may have helped stem the flow of healthy marketplace enrollees into those products.[13] Conversely, Iowa deciding to allow the renewal of transitional policies in 2013, and the state's dominant individual market insurer (Wellmark) deciding to retain most of its membership in those plans has resulted in a smaller, sicker ACA-compliant market in that state.[14] Iowa arguably doubled down on this policy in 2018 by exempting plans sold by the state's Farm Bureau from state and federal insurance standards, including protections for people with preexisting conditions. Iowa's Farm Bureau plans are underwritten, meaning they screen out consumers with health issues. Though it is too soon to tell if the Farm Bureau plans will siphon off a significant share of healthy enrollees from the individual market, they could do so.

FINDINGS

Brokers Report Improved Competition and Products in ACA Marketplaces but Continued Concern over Narrow Networks

The widespread moderation in premiums for ACA coverage primarily owes to insurers' increased financial stability in the marketplaces, as well as increased competition from new market entrants.[5] Most of our study states had new insurers enter the individual market this year, and no states lost an insurer. Brokers universally welcomed the additional competition, but many observed that the new companies had not yet worked to educate brokers about their products or ingratiate themselves with the broker community. However, some brokers were pleased to offer consumers new options, particularly because insurers in their markets exclusively offer health maintenance organization (HMO) or exclusive provider organization products, with no out-of-network coverage. (See text box.) Brokers noted that at least a few new insurers built their networks using different providers, giving consumers new choices of both insurers and providers. An Iowa broker suggested that "bad press" for Wellmark led it to reenter the market with a plan covering 98 percent of doctors in the state, presumably to woo customers away from its marketplace competitor. Conversely, the lack of any competition in some Georgia counties strengthened those counties' sole insurer, Ambetter. "Their network grew substantially because they were the only game in town," reported a broker. Doctors "understood it's either take them or leave them because it's the only insurance [people have]," said a broker who also noted that a new insurer entering into the market prompted Ambetter to improve some of its plans by reducing deductibles.

Preferred provider organization: A health plan that contracts with a network of providers. Enrollees pay less in cost sharing if they use providers in that network but can see providers outside the network at an additional cost.

Health maintenance organization: A health plan that only covers care from providers under contract. The plan generally will not cover out-of-network care except in an emergency and will require a referral to see a specialist.

Exclusive provider organization: A health plan that covers only services provided by in-network providers. It generally will not cover out-of-network care except in an emergency.

Despite these improvements, brokers in our study found that many consumers disliked not having preferred provider organization (PPO) products available to them, particularly those transitioning from employer-sponsored insurance to a marketplace plan. "You can't go anywhere because the networks are so small," observed a New Hampshire broker. A Texas broker noted that many of her clients would rather pay significantly higher premiums through a COBRA policy than transition to a narrow-network HMO product. Brokers also mentioned that many plans exclude the marquee regional hospital system in their areas.

Incentives to Serve Individual Market Consumers Have Improved but Are Still Limited

The brokers in our study reported limited incentives for selling ACA-compliant individual market products. Several have either stopped actively marketing their services to individual market consumers (instead operating only through referrals) or chosen to discontinue selling marketplace plans altogether. Some reported that they only work with individual market clients at the request of an employer client, or to help a Medicare Advantage client obtain a policy for a family member. "I have all these referrals," said one broker, "but I lose money on most of them. … [Working with individual market consumers] is just not a good business plan." Brokers identified four primary reasons the individual market was unattractive for them.

- First, keeping up with constantly changing public policies at the state and federal levels is challenging.
- Second, helping consumers receive a determination of eligibility for ACA marketplace subsidies can be a long and complicated endeavor, particularly for those with multiple family members or sources of income.
- Third, technical issues with the marketplace platform have been challenging, including glitches in the system's ability to record when a broker has assisted someone (and thereby enabling the broker to be paid).
- Lastly, brokers almost universally cited the precipitous decline in commissions from insurance companies since ACA enactment.

One broker noted that before the ACA, it was common to receive 10 percent of the premium for selling and servicing a plan. Thus, for a plan with a $1,500 per month premium, the broker would receive $150 per month for the life of the policy. Today, many insurers have switched to a per member, per month flat rate, which this broker said ranged from $6 to $18 in his market. Other brokers reported commissions averaging 1 to 2 percent of a plan's premiums. However, more recently, brokers in a few of our study states reported that insurers have begun increasing their commissions slightly, perhaps in response to increased competition from other insurers.

As one Utah broker observed, insurers have "actually increased commissions over the past couple of years … and they're all now paying commissions for [special] enrollments," which insurers had previously eliminated.

By contrast, brokers across our study states reported that compensation for selling short-term plans, HCSMs, and fixed indemnity plans is more generous than that for selling ACA plans. Fixed indemnity insurers offered one broker as much as a 25 percent commission to sell their plans. Another broker reported that short-term-plan insurers were offering commissions between 15 and 28 percent. HCSMs tend to offer similarly generous compensation, with brokers reporting commissions between 15 and 30 percent. This partly owes to alternative health insurance plans not being subject to the medical loss ratio regulations required of ACA-compliant plans. By law, at least 80 percent of premium dollars for ACA-compliant plans must be spent on medical care, limiting the size of broker commissions.

Coverage Affordability Remains a Top Concern

Though average premiums either declined or increased only modestly in 2020, brokers reported that this trend had disparate impacts on marketplace enrollees, depending on whether they were eligible for PTCs. In each study state where premiums declined, all brokers reported that their subsidized clients were slightly worse off in 2020 than they had been in previous years, because the PTC amount they receive is pegged to the price of the benchmark plan. As that price declines, so, too, do PTCs. Brokers noted that subsidized enrollees, though still protected from the full cost of the premium, still had to pay more for their coverage than they did the prior year. People with subsidies "got hit the hardest," said a Colorado broker. "Especially bronze [plan enrollees] with a subsidy … their rates went up … and we had to explain how the subsidies went down. … From their standpoint, it makes no sense," the Colorado broker continued. Table 3 illustrates how the net premium paid by enrollees can vary based on the price of the benchmark silver plan.

Table 3. State Average Lowest-Cost Bronze and Benchmark Monthly Premiums for a 40-Year-Old Nonsmoker, 2019–20 (in dollars)

State	Lowest-Cost Bronze, 2019	Benchmark, 2019	Lowest-Cost Bronze, 2020	Benchmark, 2020	Lowest-Cost Bronze 2019, after APTC[a]	Lowest-Cost Bronze 2020, after APTC
Colorado	363	496	292	374	0	53
Georgia	338	457	342	438	13	39
Iowa	442	731	367	689	0	0
Mississippi	455	521	422	484	66	73
New Hampshire	303	402	303	405	33	34
Texas	297	419	279	415	11	0
Utah	287	539	286	481	0	0

Source: Authors' calculations based on data from Healthcare.gov and Connect for Health Colorado.

Notes: APTC = advanced premium tax credits.

[a] Advanced premium tax credits were calculated for a person with income at 200 percent of the federal poverty level.

However, brokers in these states reported that consumers ineligible for subsidies were generally pleased that their rates went down, though some were surprised and confused. "More clients were questioning why their rates went down … because that doesn't usually happen," one broker said.

Across all seven states, brokers reported that many of their clients cannot afford ACA coverage, particularly those ineligible for subsidies. In addition to the high premiums, brokers pointed to the high cost sharing in these plans, particularly deductibles and annual out-of-pocket maximums, which has increased steadily each year. "People feel like they're paying a lot and not getting any benefit if they don't meet the deductible," noted one broker. A New Hampshire broker reported that her clients "just gasp" when she informs them of the deductibles and out-of-pocket maximums for ACA plans.

At the same time, brokers reported that premiums for people remaining in transitional policies have been rising in recent years, faster than premiums for ACA-compliant coverage. Though those products were originally underwritten and tended to have healthier enrollees, the healthier selection resulting from that underwriting has worn off as enrollees have gotten older and acquired health conditions. (These

plans are prohibited from selling coverage to new enrollees.) Brokers reported that some insurers of those products have been hiking up premiums in response, driving more of these enrollees into the ACA marketplaces.

Better Prices and Products in the Employer Group Market Limit Use of ICHRAs and Attract Sole Proprietors

ICHRAs Are Slow to Take Hold but Could Become More Popular

The Trump administration has touted ICHRAs as mechanisms to encourage employers that have not heretofore offered a health benefit to their workers to do so, as well as to help employers that can no longer afford to offer a health benefit.[8] The ICHRA enables employers who do not offer a group plan to fund employees' health reimbursement arrangement (HRA) accounts with a predetermined amount to reimburse them for the cost of premiums for an individual market plan. ICHRAs may be conceptually appealing to employers because they shift their liability for health coverage from a percentage of the cost, where annual cost growth may be unpredictable, to a defined dollar amount, where the employer can determine how much it wants to contribute each year.

The ICHRA is different from another HRA called the qualified small employer HRA, or QSEHRA, which Congress authorized in 2016. The QSEHRA, as its name suggests, is only available to small employers. Employees with a QSEHRA can combine those funds with ACA PTCs to reduce their premium costs, if eligible.[15] Conversely, employees with an ICHRA, if eligible for PTCs, must use either the HRA account or the PTCs; the two funding sources cannot be combined.

Brokers across all our study states reported that few to no employers have taken up the new ICHRAs. "We haven't really had anyone come and say, 'This is a good way to go,'" reported an Iowa broker. Another broker called employers' interest in the option "minimal." However, a few brokers thought the ICHRA could become an attractive option for employers, particularly for those who fear their renewal every year because they "don't know if it's going to be a 2 percent or 30 percent [cost increase]," said one broker.

This slow adoption can be attributed to several factors, including the insufficient lead time for brokers to learn about these arrangements, the complicated nature of the product and potential compliance risks for employers, the lack of PPO products in the individual market, and the inability to combine HRA funds with APTCs. Additionally, several brokers noted that, in a robust economy, employers are unlikely to risk alienating employees with unwelcome benefit changes.

Federal rules authorized ICHRAs in June 2019, but ICHRAs were not available until January 1, 2020. Though the federal government has attempted to educate employers and brokers about this new vehicle for funding employee benefits, many brokers did not feel ready to adequately advise employers on a potential shift. "I had [an employer] ask me about the [ICHRAs] in December. … He was ready to offer, but I wasn't ready to advise him; I don't know all the guidelines to abide by," said one broker. Other brokers pointed to the complicated tax and Employee Retirement Income Security Act of 1974 compliance obligations associated with offering ICHRAs, as well as the operational complexity and need for extensive employee education. "There's increased fees for someone to administer the HRA," noted one broker, "and at the end of the year, you still have to go through reporting and tracking of employees to make sure they had the right coverage at the right time. … It's enough to drive someone crazy."

Most brokers suggested that the biggest impediment to employers shifting to ICHRAs is the disparity in the quality and affordability of products between the group and individual markets. "The coverage is better in the group market," one broker said, "and premiums are higher in the individual space." Adopting ICHRAs would be a "step down" for employees, another broker noted. Specifically, brokers pointed to group plans continuing to have broader, PPO-style networks, whereas the individual market offers almost exclusively HMO, or closed-network, plan options. "It might work in other places with PPO options [in the individual market]," said one broker, "but here in Texas? Not at all." Others noted that, like premiums, deductibles in the individual market tend to be higher than those offered in the group market. Until coverage options are equal in both markets, most brokers did not think employers would be willing to shift their employees to ICHRAs.

According to some brokers, employers' interest in ICHRAs has been dampened by the inability to combine their ICHRA contributions with APTCs for marketplace coverage. One reported "a decent number" of employers asking about ICHRAs but deciding against it after learning that employees would lose eligibility for APTCs. As one broker put it, for employees whose income would qualify them for APTCs, "it's not a good option. … You can't pay for subsidized premiums with [the ICHRA]." This broker preferred QSEHRAs, at least for employers who qualify.

Brokers also cited the robust economy and employers' fear of change as reasons for slow take-up of ICHRAs. "We've mentioned it to [our employer clients]," said a Georgia broker, but "they don't want to go through all the trouble to do it. They … don't like change." Another broker suggested that employers were waiting for other employers to go first: "They want to see other employers who have done it."

However, a few brokers noted that ICHRAs could be a good option for some employers, such as those that offer a traditional group plan to full-time employees but do not offer a health benefit to part-time employees. In that context, one broker said, offering an HRA to those part-time employees "makes complete sense." Another noted that for self-funded employer clients with sicker-than-average employees, the "ICHRA is something they'll have to consider" because it offloads the financial risk of an employee group with above average health care costs to the individual market.

Flexibility for the Self-Employed to Enroll into a Group Market Plan Is Helping Some Find More Affordable, Generous Coverage

Brokers in three of our study states—Iowa, Utah, and Texas—reported that their clients have benefited from the relaxation of rules prohibiting the self-employed from purchasing small-group market health plans. Brokers in Iowa told us that if a self-employed person creates a limited liability company and issues his or herself a W-2, a local insurer could then enroll the person in a group plan. In Utah, married couples can qualify for a group plan if they are both owners of a company, though the broker noted that flexibility varies by insurer. The same is true in Texas: One broker mentioned husband and wife clients who were early retirees. They had income from a rental property, so by incorporating themselves as a business, they qualified for a group plan. "They're saving $700 per month in premiums," the broker said. In addition to saving on premiums, brokers noted that qualifying individuals can benefit from the broader provider networks available in the group market. "We try to rescue people from the individual market," said one broker, "especially if they're just over 400 percent [of the federal poverty level]."

Brokers Hold Mixed Views on the Value of Alternative Coverage Options

Short-Term Plans Have Not Taken Hold in Some States

Short-term, limited duration (STLD) plans were originally designed to fill temporary gaps in coverage, such as when someone is between jobs. Trump administration rules published in 2018, now adopted in most states, allow insurers to offer STLD plans lasting up to 364 days, and the rules allow consumers to renew STLD plans for up to three years. Because they do not generally cover preexisting conditions, do not have to provide comprehensive health benefits, and can deny enrollment outright based on health status, these plans are offered at a lower cost than ACA-compliant plans.

Despite federal rules designed to expand the sale of STLD plans, brokers in several study states reported that STLD plans have been slow to get off the ground. In Colorado and New Hampshire, STLD plans are limited to six months, reducing their attractiveness as a substitute for ACA coverage.[16] In the remaining five states, STLD plans can last for up to one year and be renewed for up to three years. However, brokers in these states report that few insurers have developed STLD products that align with the federal policy changes. In Mississippi, a broker told us that the STLD industry "basically shut down" after the ACA and that no insurers have yet started to offer the longer-duration coverage now permitted. In a few cases, the state department of insurance had only recently approved insurers' longer-term STLD plans; Iowa had only approved them as of January 2020.[17] Consequently, brokers reported limited experience selling the product.

A few brokers we spoke with held positive opinions about STLD plans. One broker in Texas said he was "trying to grow that [line of business] aggressively" for people who are healthy and looking for low-cost, catastrophic coverage, partly because he could earn significantly higher commissions for STLD plans (15–20 percent, compared with commissions for ACA plans, which in his case ranged from 3–5 percent). Meanwhile, a New Hampshire broker called STLD plans "wonderful" because they are "actual insurance," adding, however, that she only offers them "as plan B, if there's no other choice, and when folks are ready to walk out the door." A Georgia broker allowed that networks for STLD plans can be quite broad, pointing to Anthem Blue Cross Blue Shield, which offers its full ACA network to STLD plan enrollees.

More often, however, brokers expressed reservations regarding STLD plans. "I'm apprehensive to sell them; I don't want someone to get into a limited plan and then … develop cancer," said one Iowa broker. "[Short-term plans] don't fit everyone, and a $1 to $2 million lifetime benefit isn't much in today's costs," added a Texas broker. One broker also highlighted how STLD plans can result in adverse selection against ACA-compliant plans. In her state, where STLD plans can only last six months, she advises relatively healthy clients to sign up for an ACA-compliant plan at the start of the year, obtain any needed medical services during that time, and then switch to a short-term plan for the second half of the year. For people struggling to pay the monthly premiums on ACA plans "that's a game plan if their health holds out," she said.

Several brokers said they missed the *shorter*-duration plans. An Iowa broker shared, "I wish that 90-day policies were still an option. I don't like having a [policy with a] $20,000 [benefit] maximum for 364 days." A Mississippi broker described the shorter STLD plans as an "excellent stop-gap for short-term situations at an affordable cost," adding, "that product was a lifesaver for a lot of people."

Broker Interest in Health Care Sharing Ministries Is Limited, Despite Generous Commissions

HCSMs are another alternative that can be sold to people who have missed the open enrollment period or are not interested in purchasing ACA-compliant coverage. However, HCSMs are not considered insurance under federal or state laws, and paying for an HCSM membership provides no guarantee that medical claims will be paid. HCSM coverage does not have to meet any of the ACA consumer protections and seldom covers preventive care or preexisting conditions.

Brokers reported that HCSMs have been actively marketing to consumers in their states. These include Aliera and Trinity HealthShare in New Hampshire, Altrua HealthShare in Utah and Iowa, and Medi-Share in Georgia and Iowa. An Iowa broker who sells Medi-Share memberships praised the ministry: "They've been in business since 1993 and have 400,000 lives [nationally] and have never not paid a qualified claim. I'm not concerned about Medi-Share. … They're the real deal."

Beyond this, however, brokers in our study states were mostly reluctant to sell HCSM coverage, primarily because it is not insurance. As we found in our previous work,[18] brokers are licensed by their state to sell insurance products and carry "errors and omissions" (E&O) insurance to protect them from lawsuits by clients for inadequate advice or negligence. Traditional E&O insurance does not cover HCSMs, and brokers choosing to sell HCSMs must either bear the added cost of a separate E&O policy or risk legal exposure. "As an agent, I don't want to sell a product where someone will fall through a gap. And when something goes wrong, they're mad at me," explained one Iowa broker. A Colorado broker said, "People ask about [HCSMs], but I tell them they're maybe not the safest route to go. If you want insurance, you should be buying insurance … and not something you can be cancelled from." In Georgia, a broker told us, "A lot of Christian plans come to me, but you need a separate E&O contract for it, and I'm just not comfortable enough with it. If I won't buy it, I'm not going to try and sell it. And I consider myself a Christian." A Texas broker has prepared a flier with a Wikipedia definition of HCSM and links to ministries available in the state. "I give this to people who are interested in them, and then advise them to pursue it on their own," she said, adding, "It doesn't matter what you tell people, you have no control over what they remember or what they think you said. People remember what they choose to remember." Another Texas broker said, "I want to know at the end of the day that my client's claims will get paid, and the HCSMs just don't guarantee that." Brokers described how HCSMs market aggressively and offer higher commissions than ACA-compliant plans. But as one Georgia broker put it, "That's still not enough [for the risk involved]."

Brokers Report Concerns about Association Health Plan Scams and "Death Spirals"

Federal rules adopted in 2018 would allow an association of employers—or the self-employed—to join together under an AHP and be considered a single employer. This designation would allow AHPs to be regulated as large employer plans, exempting them from many of the ACA standards and protections that apply to small-employer and individual market plans.

Though the federal rules were enjoined by a federal district court in 2019, meaning the AHPs formed under the rules had to stop marketing their products, many brokers interviewed for this study expected AHPs to "take off" if that court ruling is overturned on appeal. The brokers in our study did not report having any clients that had joined the new version of AHPs, but many of them reported experiences with AHPs that existed before the ACA, much of them negative. Brokers spoke about AHPs' "long and sordid history" in the individual market and how many AHPs are little more than insurance scams. For more legitimate AHPs, several brokers reported that many in their states had failed or become insolvent. A broker in Mississippi observed, "The problem is that they inevitably collapse in a death spiral. Everyone loves them initially, but as claims come in, premiums increase, healthy individuals jump off for greener pastures, the sick remain, and you go broke." A Texas broker shared similar sentiments: "You pool sole proprietors together and get better rates, and initially all is lovely. Until there are claims. Then rates go up, healthy people say, 'Wait a minute' and pull out, and sick people can't go anywhere. Pools get smaller and sicker and premiums get higher. [AHPs] died an ugly death in Texas in the past. They're a good sound bite for politicians, but they don't work."

Fixed Indemnity Insurance Is Perceived as A "Desperation Product"

Companies selling fixed indemnity plans, which provide a fixed dollar amount for specified health care services, often market their products as cheaper substitutes for comprehensive, ACA-compliant insurance.[7,19] The brokers we interviewed for this paper were almost universally critical of fixed indemnity products, citing their caps on benefits and skimpy coverage. One broker called them "desperation products." Several brokers reported that they do not and never would sell such plans for some of the same reasons they will not sell HCSMs. One Mississippi broker expressed a commonly held view: "No matter what you tell [customers about the risks], no matter what documentation you give them, no matter what you have them sign, they still think everything is covered. And the moment they find out something is not covered, the first thing they say is, 'You didn't tell me that!'" Another broker noted that the brokers who sell fixed indemnity products "never stick around more than four months" because they do not want to face unhappy clients

who have discovered their policy does not cover much. "If you have a $75,000 claim [on a fixed indemnity plan]," he said, "you'll be [out of pocket] $30,000 to $40,000. … Anyone can buy a cheap policy. It's just not good insurance."

Farm Bureau Plans in Iowa Are Not for People with Preexisting Conditions

In 2018, Iowa amended its state law to exempt health plans sold by the state Farm Bureau from state and federal insurance regulation, including the ACA's consumer protections. Enrollees must annually apply for membership to the Farm Bureau (a $30–$40 fee), go through underwriting to identify and exclude preexisting conditions, pay premiums that run about one-third below those charged for an ACA-compliant plan, and receive their care through the Wellmark Blue Cross and Blue Shield statewide HMO network.

Though Iowa brokers reported thinking the Farm Bureau plans would "take off" once freed from ACA rules, the product had been difficult to sell thus far. "It started from zero, [Farm Bureau plans] didn't have a pool to figure out what kind of risk they could bear, so were strict on underwriting," said one broker. People who can meet the Farm Bureau's underwriting standards are typically healthy and between ages 26 to 32 or 61 to 65, according to another broker. This interviewee went on to say, "But if you fail to disclose something, even by accident, they consider you fraudulent and can cancel your coverage at any time." These factors have resulted in the Farm Bureau reportedly writing "less than 1,000 contracts" during its first year. Another broker summed it up this way: "I'm always apprehensive to sell something new unless they come in with some financial backing. The [Farm Bureau plan] is not insurance. As an insurance agent, my E&O doesn't cover noninsurance products."

CONCLUSION

In our 2018 study's interviews with health insurance agents and brokers, we heard that significant premium increases and fewer plan options in the ACA-compliant market were pushing many healthy, unsubsidized consumers out of the individual market. Brokers further reported aggressive marketing of and increased consumer interest in alternative products, such as short-term plans and HCSMs. Brokers also reported receiving significantly higher commissions for selling these alternative products than they received for selling ACA-compliant plans. Many were pessimistic about the long-term stability of the individual market.

Two years later, the brokers in our current study generally spoke positively about moderating premiums in the individual market, as well as the introduction of new insurer participants. However, though they applauded signs of stabilizing and even healthier markets, many noted that premiums are still unaffordable for many consumers, particularly those with incomes just over 400 percent of federal poverty level. The high cost sharing and narrow networks associated with ACA plans also deter enrollment. Additionally, in markets that experienced premium decreases, brokers reported that many subsidized individuals (particularly those enrolled in bronze-level plans) experienced an unwelcome premium increase because of how the ACA's PTCs are structured.

Many brokers expressed interest in the new ICHRAs, but to date there has been minimal take up among their employer clients. Indeed, brokers in our study states reported that where legally permissible, they direct individual market clients to the group market to take advantage of better rates and products, not the other way around. Brokers identified several issues that inhibit the growth of ICHRAs, including a robust economy, more expensive and less attractive products in the individual market, employers' resistance to change, the administrative and compliance burdens associated with these arrangements, and the inability to combine ICHRA funds with PTCs. However, several brokers predict that ICHRAs could become an important alternative option for some employers, especially those that wish to offer a benefit to a part-time or seasonal workforce or have sicker-than-average employees.

Though the brokers in our study generally appreciated the availability of alternative coverage options, such as STLD plans, Farm Bureau plans, HCSMs, and fixed indemnity products, they were highly cognizant of the risks these products pose for consumers, particularly those with preexisting conditions or who have an unexpected injury or illness after enrollment. Many brokers refuse to sell products they view as overly risky for consumers, despite the higher commission those plans offer. Though alternative coverage plans are considerably less expensive than ACA plans, these brokers were concerned about the reputational and even legal risks when clients discover the plans cover far less than they thought.

ENDNOTES

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By Erin L. Duffy, Loren Adler, Paul B. Ginsburg, and Erin Trish

Prevalence And Characteristics Of Surprise Out-Of-Network Bills From Professionals In Ambulatory Surgery Centers

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ABSTRACT Patients treated at in-network facilities can involuntarily receive services from out-of-network providers, which may result in "surprise bills." While several studies report the surprise billing prevalence in emergency department and inpatient settings, none document the prevalence in ambulatory surgery centers (ASCs). The extent to which health plans pay a portion or all of out-of-network providers' bills in these situations is also unexplored. We analyzed 4.2 million ASC-based episodes of care in 2014–17, involving 3.3 million patients enrolled in UnitedHealth Group, Humana, and Aetna commercial plans. One in ten ASC episodes involved out-of-network ancillary providers at in-network ASC facilities. Insurers paid providers' full billed charges in 24 percent of the cases, leaving no balance to bill patients. After we accounted for insurer payment, we found that there were potential surprise bills in 8 percent of the episodes at in-network ASCs. The average balance per episode increased by 81 percent, from $819 in 2014 to $1,483 in 2017. Anesthesiologists (44 percent), certified registered nurse anesthetists (25 percent), and independent laboratories (10 percent) generated most potential surprise bills. There is a need for federal policy to expand protection from surprise bills to patients enrolled in all commercial insurance plans.

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Patients treated at facilities in their insurer's provider network can involuntarily receive services from out-of-network physicians and other service providers. In these scenarios, the out-of-network provider submits full billed charges to the patient's insurer, and the insurer may allow all or part of the provider's charges. Providers not paid in full by the insurer can send a bill to the patient for the balance. These bills, which are typically unexpected by patients, have been termed "surprise" out-of-network bills.

Previous studies have documented the prevalence of episodes that are likely to result in surprise bills in the emergency department (ED) and inpatient settings, but their prevalence at ambulatory surgery centers (ASCs) is relatively unexplored.[1–4] The number of ASC facilities in the United States increased from 1,000 in 1988 to 5,400 in 2015.[5] The volume of services provided in ASCs has grown over time, as new facilities have entered the market.[6–8] For example, the proportion of cataract surgeries performed in ASC facilities, in lieu of outpatient hospital settings, grew from 44 percent in 2001 to 73 percent in 2014.[6] In our data set, 5 percent of commercially insured adults used ASC services each year—the same utilization rate as that for inpatient hospital services.[9] Numerous studies have shown that for same-day elective services such as colonoscopies, cataract surgeries, arthroscopies, and up-

per gastrointestinal procedures, ASCs are lower cost and more efficient than hospital outpatient departments.[6,7,10,11] Moreover, many ASC procedures involve out-of-network ancillary providers whom patients generally do not choose and thus cannot avoid. Therefore, understanding patients' risk of surprise bills in this setting is important.

This study provides evidence of the prevalence and magnitude of potential surprise bills in ASCs, including variation across different types of clinicians, facilities, and insurance products. We also quantify health plan reimbursement to out-of-network providers. This reimbursement is an important factor in the likelihood of an individual plan member's receiving a surprise bill, as plans that pay out-of-network providers in full shield patients from surprise bills. However, a health plan's total expenditures are inflated when it reimburses out-of-network providers' full billed charges (which are typically much higher than negotiated rates), both directly and because doing so increases a provider's leverage to demand high in-network rates in the future. These inflated costs are then shared by all plan members through higher premiums. This is an understudied aspect of surprise medical bills, and our analysis provides important insights in this regard.

Study Data And Methods

DATA We evaluated Health Care Cost Institute commercial claims data for the period 2014–17, which comprised claims from three of the five largest US insurers: Aetna, Humana, and UnitedHealth Group. The data included more than forty million covered lives in each year.[12] Importantly, the claims data include a network status indicator for both facility and professional claims, actual prices paid for in- and out-of-network services (allowed amounts), provider charges, and patient cost-sharing information, which enabled us to determine the prevalence and magnitude of potential surprise out-of-network balance bills.

We included claims paid as primary in our analysis, because it is not possible to determine whether there was an unpaid balance when observing claims from a secondary insurer. We also included only commercial claims, because balance billing is largely prohibited in Medicare Advantage.[13]

ANALYTIC APPROACH We constructed episodes of care by matching ASC facility claims with all professional claims for the same patient on the same day. We excluded patients with another facility visit or physician office visit claim within one day of the ASC visit to prevent the overmatching of unrelated professional claims to an ASC visit.

We could not identify from the claims data whether out-of-network clinicians actually sent a surprise balance bill to patients, so we could not directly measure the prevalence of such bills. Instead, following prior work, we defined an episode as one that would be likely to lead to a surprise out-of-network bill if the patient was treated at an in-network ASC and seen involuntarily by one or more ancillary, or secondary, out-of-network providers.[1] (We considered a patient's out-of-network use voluntary if the facility or one or more of its lead professionals was out of network.) We defined lead and ancillary professionals based on the procedure codes billed (our categorization of procedure codes is described in online appendix 1).[14]

We further restricted our definition of potential surprise bill scenarios to the subset of scenarios in which the charges of out-of-network ancillary and secondary professionals exceeded the insurer's allowed amount, since when the charges are paid in full, there is no balance bill to the patient. Specifically, we determined whether there was a potential balance bill at the professional claim level by subtracting the sum of allowed amounts from the sum of billed charges separately for each professional who provided out-of-network services during an ASC visit. If the balance was zero, then the professional was paid in full, and there was no possible balance to bill. If the balance was greater than zero, we considered this a potential surprise billing scenario.

We calculated the prevalence of ASC episodes likely to generate surprise bills and the magnitude of the potential balances billed overall and for different types of providers and health plans. All dollar amounts are expressed in nominal dollars (unadjusted for inflation). We used chi-square tests to compare the percentages of involuntary out-of-network services paid in full between self-funded and fully insured health plans. Analyses were conducted using SAS, version 9.4.

LIMITATIONS Our study had several limitations. First, as described above, in the administrative insurance claims data, we could not observe balance bills sent directly from out-of-network professionals to patients. Moreover, providers may ultimately write off some or all unpaid balances. Our estimates therefore represent the prevalence and magnitude of potential rather than actual surprise bills. This inability to directly observe balance billing limits all claims-based studies of surprise medical billing prevalence and magnitude, and we are not aware of any comprehensive data set of actual balance bills sent to patients.

Potential surprise bills are in addition to any cost sharing that the patient would face.

Second, we did not directly observe whether patients voluntarily chose to receive care from an out-of-network provider. While most patients do not choose their ancillary providers, and we restricted our definition to include only those patients who did not also have an out-of-network lead provider, we still could not be sure that the use of out-of-network care was indeed involuntary.

Finally, while our data represent a sizable share of the commercially insured population in the US, our findings are not necessarily generalizable to the overall commercial market. Our comparisons of the prevalence of potential surprise bills across different insurance product characteristics (appendices 4 and 5)[14] may reflect differences in the composition of plan design and market share among the three insurers that contributed to our data set, rather than the product types in and of themselves. Notably, point-of-service plans were overrepresented in our analytic sample, relative to the national composition of insurance plan types.[15] Moreover, because we did not observe claims for all of the patients who were treated by a given professional or facility, our calculations of the proportions of specific providers' caseloads that yielded a potential surprise bill were limited to the commercially insured population in our analytical sample.

Study Results

The analytical sample included approximately 4.2 million ASC-based episodes of care in 2014–17 that involved 3.3 million unique patients. Many episodes of care included services provided by anesthesiologists (47 percent), certified registered nurse anesthetists (17 percent), gastroenterologists (31 percent), orthopedists (12 percent), pathologists (10 percent), and independent laboratories (12 percent) (data not shown). Common procedures included colonoscopies and other gastrointestinal procedures, cataract surgery, and orthopedic procedures such as arthroscopy.

Our sample included episodes of care for enrollees in point-of-service plans ($n = 3{,}046{,}915$ episodes), preferred provider organizations (PPOs) ($n = 454{,}837$), health maintenance organizations (HMOs) ($n = 409{,}405$), exclusive provider organizations ($n = 212{,}676$), indemnity plans ($n = 34{,}241$), and other products ($n = 26{,}544$). Seventy-two percent of these enrollees were in self-funded plans, while 28 percent were enrolled in fully insured plans (data not shown).

In 76 percent of the observed episodes, patients were treated at in-network ASC facilities and received only in-network professional services (appendix 2).[14] We were unable to identify the facility network status in 3 percent of the observed episodes. In 5 percent of the episodes, the facility was in network and no out-of-network professionals were observed, but at least one professional service was missing network status information. Patients were treated at out-of-network facilities in 5 percent of the episodes, and we estimated that patients voluntarily received out-of-network professional services at in-network facilities in an additional 1 percent of the episodes.

In 10 percent ($n = 419{,}621$) of the episodes in our analytical sample, patients were treated at in-network ASCs but involuntarily received care from out-of-network professionals. In 24 percent ($n = 102{,}774$) of those episodes, the insurer allowed the out-of-network professionals' full billed charges, leaving no additional balance to bill. After accounting for insurer-allowed amounts (including any patient cost sharing for out-of-network services), we found that patients were subject to a potential surprise out-of-network bill in 8 percent ($n = 316{,}847$) of all episodes in our analytical sample. The prevalence of potential surprise bills remained stable at 8 percent over the four-year study period (data not shown). Observed rates of potential surprise bills in our analytic sample varied across states, with the highest rate (15 percent) observed in Texas (appendix 3).[14]

The average charges for out-of-network providers in potential surprise billing cases were $1,912 per episode, and the average allowed amount—including insurer payment and patient cost sharing—was $771 (data not shown). Thus, the average remaining patient liability for these potential surprise bills from out-of-network professionals was $1,141 per episode. Over the four-year study period, the amount increased by 81 percent, from $819 in 2014 to $1,483 in 2017 (exhibit 1).

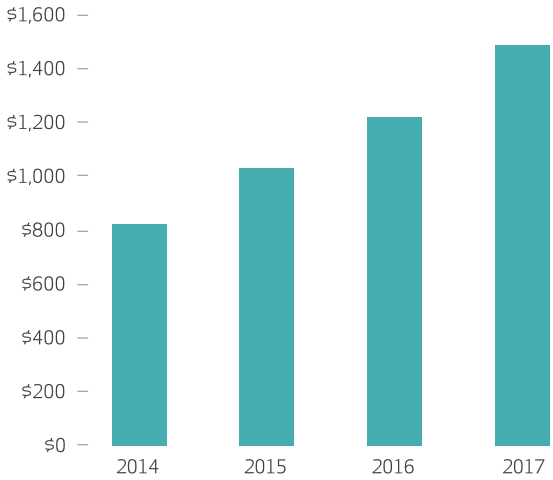
PROVIDER CHARACTERISTICS Among the potential surprise out-of-network professional bills at in-network ASCs, most were generated by anesthesiologists (44 percent) or certified registered nurse anesthetists (25 percent) (exhibit 2).

Independent laboratories accounted for 10 percent of the bills, and pathologists accounted for an additional 3 percent. The provider type was not specified for 6 percent of professionals generating a potential surprise bill, as they were categorized as "unknown" (4 percent) and "other nonphysician provider" (2 percent). A smaller proportion of potential surprise bills were attributed to medical supply houses (2 percent), radiologists (1 percent), and family practice physicians (1 percent). All other specialties combined generated the remaining 8 percent of potential surprise bills.

The magnitude of average balances that could be billed to patients for their anesthesiologists and certified registered nurse anesthetists were $946 and $713, respectively (data not shown). The high share of potential surprise bills generated by these practitioners is due to both their high service volume in ASCs and their common out-of-network status. Anesthesiologists provided care in 46 percent of the episodes we observed at in-network ASCs and provided involuntary out-of-network services in 11 percent of these cases, generating possible surprise bills 8 percent of the time they provided care—after we accounted for the 3 percent of instances in which insurers allowed amounts that equaled full billed charges (exhibit 3). Certified registered nurse anesthetists provided care in 17 percent of the observed episodes at in-network ASCs (data not shown), and they were involuntary out-of-network providers in 17 percent of these cases—resulting in potential surprise bills in 13 percent of their cases at in-network ASC facilities, after we accounted for the 4 percent of instances where their charges were paid in full by the insurer (exhibit 3). Among the 12 percent of episodes at in-network ASCs that included independent lab services (data not shown), the lab was an involuntary out-of-network provider 10 percent of the time and yielded a potential surprise bill 7 percent of the time (exhibit 3). In contrast, both radiologists and pathologists generated a potential surprise bill in 3 percent of their observed cases at in-network ASCs.

EXHIBIT 1

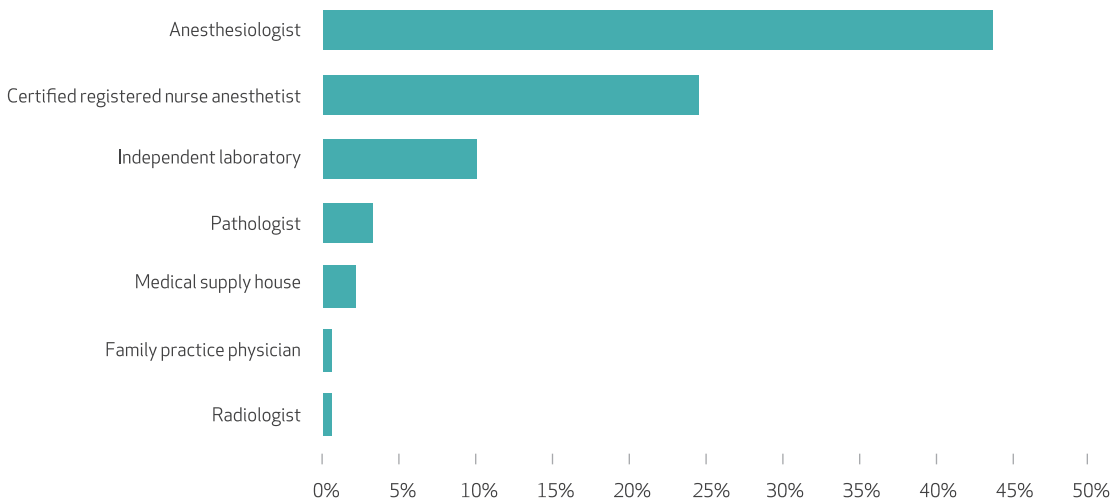
Mean potential surprise medical bill amounts incurred at ambulatory surgery centers, 2014–17



SOURCE Authors' analysis of commercial claims data for 2014–17 from the Health Care Cost Institute. **NOTE** Amounts are in nominal dollars.

EXHIBIT 2

Potential surprise medical bills incurred at ambulatory surgery centers, by provider type



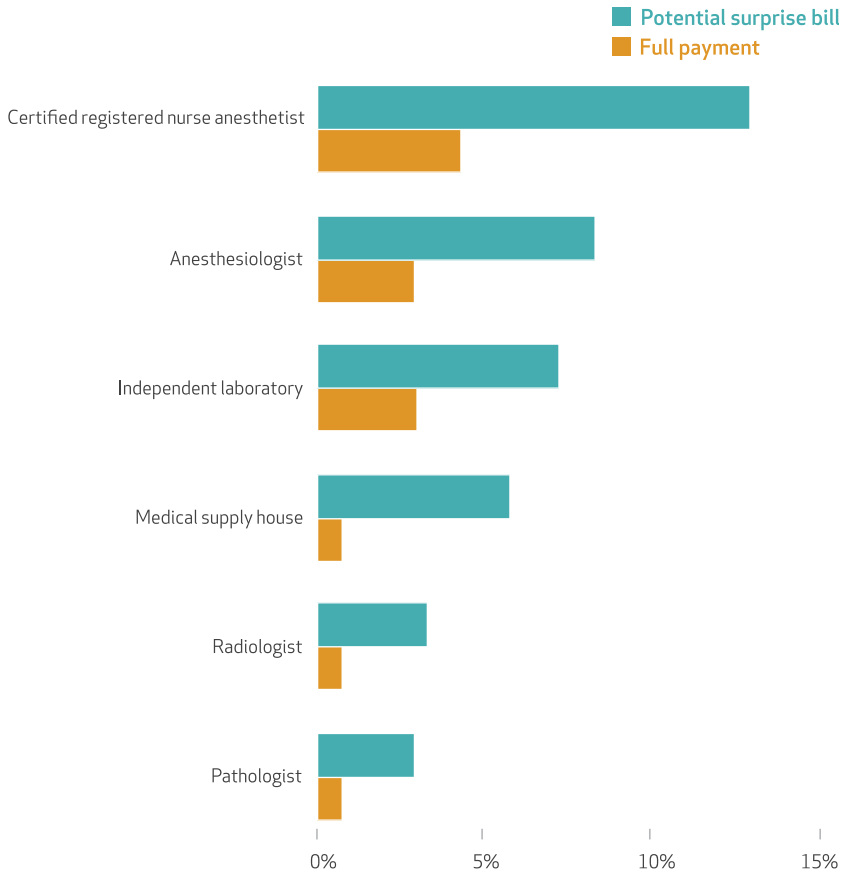
SOURCE Authors' analysis of commercial claims data for 2014–17 from the Health Care Cost Institute. **NOTE** Share of total potential surprise out-of-network professional bills at in-network ambulatory surgery centers generated by each provider type.

Most individual providers or provider groups, as identified by unique National Provider Identifiers (NPIs), did not generate any potential surprise bills. Twenty-one percent of potential surprise bills came from only 5 percent of NPIs, which performed only 3 percent of the ASC-based professional services we observed (data not shown). Seventy-five percent of anesthesiologist NPIs and sixty-eight percent of certified registered nurse anesthetist NPIs generated no potential surprise bills (exhibit 4). Eight percent of anesthesiologists generated a potential surprise bill more than half of the time when we observed them providing ASC-based care (exhibit 4), and these NPIs accounted for 38 percent of potential surprise bills from anesthesiologists but performed only 5 percent of the anesthesiology services (data not shown). Among certified registered nurse anesthetists, 11 percent of NPIs accounted for 43 percent of potential surprise bills for certified registered nurse anesthetist services and performed just 8 percent of those services. Similarly, out-of-network professionals practicing at in-network ASCs appeared to be concentrated in a small share of facilities. We observed no potential surprise billing scenarios in our four-year sample at 74 percent of ASC facility NPIs. Only 7 percent of ASCs generated a potential surprise bill in over half of the episodes we observed at them in our analytic sample: They accounted for just 2 percent of the episodes, but 19 percent of the potential surprise bills resulted from care at these facilities.

INSURER CHARACTERISTICS Involuntary exposure to out-of-network professional services at in-network ASCs was similar for patients enrolled in self-funded and fully insured plans. However, self-funded plans paid out-of-network professionals' full billed charges significantly more often than fully insured plans did (27 percent versus 18 percent; $p < 0.0001$) (appendix 4).[14] Thus, after plan payments were accounted for, patients in self-funded plans experienced a lower rate of potential surprise bills (8 percent), compared to those in fully insured plans (9 percent). A higher rate of payment in full by self-funded plans was consistently observed across plan types (HMOs, PPOs, and point-of-service plans). Moreover, conditional on plan type, the average magnitude of the potential patient liability for a surprise bill—or the balance between charges and allowed amounts—was more than $100 greater in fully insured plans than in self-funded plans. While we observed some variation in both the prevalence and the magnitude of potential surprise bills across plan types and market segments (appendix 5),[14] we note that those differences may reflect the plans in our particular analytic sample and are not necessarily representative of those plan types in the broader market.

EXHIBIT 3

Percent of in-network ambulatory surgery center episodes with a potential surprise medical bill and with full payment, by provider type



SOURCE Authors' analysis of commercial claims data for 2014–17 from the Health Care Cost Institute. **NOTES** For each provider type, percent is calculated using only the subset of in-network ambulatory surgery center episodes that involved care from that type of provider. Full payment means that out-of-network professionals used involuntarily by patients were paid in full by the insurer.

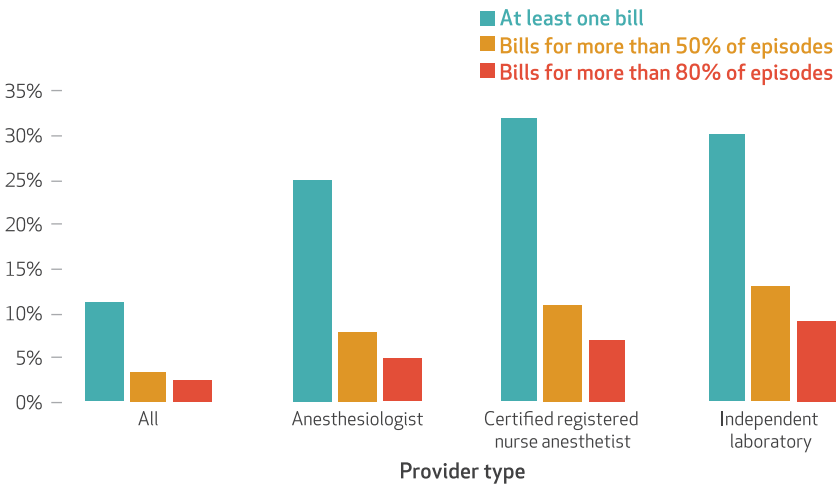
Discussion

Patients who received care at in-network ambulatory surgery centers were involuntarily treated by out-of-network providers in one in ten episodes. However, in one-quarter of those cases, the insurer's allowed amount (what the insurer paid plus any patient cost sharing) was equal to the provider's full billed charges, thus eliminating the potential for a surprise bill. If the insurer allows providers' full billed charges and eliminates the potential for a surprise bill, those costs—which can be substantial, given the very high billed charges from ancillary clinicians—are then typically borne by all health plan enrollees through higher premiums.

After we accounted for the insurer's allowed amount, commercially insured patients ap-

EXHIBIT 4

Percent of providers at ambulatory surgery centers with any potential surprise bills, by provider type and share of episodes with bills



SOURCE Authors' analysis of commercial claims data for 2014–17 from the Health Care Cost Institute. **NOTE** Unique providers were identified by National Provider Identifier, which may represent a single provider or a group of providers.

peared at risk of receiving a potential surprise bill in 8 percent of ASC-based episodes of care, predominantly from anesthesiologists and certified registered nurse anesthetists. Such patients could be liable for a balance bill with an average magnitude of $1,141 over our four-year study period. The mean magnitude of potential surprise bills in our analytical sample increased by 81 percent over the study period, from $819 in 2014 to $1,483 in 2017. Over the same period, by comparison, the Health Care Cost Institute reports that total coinsurance, copayments, deductibles, and health plan payments per person for medical care and pharmaceuticals among the US population who were ages 0–64 and covered by employer-sponsored insurance grew by 13 percent, from $4,974 in 2014 to $5,641 in 2017.[16] This finding indicates that there is a need for swift policy action to protect patients from surprise billing.

Moreover, potential surprise bills are in addition to any cost sharing that the patient would face, which can be a high percentage of the insurer's allowed amount—particularly for out-of-network services. Unexpected medical bills of these magnitudes would be a financial hardship for most US households. The 2016 Survey of Consumer Finances found that 26 percent of multiperson households and 36 percent of single-person households do not have sufficient liquid assets to cover an unexpected $1,000 expense.[17]

Several previous studies of commercial claims data have measured the prevalence of potential surprise bills in emergency and inpatient settings, and their findings provide reference points for considering the relative risk of possible surprise bills across care settings. Christopher Garmon and Benjamin Chartock used Truven Health MarketScan data for 2007–14 to estimate that involuntary out-of-network services were provided at in-network facilities in 9 percent of elective inpatient admissions, 14 percent of outpatient emergency visits, and 20 percent of inpatient admissions originating in the ED.[1] Zack Cooper and Fiona Scott Morton reported that one in five ED visits in 2014–15 by beneficiaries of a single large insurer involved out-of-network physicians at in-network facilities, with average potential surprise bills of $623.[2] A 2019 analysis by the Health Care Cost Institute also found that 15 percent of inpatient admissions involved an out-of-network professional at an in-network facility, although some of these professionals may have been selected voluntarily by the patient.[3]

Our finding that 10 percent of ASC episodes involved an involuntary out-of-network provider is similar to the 9 percent prevalence of involuntary out-of-network providers in elective inpatient episodes reported by Garmon and Chartock.[1] Both of these estimates, which are generally for elective procedures, are somewhat lower than the prevalence of potential surprise bills in ED and inpatient admissions originating in the ED, which are more likely to be nonelective, urgent, or emergent care. The average magnitude of the potential patient liability for a surprise bill that we observed in ASCs in 2014–17 ($1,141) is nearly double the average balance documented for emergency physician services by Cooper and Scott Morton, although that estimate appears to include only emergency physician charges (rather than all out-of-network professional charges incurred during the emergency episode), and the potential balance was calculated in a different way.[18] Our finding that most potential surprise bills were generated by a small share of providers was consistent with a previous study of out-of-network billing for emergency services.[19]

To our knowledge, the impact of health plan reimbursement for out-of-network professional services on mitigating the potential for surprise bills has not previously been systematically analyzed. Our finding that billed charges are paid in full for one-quarter of the episodes involving out-of-network professionals at in-network ASCs suggests that it is not uncommon for health plans to pay providers' charges in full (with patient cost sharing included), potentially as a way to protect patients from surprise bills. Our finding that self-funded plans tend to pay full billed

There is a need for federal policy to expand protection from surprise bills to all states and to enrollees in all commercial insurance plans.

charges more frequently than fully insured plans do suggests that this strategy may be more common among self-funded employers. As a result, people in fully insured plans face a higher risk of possible surprise billing. While enrollees in self-funded plans are at lower risk of potential surprise billing, they are collectively sharing the cost of paying out-of-network providers' full billed charges in their premiums.

Some patients may also be protected from surprise bills by state policies that prohibit them—although these policies generally apply only to fully insured plans, because states cannot regulate self-funded plans as a result of preemption under the Employee Retirement Income Security Act (ERISA) of 1974. In the first year of our study, only Colorado, Illinois, and New Jersey had policies in place to protect patients from surprise bills in ASCs (appendix 6).[14] Five additional states (California, Connecticut, Florida, New York, and Oregon) implemented such policies during the remainder of our study period.

We estimate that in 2019, state policies addressing surprise bills at ASCs protected 18 percent of the nation's commercially insured population. There is a need for federal policy to expand protection from surprise bills to all states and to patients enrolled in all commercial insurance plans. Our finding that the prevalence of potential surprise bills in ASCs is similar to that in elective outpatient settings demonstrates the importance of including ASC-based care in the scope of services protected by future policies. Furthermore, our observation that the mean magnitude of potential surprise bills increased by 81 percent from 2014 to 2017 indicates that this form of out-of-pocket health care spending liability is growing rapidly, and there is an urgent need for policy action.

Conclusion

Among a large national sample of commercially insured patients, one in twelve patients who received care at an in-network ambulatory surgery center were at risk of receiving a surprise out-of-network professional bill. The average magnitude of potential surprise bills increased by 81 percent in the period 2014–17, reaching an average potential patient liability of $1,483. Most potential surprise bills at ASCs were generated by anesthesiologists or certified registered nurse anesthetists and were concentrated among a minority of physicians and facilities. Federal policy is needed to address surprise billing and help protect patients from large surprise bills. ■

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NOTES

1 Garmon C, Chartock B. One in five inpatient emergency department cases may lead to surprise bills. Health Aff (Millwood). 2017;36(1):177–81.

2 Cooper Z, Scott Morton F. Out-of-network emergency-physician bills—an unwelcome surprise. N Engl J Med. 2016;375(20):1915–8.

3 Kennedy K, Johnson B, Biniek JF. Surprise out-of-network medical bills during in-network hospital admissions varied by state and medical specialty, 2016. #HealthyBytes [blog on the Internet]. 2019 Mar 28 [cited 2019 Dec 2]. Available from: https://www.healthcostinstitute.org/blog/entry/oon-physician-bills-at-in-network-hospitals

4 Claxton G, Rae M, Cox C, Levitt L. An analysis of out-of-network claims in large employer health plans [Internet]. San Francisco (CA): Peterson-KFF Health System Tracker; 2018 Aug 13 [cited 2019 Dec 2]. Available from: https://www.healthsystemtracker.org/brief/an-analysis-of-out-of-network-claims-in-large-employer-health-plans/

5 Ambulatory Surgery Center Association. History of ASCs [Internet]. Alexandria (VA): The Association; [cited 2019 Dec 2]. Available from: https://www.ascassociation.org/advancingsurgicalcare/asc/historyofascs

6 Stagg BC, Talwar N, Mattox C, Lee PP, Stein JD. Trends in use of ambulatory surgery centers for cataract surgery in the United States, 2001–2014. JAMA Ophthalmol. 2018;136(1):53–60.

7 Koenig L, Gu Q. Growth of ambulatory surgical centers, surgery volume, and savings to Medicare. Am J Gastroenterol. 2013;108(1):10–5.

8 Bian J, Morrisey MA. Free-standing ambulatory surgery centers and hospital surgery volume. Inquiry. 2007;44(2):200–10.

9 Utilization rates were calculated for

adults older than age seventeen who were enrolled in a commercial insurance product in the Health Care Cost Institute claims data for 2013–17. Utilization in ASC and inpatient settings was determined based on place of service codes identified on facility and professional claims.

10 Munnich EL, Parente ST. Procedures take less time at ambulatory surgery centers, keeping costs down and ability to meet demand up. Health Aff (Millwood). 2014;33(5):764–9.

11 Hair B, Hussey P, Wynn B. A comparison of ambulatory perioperative times in hospitals and freestanding centers. Am J Surg. 2012;204(1):23–7.

12 For information about our commercial claims data source, see Health Care Cost Institute. Data [Internet]. Washington (DC): HCCI; [cited 2020 Mar 18]. Available from: https://healthcostinstitute.org/data

13 Boccuti C. Paying a visit to the doctor: current financial protections for Medicare patients when receiving physician services [Internet]. San Francisco (CA): Henry J. Kaiser Family Foundation; 2016 Nov 30 [cited 2019 Dec 2]. Available from: https://www.kff.org/medicare/issue-brief/paying-a-visit-to-the-doctor-current-financial-protections-for-medicare-patients-when-receiving-physician-services/

14 To access the appendix, click on the Details tab of the article online.

15 Henry J. Kaiser Family Foundation. Employer health benefits: 2018 annual survey [Internet]. San Francisco (CA): KFF; c 2018 [cited 2019 Dec 2]. Available from: http://files.kff.org/attachment/Report-Employer-Health-Benefits-Annual-Survey-2018

16 Health Care Cost Institute. 2017 health care cost and utilization report [Internet]. Washington (DC): HCCI; 2019 Feb 11. Supplementary Table 1, Annual spending per person by service category; [cited 2020 Mar 18]. Available for download from: https://www.healthcostinstitute.org/research/annual-reports/entry/2017-health-care-cost-and-utilization-report

17 Rae M, Claxton G, Levitt L. Do health plan enrollees have enough money to pay cost sharing? [Internet]. San Francisco (CA): Henry J. Kaiser Family Foundation; 2017 Nov 3 [cited 2019 Dec 2]. Available from: https://www.kff.org/health-costs/issue-brief/do-health-plan-enrollees-have-enough-money-to-pay-cost-sharing/

18 Specifically, Cooper and Scott Morton (see note 2) calculated an average potential balance of $622.55 as the average difference between the surprise out-of-network physician's full billed charges and the mean in-network rate for the same service. In other work (see note 19), Cooper, Scott Morton, and Shekita calculated that the average difference between surprise out-of-network physicians' charges and total payments for emergency services was $195.30. However, we note that these estimates are not directly comparable, because of differences in the timing and analytic sample of these two studies.

19 Cooper Z, Scott Morton F, Shekita N (Yale University, New Haven, CT). Surprise! Out-of-network billing for emergency care in the United States [Internet]. Cambridge (MA): National Bureau of Economic Research; [revised 2018 Jan; cited 2019 Dec 2]. (NBER Working Paper No. 23623). Available from: https://www.nber.org/papers/w23623.pdf

Peterson-KFF
Health System Tracker

How health costs might change with COVID-19

By Cynthia Cox, Robin Rudowitz, Tricia Neuman, Juliette Cubanski, and Matthew Rae *KFF*

Briefs | **Health Spending**

Posted: April 15, 2020

As the coronavirus spreads rapidly across the United States, private health insurers and government health programs could potentially face higher health care costs. However, the extent to which costs grow, and how the burden is distributed across payers, programs, individuals, and geography are still very much unknown. This brief lays out a framework for understanding changes in health costs arising from the coronavirus pandemic, including the factors driving health costs upward and downward. We also highlight some special considerations for private insurers, Medicare, and Medicaid programs.

Coronavirus testing and treatment costs

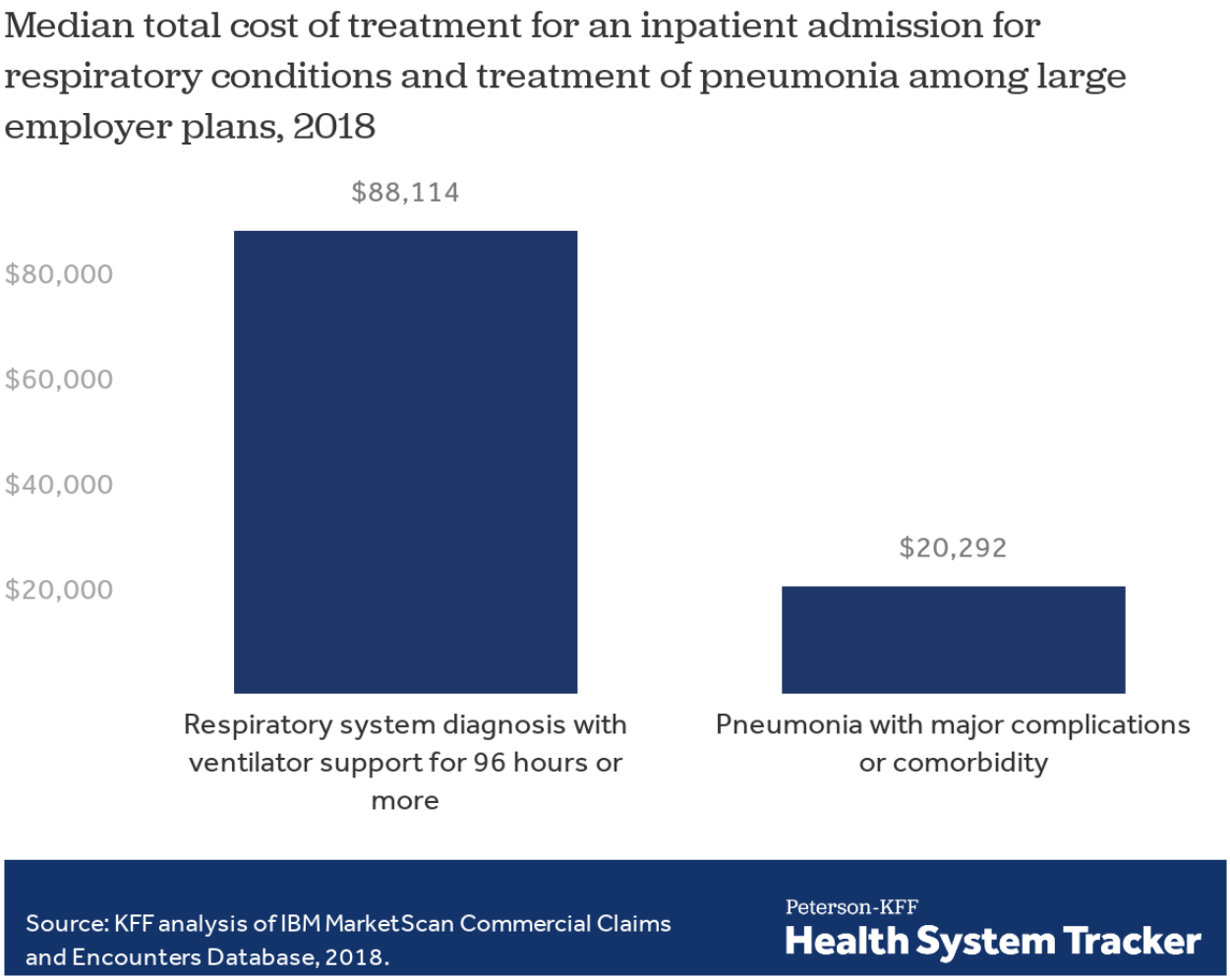
The most direct impact the coronavirus pandemic will have on U.S. health care spending is through testing and treatment of COVID-19, but the extent of upward pressure on health costs depends on a number of still unknown factors.

One of the most important and yet still unknown factors driving health care costs is the number and severity of COVID-19 cases in the U.S. Projections vary, and are largely dependent on the success of public health efforts to contain or mitigate the spread of the virus. The University of Washington Institute for Health Metrics and Evaluation (IHME) model suggests the outbreak is reaching its peak in the U.S., but others have warned of the possibility of another spike in cases if social distancing measures are relaxed too soon this summer, or possibly another outbreak this fall or winter. Particularly for private insurers and Medicaid programs, the geographic distribution of infections across states will also have important consequences for premiums and state budgets, discussed in more detail below.

Currently treatment is supportive, not curative. Some COVID-19 patients are enrolled in clinical trials to test the effectiveness of certain antiviral drugs, and human trials have begun to test the effectiveness of vaccines. If an effective treatment is identified soon, this could significantly reduce the strain of coronavirus on the health system, but the costs of any new drug treatments could add new costs to the system, affecting both public programs and private payers. Vaccines are not expected to be available for at least a year. While vaccines will prevent future cases and thus future spending, the vaccine will come at a cost as well.

Roughly 15% of people infected by the coronavirus could require hospitalization, and a small share require invasive mechanical ventilation. The cost of these admissions will vary by severity and payer. In an earlier analysis, we estimate that, among people insured through a large employer's private health plan, hospitalization for pneumonia ranged from an average of $9,763 to $20,292 in 2018 depending on severity and comorbidities associated with the condition. However, patients who need to be put on a ventilator would have much higher costs. In 2018, ventilation treatment for respiratory conditions ranged from $34,223 to $88,114 depending on the length of time ventilation is required, for patients in large employer plans. Treatment costs on a per patient basis for comparable admissions will be lower in Medicare and Medicaid, where providers are reimbursed at lower rates. For example, average hospital payments for pneumonia with major comorbidities or complications are $10,010 under Medicare, and hospitalizations for respiratory system infections requiring ventilator support are $40,218. Under the CARES Act, Medicare will pay a 20% premium for COVID-19 treatment, but per admission payment is still less than that for the same type of admission for people with private plans, on average.

Many hospitalizations for COVID-19 treatment will cost around $20,000 but treatment of the most severe cases would cost much more



Testing will likely involve relatively low costs on a per-test basis. Medicare, for example, pays $36 to $51 for each test. As testing becomes more widespread, though, the total cost will add up significantly. Hospitals and labs are now required to post the cost of coronavirus tests, and insurers, Medicare, and Medicaid are required to cover the tests without cost-sharing to the patient.

Covered California published the first national estimates of COVID-19 treatment and testing costs, ranging from $34 to $251 billion for commercial insurers (not including people enrolled in Medicare Advantage or Medicaid Managed Care Plans). America's Health Insurance Plans (AHIP) in consultation with Wakely, recently produced baseline estimates (assuming a 20% infection rate) of $84 to $139 billion in 2020 and $28 to $46 billion in 2021 for the direct cost of coronavirus testing and treatment of COVID-19, by private insurers (including commercial insurers, Medicaid MCOs and Medicare Advantage plans). However, using different assumptions of infection rates would yield widely different costs, ranging from a total of $56 to $556 billion over the two-year time period. The AHIP estimates do not include spending on Medicare beneficiaries in traditional Medicare. In a FAIR Health analysis of private, Medicare and Medicaid claims, estimates of total COVID-19 treatment costs ranged from $139 billion to $558 billion. The range of these estimates is indicative of the uncertainty around how many people will become infected and how many will need hospitalization.

Delayed or foregone care may offset some costs, but also cause pent-up demand

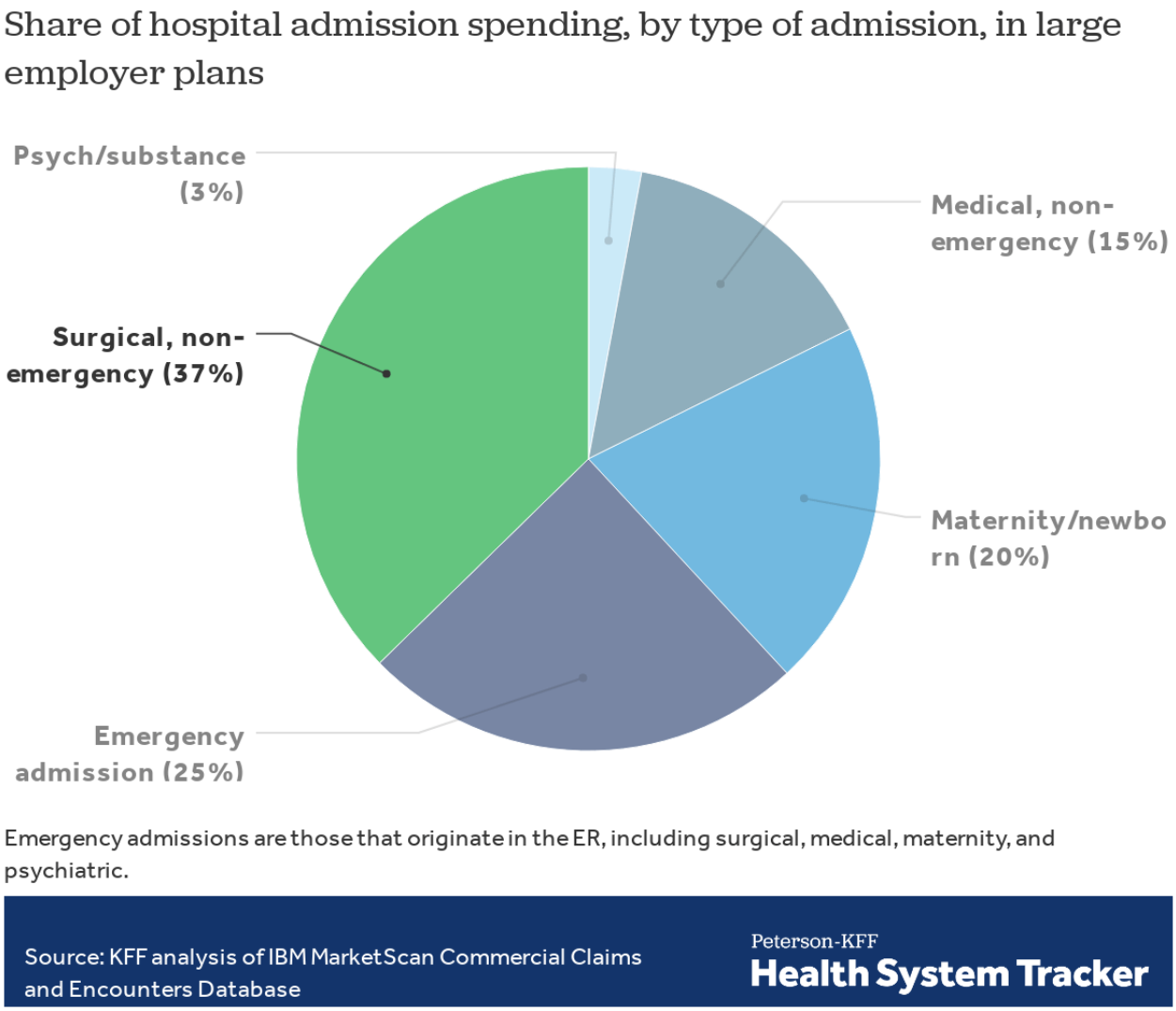
An indirect effect of the coronavirus outbreak is the additional strain on limited hospital resources, which will lead to some care being delayed or forgone. Additionally, due to both social distancing measures and the economic downturn, individuals may also forgo outpatient care or prescription drugs they would have otherwise used. Forgone care could offset some of the additional costs of treating people with COVID-19, though the degree costs are offset is still a question.

The IHME model suggests the number of people needing hospitalization could exceed the number of available hospital beds for some time to come in parts of the country. Hospitals in the U.S. are canceling or delaying some elective procedures to leave more beds, equipment, and staffing available for treating patients with COVID-19.

Elective care generally refers to any care that is not urgent, but many so-called elective procedures are nonetheless lifesaving or can significantly improve quality of life. Hospitals in the U.S. appear to be making different decisions about whether and which care to delay, making it difficult to model the cost effects. The Centers for Medicare & Medicaid Services (CMS), have release broad guidelines recommending procedures to be delayed. Additionally, some other types of hospitalizations may be avoided or delayed beyond just surgical procedures.

To understand the potential impact of delayed and forgone care and considerations insurers face in setting premiums for next year, we analyzed claims data from non-elderly enrollees of large employer plans using a sample of the IBM MarketScan Commercial Claims and Encounters Database. In 2018, 37% of hospital admission spending by large employer plans was on surgical procedures that did not originate in the emergency room, some of which may be delayed or forgone. Some of the surgical admissions that do not originate in the emergency room are nonetheless time-sensitive and life-saving. As hospitals across the U.S. are making differing decisions about which procedures to go forward with, often on a case-by-case basis, it is not yet possible to say how much of this or other hospital spending will be canceled or deferred into next year, but it gives a sense of the uncertainty and assumptions insurers may make in setting premiums for next year.

Elective procedures represent a substantial share of spending on hospitals



Although most forgone care is likely to put downward pressure on health costs this year, at least for several months, the delayed procedures and costs could shift to the next calendar year, raising spending for 2021. There is additionally some concern that certain types of delayed care could worsen health outcomes and cause higher spending later. For example, delaying or forgoing chronic disease management, either because of reduced access to medical providers or pharmacy services, could lead to more complications later.

Special considerations for private insurance and enrollees

Private insurers face particular challenges in predicting their costs, as there are still many unknowns around policymaking relating to cost-sharing requirements and risk mitigation programs. As the AHIP estimates demonstrate, the range of possible costs could vary ten-fold depending on the severity of the outbreak, not to mention additional unknowns such as the number and types of elective procedure delays, amount of pent-up demand, and uncertainty over policy changes.

Commercial insurers must submit premiums for 2021 to state regulators for review and approval in the next two months. In their premium calculations, insurers are not allowed to justify future premium increases based on any losses they expect this year. Instead, premium justifications must be based on assumptions about claims costs for next calendar year. If claims costs are exceptionally high this year, though, insurers might need to replenish surplus in order to remain solvent. Once finalized, in late summer, premiums will be locked in and insurers will be unable to change those rates for the duration of the coming calendar year.

The consequences of guessing wrong could be dire for some insurers. Insurers may have an incentive to over-price their plans, particularly on the individual market where many enrollees are subsidized and sheltered from premium increases. State regulators could encourage insurers to make similar assumptions about COVID-19 costs and pent-up demand so that premiums are not radically different from each other simply based on differing assumptions. However, the uncertainty around premium setting could also lead some insurers to decide not to offer coverage next year. In past years, when there was uncertainty around premium setting, some parts of the country were at risk of having no insurer offering exchange coverage.

Congress has not passed a risk mitigation program for private insurers in light of COVID-19. However, the Affordable Care Act (ACA) included two temporary market stabilization programs in its early years that could serve as models. Reinsurance would protect insurers against losses from extremely high-cost enrollees and a risk corridors program would protect against extreme gains or losses from inaccurate premium setting.

Reinsurance works by reimbursing insurers for a portion of claims cost for each enrollee that exceeds a certain threshold. If an enrollee's costs exceed a certain threshold, called an attachment point, the plan is eligible for payment up to the reinsurance cap. Under the ACA, attachment points were set at $45,000 in the initial years of the program. As the program is intended to reimburse for extremely high cost individuals, and many COVID-19 patients will have hospitalizations that cost in the $20,000 range, reinsurance as designed under the ACA would have missed many of these enrollees and would likely only reimburse for those COVID-19 patients requiring intensive care or ventilation. The program could be altered to include condition-based reimbursement, but it would not address mispricing due to incorrect assumptions about non-COVID care like elective procedures being delayed or forgone.

A risk corridors program would more directly address concerns of mispricing, including inaccurate assumptions about delayed elective procedures and pent-up demand beyond COVID-19 treatment, by limiting losses and gains beyond an allowable range. The federal government would share in the gains and losses of private insurers that set premiums too high or too low. Under the ACA's risk corridors program, insurers whose claims costs were lower than expected by more than 3% paid into the program, and those whose claims costs were higher than expected by more than 3% received funds from the program. If an insurer's claims fell within plus or minus three percent of their target amount, the plan made no payments into the risk corridor program and received no payments from it. In other words, insurers would still experience some gains and losses, but both would be limited.

For private insurance enrollees, out-of-pocket costs remain a concern. Some insurers have voluntarily waived cost-sharing for COVID-19 treatment, and a mandate has been proposed though not passed at the federal level. For those whose costs are not waived, we have estimated that out-of-

pocket costs for a COVID-19 hospitalization could exceed $1,300 for people who are insured by a large employer. Out-of-pocket costs would likely be higher for people covered by small businesses and individual market plans, as those plans tend to have higher deductibles.

Special considerations for Medicare program and enrollees

Older adults are at particularly high risk for COVID-19 complications and death, and virtually all adults ages 65 and older are covered by the Medicare program. While it is possible that Medicare spending will increase above projected baseline spending for 2020, the magnitude of that increase, and the longer-term impact, is not clear. Increases in Medicare spending would have spillover effects for Medicare beneficiaries' out-of-pocket spending in future years, in the form of higher premiums, deductibles and other cost-sharing requirements.

The pandemic is likely to put upward pressure on Medicare spending due to the following factors: the number of Medicare-covered COVID-19 hospitalizations; how much Medicare pays to treat COVID-19 patients, taking into account the share of hospitalized patients requiring ventilator support, and the 20 percent increase in Medicare payments for COVID-19 patients; the share of COVID-19 patients requiring post-acute SNF or home health care, and the intensity of services they receive; the cost of medications used to manage patients outside the hospital setting; the cost of a vaccine, when it becomes available; and the number of beneficiaries who are tested for the coronavirus.

However, just like in private insurance and Medicaid coverage, increases in Medicare spending may be partially offset by delayed or forgone procedures and office visits. A reduction in spending due to postponement of such procedures would offset the increase in Medicare spending for COVID-19 patients, at least in the short term. It is not yet known what share of these procedures will be rescheduled for later this year or shifted into 2021, or whether the delay in care will lead to costly adverse health events down the road.

It is also not known the degree to which expanded telehealth services will impact Medicare spending. Prior to the outbreak, Medicare payments for telehealth were extremely limited under the traditional Medicare program. Based on new waiver authority included in the Coronavirus Preparedness and Response Supplemental Appropriations Act (and as amended by the CARES Act) the HHS Secretary has waived certain restrictions on Medicare coverage of telehealth services for traditional Medicare beneficiaries during the coronavirus public health emergency. This change could offset a decline in the number of in-person office visits and the associated Medicare spending that would otherwise occur.

Capitated payments by the federal government to Medicare Advantage plans, which currently provide coverage to more than one third of the total Medicare population, may not be materially affected by the coronavirus in 2020 (though the underlying costs to those plans certainly could). Beginning in 2021, Medicare payments to Medicare Advantage plans could rise faster than expected based on the experience of plans this year and expectations for expenditures next year, or if benchmarks rise due to higher traditional Medicare spending; if average spending for traditional Medicare beneficiaries rises due to COVID-19, then payments would be likely to rise for Medicare Advantage plans, as well, with considerably variation across counties, across the country.

For Medicare beneficiaries, the impact of COVID-19 on out-of-pocket spending in the short term will depend on whether they are infected and whether they require hospitalization for treatment. Although beneficiaries will face no out-of-pocket costs for testing or testing-related services, many would face exposure to costs for treatment, unless they have supplemental coverage that will pay some or all of these costs, or are enrolled in a Medicare Advantage plan that is waiving cost sharing for treatment. For patients who do not have COVID-19, they may face a drop in spending if they delay health care services they might otherwise have received, such as elective procedures or office visits. Over the longer term, beneficiaries could face an increase in out-of-pocket costs for Medicare premiums and deductibles if Medicare spending for 2020 increases due to COVID-19 (beyond what it otherwise would have).

Special considerations for Medicaid programs and enrollees

Medicaid program costs are expected to increase as a result of dealing with COVID-19 because of the cost of treating currently enrolled patients with COVID-19 and because overall enrollment is expected to rise as unemployment increases and people lose their job-based coverage.

As a countercyclical program, Medicaid enrollment increases during economic downturns when people lose jobs and income and qualify for coverage. Increased demand and enrollment results in increased spending. As a condition to access a temporary increase in the Medicaid match rate, states must comply with maintenance of eligibility requirements and cannot restrict eligibility or make it more difficult to apply for Medicaid and states must also provide continuous eligibility through the emergency period. Increased enrollment and potentially higher costs tied testing and treatment of COVID-19 will put upward pressure on Medicaid costs.

Even aside from enrollment increases, COVID-19 could result in higher costs to Medicaid programs than anticipated, as in private insurance and Medicare. Most Medicaid enrollees are served through capitated managed care plans, so new unanticipated costs could be incurred by private insurers. States could have options to negotiate rate adjustments, provide additional “kick” payments for COVID-19 related costs, implement carve-outs of COVID-19 related care, establish risk corridors or make retroactive adjustments to address higher than anticipated costs. Recent CMS guidance speaks specifically about such adjustments for COVID-19 testing and for the telehealth services.

Similar to other payers, Medicaid programs may see some declines in utilization of non-urgent care; however, unlike other payers, a larger share of Medicaid spending may continue. The majority of Medicaid spending is for the low-income elderly and people with disabilities, which includes spending for long-term services and supports. These services provided in institutional or community based settings are ongoing and necessary to assist with activities of daily living and cannot be easily deferred.

Strategies typically employed to reduce costs in response to economic conditions may not be viable. In past recessions, states have tried to manage costs by freezing or cutting provider rates or implementing targeted benefit restrictions. However, as many providers are strained by the coronavirus response, provider rate cuts may not be feasible and targeted benefit cuts are unlikely to amount to significant reductions in spending (especially because spending on some optional services, like dental care, are generally small and may be naturally lower if individuals are not accessing those services due to the pandemic).

Medicaid may also be used as a vehicle to support providers as a result of COVID-19. An array of options may be available to help provide funding quickly to providers through Medicaid. For example, states can make advance, interim payments to providers based on historic claims. States can also pay higher rates for home and community based services during the emergency.

Discussion

The costs of coronavirus testing and COVID-19 treatment are expected to be high, reaching tens if not hundreds of billions of dollars, but there is extreme variation in estimates due to remaining uncertainty about the extent of the outbreak. Additionally, other care, such as for elective procedures and some outpatient care or pharmacy use, is likely to be forgone as hospitals take measures to free up capacity for COVID-19 patients and individuals put off care due to less access under social distancing orders or concerns over contracting the virus. On net, health spending could be higher this year and next than otherwise expected before the pandemic hit, but it is yet to be seen how upward and downward cost pressures will balance out.

Private insurer earnings calls and quarterly cost data will provide some clues into how net spending has changed, but insurers will soon need to make decisions about participation and premiums for 2021 with very limited information. The implications of inaccurate assumptions could include higher premiums, steep increases in future years, and insurers exiting the market.

Federal Medicare spending could increase more than it otherwise would due to COVID-19, but the magnitude of that increase is an open question. As is the case with private insurance, the increase in spending for COVID-19 hospitalizations over a period of several months in 2020 will be partially offset by the decrease in spending for non-urgent surgeries, procedures and other medical services. COVID-19 could lead to an increase in payments to Medicare Advantage plans in 2021, depending on the experience of plans in 2020, and whether higher spending on COVID-19 treatment is offset by reduced spending on non-urgent procedures. An increase in Medicare spending would have spillover effects for beneficiaries' premiums, deductibles and cost-sharing, and come at a time when Medicare already faces long-term financing challenges.

Medicaid programs will experience increased spending from both the treatment of COVID-19 and increased enrollment as unemployment increases and people lose their job-based coverage. Some of the cost-cutting mechanisms Medicaid programs employed under past recessions may not be an option in the midst of the coronavirus pandemic.

Methods

We analyzed a sample of medical claims obtained from the 2018 IBM Health Analytics MarketScan Commercial Claims and Encounters Database, which contains claims information provided by large employer plans. We only included claims for people under the age of 65, as people over the age of 65 are typically on Medicare. This analysis used claims for almost 18 million people representing about 22% of the 82 million people in the large group market in 2018. Weights were applied to match counts in the Current Population Survey for enrollees at firms of a thousand or more workers by sex, age and state. Weights were trimmed at eight times the interquartile range.

Admissions were classified as pneumonia when the associated diagnosis-related group (DRG) was 193, "Simple Pneumonia and Pleurisy with major complications," 194 with "complication or comorbidity" or 195 "without complication." Admissions were classified as a respiratory system

Report

BROOKINGS

How well could tax-based auto-enrollment work?

Christen Linke Young and Sobin LeeTuesday, April 14, 2020

Editor's Note:

This analysis is part of the USC-Brookings Schaeffer Initiative for Health Policy, which is a partnership between Economic Studies at Brookings and the University of Southern California Schaeffer Center for Health Policy & Economics. The Initiative aims to inform the national health care debate with rigorous, evidence-based analysis leading to practical recommendations using the collaborative strengths of USC and Brookings.

Auto-enrollment into health insurance coverage is an attractive policy that can drive the U.S. health care system towards universal coverage. It appears in coverage expansion proposals put forward by 2020 presidential candidates, advocates, and scholars. These approaches are motivated by the fact that at any given time half of the uninsured are eligible for existing subsidized coverage programs. But a major challenge for any auto-enrollment proposal is coverage churn throughout the year: individuals become uninsured as their circumstances change, and those who were previously uninsured gain coverage.

One approach to address these challenges is to pursue retroactive enrollment into coverage, where all uninsured individuals would be considered covered and premiums charged retroactively, eliminating the need to know about status changes in real time. While this approach would achieve truly universal coverage, some may have concerns about requiring individuals to pay premiums for coverage they have not actively selected and therefore wish to explore less ambitious policies. One such alternative is a forward-looking tax-based auto-enrollment policy under which uninsured consumers eligible for $0 premium coverage would be automatically enrolled after filing their taxes each year.

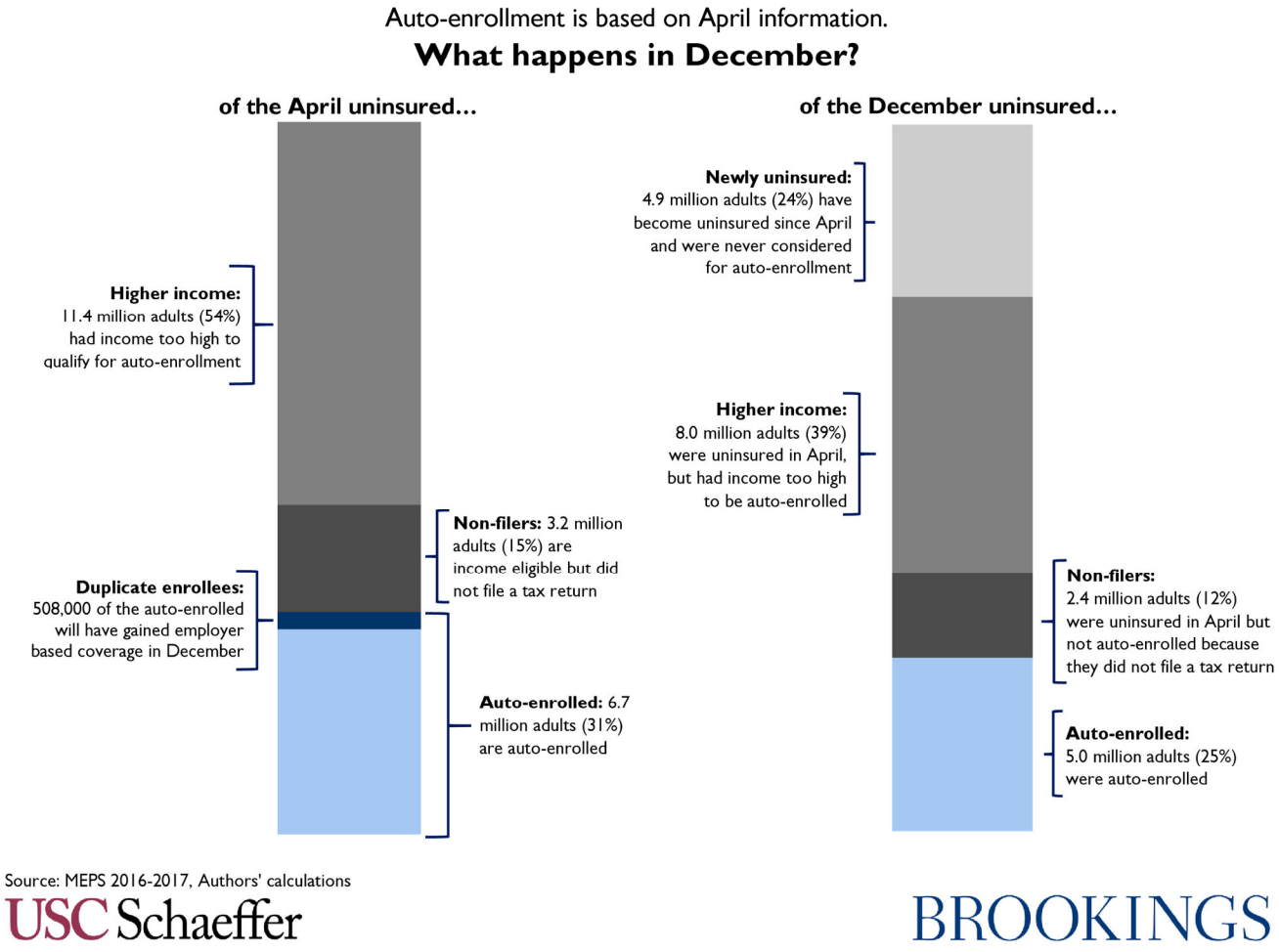
The analysis presented here briefly describes how prospective tax-based auto-enrollment could work and considers some of the major policy and operational changes necessary to implement the policy described. It then uses survey data to assess how effective an optimally-executed version of this policy would be in targeting the uninsured.

How it operates: On the individual tax return, tax filers would indicate whether each member of their household had coverage as of the date of filing (e.g., April 15). The income reported on the tax return would be used to determine if uninsured household members were eligible for Medicaid, for Marketplace coverage with sufficient financial assistance that they could obtain a plan for $0, or only for coverage that charged a premium. Those eligible for Medicaid or for $0 Marketplace coverage would be directly enrolled; those owing a premium would not (but would be informed about how much coverage would cost after the subsidy).

What changes are necessary: Major changes to current law would be necessary to implement this policy. Most importantly, people would need to be entitled to enroll in coverage with financial assistance or Medicaid eligibility based on their prior year income, rather than their current or projected income. In addition, the employer coverage firewall would need to be eliminated, open-enrollment would need to move from November/December to April/May, and IRS information technology would need to be upgraded significantly.

How well it works: We conducted an analysis of 2017 survey data with significant simplifying assumptions, including assuming that all states have expanded Medicaid and simplifying the assessment of who is likely to qualify for a $0 premium Marketplace plan. Under those assumptions, we find that if this system had been operational in 2017, 6.7 million adults would have been auto-enrolled into coverage, the large majority into Medicaid. This would provide insurance for 31% of lawfully present adults that would otherwise be uninsured as of April

2017. Of those who were auto-enrolled, 508,000 (7.6%) would have gained employer coverage by December 2017. Further, in December, the population that was auto-enrolled would have encompassed 25% of December's otherwise uninsured. Three quarters of December's uninsured would not have been auto-enrolled for various reasons: 12% were uninsured in April and income-eligible but would not have filed a tax return, 39% were uninsured in April but had incomes too high to qualify for $0 coverage, and 24% had coverage in April and therefore would not have been considered for auto-enrollment.



Taken together, this suggests that forward-looking tax-based auto-enrollment would generate significant coverage gains compared to current law, which could justify the significant operational and policy changes necessary. However, this policy would not achieve universal coverage, and the costs of duplicating employer coverage may be significant.

The full report appears below. For a PDF version of the report, click here.

Introduction

Auto-enrollment into health insurance coverage has earned support across the political spectrum. Analyses of point-in-time coverage and income statistics indicate that 25% of the nonelderly uninsured are eligible for Medicaid and another 25% are eligible for financial assistance to buy coverage in the Health Insurance Marketplace. Further, many of the Marketplace-eligible uninsured qualify for sufficient financial assistance that they would owe no premium for a bronze plan. Together, the available evidence suggests that at any given time, more than 40% of the uninsured qualify for zero premium coverage: 25% through Medicaid and another approximately 17% through the Marketplace. Therefore, enrolling those eligible – even just those eligible for zero premium coverage – could reduce the uninsured rate substantially.

However, point in time estimates mask the fact that individuals churn in and out of health coverage. A major source of coverage gain and loss is changes in employment status that cause people to gain or lose employer-based coverage, and consumers' eligibility for and enrollment in public coverage programs also changes over time. Our previous analysis finds that coverage churn can be substantial. Analysis of 2012 survey data found that information about health insurance coverage that is just one month old is already inaccurate for many consumers: 5% of those who were uninsured one month ago have gained coverage, while 5% of the currently uninsured had coverage last month. Over slightly longer time horizons, information accuracy degrades further: 20% of the previously uninsured have gained coverage within 5 months, while 20% of the currently uninsured had coverage 5 months ago.

Changes in income can also frustrate attempts to determine who among the uninsured is eligible for coverage in which programs and at what price. Medicaid eligibility is generally based on monthly income and Marketplace financial assistance is based on actual end-of-year income. Therefore, individuals who experience gains or losses in income may see their program eligibility change or may qualify for more or less financial assistance than previously calculated.

Despite these challenges, auto-enrollment remains an attractive policy option. One approach to address the challenges of coverage status and income churn is to pursue retroactive enrollment into coverage: individuals who are otherwise uninsured can be considered "enrolled" in a plan that will pay any health care claims they incur, and eligibility can be assessed and premiums (if any) retroactively collected at a future point. Retroactive enrollment would eliminate the need to know about status changes in real time and would achieve truly universal coverage.

However, policymakers may be concerned that retroactive enrollment may be disruptive or politically infeasible. The creation of a new plan to provide retroactive coverage and requiring after-the-fact premium payments may pose challenges, though we have argued elsewhere that this approach is less disruptive than it may seem. Nonetheless, policymakers may wish to consider other options. An alternative to retroactive enrollment is to pursue a forward-looking tax-based approach, where uninsured consumers eligible for $0 premium coverage options would be enrolled after filing their taxes each year.[1] Unlike retroactive enrollment, this will fall short of achieving universal coverage – because not all uninsured have a $0 premium options, because not everyone files taxes, and because coverage churn will generate new uninsured over the course of the year. But it is an incremental approach that could still lead to significant coverage gains.

The remainder of this paper attempts to understand how successful an optimally executed tax-based auto-enrollment approach could be. It describes the type of policy under consideration, then considers some of the high-level policy and operational changes that would be needed to enable such an approach. Finally, it uses two survey data sources to attempt to simulate how successful such a policy would have been in enrolling the eligible uninsured if it had been operational in past years.

A Tax-Based Auto-Enrollment Approach

The policy considered here would operate as follows. On the individual tax return, tax filers would indicate whether each member of their household had coverage as of the date of filing (e.g., April 15, 2020) and if they consented to being enrolled in coverage if they were uninsured. The prior year income (e.g. calendar year 2019 income for the household, as reported on the tax return), would be used to determine if uninsured household members were eligible for Medicaid or for Marketplace coverage.

- Uninsured consumers with prior year income making them eligible for their state's Medicaid program would be enrolled by the Medicaid agency, with coverage running from June through May (e.g., June 1, 2020 through May 31, 2021).
- Uninsured consumers with prior year income making them eligible for Marketplace coverage with $0 premium would be enrolled by the Marketplace into a $0 premium plan at the highest actuarial value with a $0 option, with coverage running from June through May (e.g., June 1, 2020 through May 31, 2021). For some consumers this might be a silver plan, but many would only qualify for $0 premium bronze plans.[2]

- Uninsured consumers with prior-year income too high to qualify for $0 premium coverage would receive outreach from the Marketplace estimating their premiums for the coming year and encouraging them to enroll.

Before enrolling a consumer, the Marketplace or Medicaid agency would verify citizenship or immigration status using the Social Security Number provided on the return. Consumers who could not be verified and those filing with other types of Taxpayer Identification Numbers would not be enrolled, but could receive outreach. There would be no need for additional income verification because prior year income, as reflected on the tax return and used as the basis for the eligibility assessment, would now be sufficient for eligibility purposes. Coverage renewals at the end of the benefit year (e.g. in May of 2021) would operate according to normal Medicaid or Marketplace renewal rules.

Policy and Operational Changes Necessary

Many significant policy and operational changes would be necessary to implement this approach. These include:

- ***Medicaid and Marketplace financial assistance must be converted to 12-month continuous eligibility based on prior calendar year income.*** Under current law, a household's 2019 calendar year income might *suggest* that they are eligible for Medicaid or for Marketplace financial assistance sufficient to enroll in a $0 premium plan in 2020 – but it does not actually *establish* that eligibility. In order to allow auto-enrollment to operate, eligibility rules must be modified so that prior calendar year income establishes an entitlement to coverage in Medicaid or to a specific amount of Marketplace financial assistance. Consumers who experience significant reductions in income would be permitted to opt into a voluntary process to claim additional assistance, potentially including a "reconciliation" process for Marketplace financial assistance and Medicaid's monthly income

methodology as under current law, but those with income increases would not lose eligibility. This change would be expected to increase the number of people eligible for free coverage over the course of the year.

- ***The employer coverage firewall must be eliminated.*** Under current law, consumers are not eligible for Marketplace financial assistance if a member of their household has an affordable coverage offer from an employer. Nine percent of the uninsured are barred from financial assistance by this rule today. Yet, under the tax-based auto-enrollment approach described here, one cannot identify these individuals at tax filing without asking a lengthy series of additional questions – and one cannot identify individuals who gain a qualifying coverage offer during the benefit year *at all*. To enable the type of auto-enrollment described here for $0 premium Marketplace enrollees, the employer coverage firewall must not remain in effect; individuals would be eligible for assistance regardless of their employer's coverage offer. One possible alternative to the current law firewall would be to disenroll consumers who gained enrollment in (not just eligibility for) employer coverage, which would require additional reporting by employers. For example, employer reporting to the National Database of New Hires could be modified to include identifying information for individuals enrolled in the employer's coverage. Periodic checks of this database could be used to identify those who should be disenrolled from Marketplace coverage (after notice and opportunity to opt out of disenrollment). This would, however, be a significant operational undertaking. Further, it would not address the fact that many individuals will chose to forego enrollment in employer coverage if Marketplace coverage is more affordable, but it could limit the extent to which truly duplicate enrollment accretes over time.
- ***Marketplace open enrollment should run in April and May, with coverage beginning June 1.*** Beginning the coverage benefit year as close as possible to the standard tax filing deadline will allow enrollment to be based on the most accurate information possible. This shift becomes possible only if

Marketplace financial assistance is no longer "reconciled" based on calendar year income, but, as noted above, such a change is also necessary for auto-enrollment to function.

- ***Major improvements in IRS information processing are necessary.*** To operate this type of system, the Internal Revenue Service (IRS) must process tax return information and make it available for coverage enrollment purposes very quickly. Indeed, the timeline specified above requires information to be used for enrollment purposes 6 weeks after filing. This maximizes the accuracy of the information used. However, the IRS does not currently have the capability to execute a process at this speed. For example, today, information about prior year income is not made available to health care agencies for verification purposes through the Data Services Hub until late summer, though some summary statistics on tax filing are available as early as May. Major investment in IRS information technology would be necessary to enable the agency to operate at the speed described here.

These are fairly large changes. In addition, they would come with a significant federal fiscal cost—and some costs for the states as well—even before considering the cost associated with increased enrollment in subsidized coverage due to the auto-enrollment policy itself. At the same time, these changes would also be expected to increase enrollment and lower premiums, apart from their role in enabling auto-enrollment, by simplifying the enrollment and outreach landscape. Assuming these challenges can be overcome, we turn now to an attempt to simulate how effective this policy could be in reducing the uninsured.

Simulating the Effectiveness of Tax-Based Auto-Enrollment

As noted above, a significant fraction of the uninsured at any given point in time qualify for coverage without any premium and could potentially benefit from tax-based auto-enrollment. But churn in coverage and income can frustrate this

approach. We use two sources of survey data to estimate how effective a tax-based auto-enrollment policy would have been in targeting the uninsured if it had operated in a prior year. Recall that a tax-based auto-enrollment policy determine eligibility based on uninsured status from April (as reported on tax returns) and income for the prior calendar year. The household's prior calendar year income would be sufficient to establish an entitlement to Medicaid or Marketplace financial assistance for the 12-month period beginning in June of the following year. Therefore, we identify consumers' insurance status in April and their income in the prior calendar year, and track changes over time.

We are concerned with two metrics assessing the impact of coverage churn on the accuracy and effectiveness of potential auto-enrollment: the *duplicate enrollment rate* and the *uncaptured uninsured rate*. The duplicate enrollment rate for a specific month measures the fraction of the April uninsured that have gained employer coverage for a month during the June to May benefit year.[3] The uncaptured uninsured rate for a month during the benefit year measures the fraction of the current month uninsured that had coverage in April (and therefore could not have been captured by auto-enrollment). We are also interested in the share of the April uninsured who have incomes too high to qualify for auto-enrollment into $0 premium coverage, or who are income-eligible but will not have filed a tax return.

Data Sources and Approach

The Medical Expenditure Panel Survey Household Component (MEPS-HC) tracks coverage status in each of the 24 consecutive months spanning two calendar years and includes a measure of yearly income in each calendar year of the study. MEPS data is available for multiple two-year periods, including the 2011-2012 and 2016-2017 panels that are analyzed here. In addition, the Survey of Income and Program Participation (SIPP) has historically tracked coverage status and

income in each month over a multi-year period, including the 2008 panel that spanned 2008-2013. SIPP data spanning 2011 through 2013 were used in this analysis.

We assume that all states have expanded Medicaid under the Affordable Care Act and provide coverage – with no premium – to anyone below 138% of the federal poverty level (FPL). Compared to current policy, this assumption will increase the proportion of people eligible for auto-enrollment into Medicaid and decrease the proportion eligible for auto-enrollment into a $0 premium Marketplace plan, likely by fairly substantial margins. Our analysis is limited to non-elderly adults, ages 19-64. We treat all adults as potentially eligible and do not attempt to model coverage eligibility based on citizenship or immigration status, and scale our results to reflect the lawfully present population. A detailed discussion of methods and results appears in the Appendix.

Simulating Auto-Enrollment in 2017

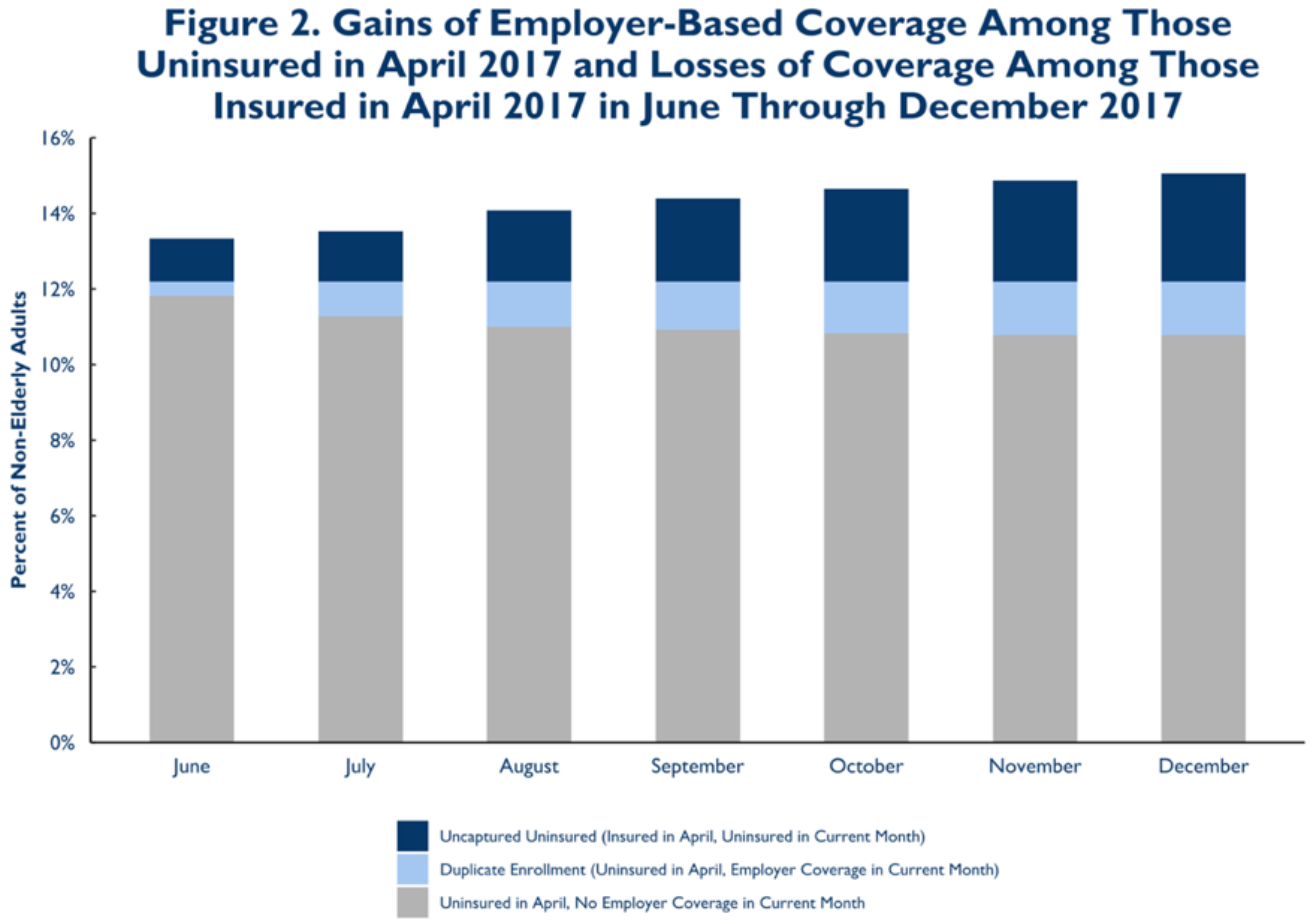
Analysis of MEPS data from 2016-2017 allows us to simulate the impact auto-enrollment would have had if it had been operational in 2017. We consider coverage status as reported to MEPS in April of 2017 and income as reported for calendar year 2016. We find 21.3 million lawfully present, non-elderly adults were uninsured in April 2017. As depicted in Figure 1, we can divide the April uninsured into those that have a 2016 income below 138% FPL and could be enrolled in Medicaid (7.6 million people) assuming all states have expanded, those that have a 2016 income between 138% FPL and 170% FPL and are reasonably likely to be eligible for a $0 premium Marketplace plan (2.2 million people), and those with a 2016 income above 170% FPL who are less likely to be eligible for a $0 premium plan (11.4 million people).[4]

Figure 1. Coverage Status and Prior Year Income in April 2017, MEPS 2016-2017.

	Uninsured in April 2017	
Income in 2016	Millions	Percent of Non-Elderly Adults
Below 138% FPL	7.6	4.4%
138-170%	2.2	1.3%
Above 170%	11.4	6.5%
All incomes	21.3	12.2%

Of course, over time this coverage information will become less accurate. To determine the duplicate enrollment rate, we examine gains of employer-based coverage[5] among the April uninsured. As shown below, by June 2017, when auto-enrollment based on the April coverage information would have occurred, 3.1% of the 21.3 million people (of all incomes) who were uninsured in April have gained employer-based coverage; by December 11.7% have done so. To the extent members of this group were auto-enrolled, their auto-enrollment in Medicaid or Marketplace coverage would duplicate employer coverage.

To determine the uncaptured uninsured rate, we examine losses of coverage (of any type) among the population that was insured in April at all income levels, as a fraction of the total uninsured population for that month. In June, 8.9% of the uninsured could not even have been considered for auto-enrollment because they have become uninsured since April, and by December this rises to 24%.



It is useful to consider the impact of this coverage churn by income. Figure 3 illustrates these differences. Notably, potential duplicate enrollment due to employer-based coverage is largely concentrated among the higher income population that is least likely to be eligible for Medicaid or a $0 premium bronze plan, and therefore less likely to have been auto-enrolled in the first place. The uncaptured uninsured due to coverage losses are more evenly distributed across the income spectrum, though they also are concentrated to some degree among those with higher incomes.

Figure 3. Duplicate Enrollment and Uncaptured Uninsured by Income in June and December 2017, MEPS 2016-2017.

	Duplicate Enrollment (uninsured in April, employer coverage in current month, as % of April uninsured in income range)		Uncaptured Uninsured (insured in April, uninsured in current month, as % of current month uninsured in income range)	
Income in 2016	June	December	June	December
Below 138% FPL	0.8%	6.5%	5.3%	20.8%
138-170%	1.2%	11.1%	3.9%	21.2%
Above 170%	5.1%	15.3%	12.1%	27.3%
All incomes	3.1%	11.7%	8.9%	24.3%

Finally, we estimate the share of the April uninured that are income-eligible for auto-enrollment but cannot be auto-enrolled because the household does not file a tax return. Based on estimates from the Tax Policy Center,[6] we conclude that 34% of the uninsured with incomes below 138% FPL and 27% of the uninsured with incomes between 138-170% FPL will not have filed taxes. We adjust the proportion of the April income-eligible uninsured that can be auto-enrolled accordingly.

Taken together, this analysis indicates that of those uninsured in April 2017, about 6.7 million adults (31% of the April uninsured) could likely have been auto-enrolled, including 5 million adults into Medicaid and 1.7 million adults into $0 premium Marketplace coverage. Of the 6.7 million adults likely to be auto-enrolled, in December, the duplicate enrollment rate due to a gain of employer coverage would be 7.6% (508,000 adults). Among the April uninsured, 14.6 million adults (69%) will not be auto-enrolled: 11.4 million with incomes too high and 3.2 million who are income eligible but did not file a tax return.

On the other hand, the December uncaptured uninsured rate is 24% (5 million adults): 24% of the December uninsured have become uninsured since April and therefore could not be reached by autoenrollment. An additional 39% (8 million adults) of the December uninsured were also uninsured in April but had prior year incomes likely too high to qualify for a $0 premium plan, and 12% (2.4 million adults) were income eligible but did not file a tax return. Therefore, 25% of December's otherwise uninsured would likely have been reached by auto-enrollment the prior spring because they were uninsured at the time, filed a tax return, and had 2016 income below 170% FPL.

Put another way, 31% of the April uninsured can likely be reached by auto-enrollment, and that population will encompass 25% of the December uninsured.

Simulating Auto-Enrollment in 2012

MEPS provides a picture of post ACA coverage churn, but it has important limitations for simulating the auto-enrollment policy described here. First, it does not extend for the full coverage period, with the survey terminating in December while coverage would extend until May. Second, it provides only a calendar year snapshot of income. Therefore, to the extent consumers experience income decreases that would make them newly eligible for Medicaid or for $0 premium plans, MEPS does not allow examination of those changes. Using SIPP data can address both of these limitations; however, the most recent SIPP data suitable for this analysis covers 2011-2013.

Therefore, we replicated the simulation described above using SIPP data for 2011-2013, looking at uninsured status in April 2012, calendar year 2011 income, and coverage and income in June 2012 through May 2013. We also analyzed MEPS data from the 2011-2012 panel, to examine if survey differences had an important impact. The total number of uninsured was – as expected – much larger in the 2012 MEPS simulation than in the 2017 MEPS simulation, and the SIPP

simulation showed a smaller number of uninsured in 2012 than MEPS over the same time period. (See Appendix Figure A-4.) The patterns of coverage gains and losses showed some similarities across all three simulations, as shown in Figure 4. [7]

Figure 4. Coverage Gains and Losses in December, MEPS 2016-2017, MEPS 2011-2012, and SIPP 2011-2013.

	December	
	Duplicate Enrollment (uninsured in April, employer coverage in December, as % of April uninsured)	Uncaptured Uninsured (insured in April, uninsured in December, as % of December uninsured)
MEPS 2016-2017	11.7%	24.3%
MEPS 2011-2012	7.3%	15.0%
SIPP 2011-2013	12.3%	20.8%

Comparison of the 2017 MEPS simulation and the 2012 MEPS simulation suggest that post-ACA churn is larger – as a percentage of the uninsured – than pre-ACA churn, though care should be used in interpreting this result as each simulation covers only a single 8-month time span. Nonetheless, the observation is consistent with the claim that the ACA has reached a larger share of the chronically uninsured than of the short-term uninsured. Further, SIPP shows a higher degree of churn than MEPS over the same time period. This suggests caution in generalizing too far from any single simulation.

Nonetheless, extending the SIPP simulation through May shows some additional erosion in coverage accuracy. In the 2012 SIPP simulation, the duplicate enrollment rate (across all incomes) rose from 5% in June to 12% in December to 16% in May, while the uncapturable share of the uninsured rose from 9% in June to 21% in December to 24% in May. Because implementation of the ACA changed the income-composition of the uninsured (see, e.g., Appendix Figures A-1 and

A-4), caution should be used in generalizing from a pre-ACA simulation of the income of the uninsured. With that in mind, the 2012 SIPP simulation shows that 51% of the April 2012 uninsured had incomes below 170% FPL. Using the same estimates as above regarding the share of income-eligible households who fail to file a tax return, we find that 41% of the April uninsured are likely to be reached by auto-enrollment, and this group would constitute 32% of the December uninsured and 31% of the May uninsured. (See Appendix Figures A-7 and A-8.)

Bearing in mind the same caveats, it is also useful to consider how decreases in income would affect the accuracy of the auto-enrollment process. (Under the policy described above, increases in income would not affect eligibility.) In particular, of the April uninsured with incomes between 138% and 170% FPL in the prior year, a significant fraction become eligible for Medicaid over the course of the Marketplace benefit year. Specifically, 48% experience at least 4 months with income below 138% FPL during the 12-month benefit year. This group is likely to have been enrolled in a $0 premium plan with high cost-sharing relative to the Medicaid coverage for which they have newly become eligible. Similarly, of the April uninsured who had base year incomes above 170% FPL (who are therefore unlikely to be determined to have access to a $0 premium plan), 35% experience at least 4 months with incomes below 170% FPL, including 25% who experience at least 4 months with incomes below 138% FPL.

Limits of this Analysis

It is important to note that these simulations fail to capture several dynamics that would be relevant to the execution of an auto-enrollment strategy. Perhaps most importantly, the assumption that those with incomes below 170% FPL are likely eligible for $0 premium plans and those above are likely not is a very strong simplifying assumption. In reality, the distribution of $0 premium options varies based on age, geography, and other factors, with those who face the highest benchmark premiums the most likely to be eligible for $0 premium coverage – so

some people above 170% FPL will be eligible, and some below will not. However, it is beyond the scope of this analysis to model actual $0 premium eligibility. Further, as noted above, these figures assume that all states have expanded Medicaid, which depresses the share of the uninsured eligible for $0 premium private coverage, but increases the total number of people eligible for some coverage option.

In addition, these simulations assume everyone in the target universe who will file a return will do so by April 15, when in fact some file late. This leads us to overstate the number of people considered for auto-enrollment. In addition, we use April coverage status as a proxy for what would be presented on the tax return, when in fact many people file taxes in February or March, leading to somewhat less accuracy than we find here. We do account for non-filers, but assume a household's failure to file is uncorrelated with insurance status, which may not be an accurate assumption. We also ignore the impact of changes in household composition for births, marriages, divorces, etc. The simulations do not consider potential challenges in verifying citizenship or immigration status among those eligible or other operational obstacles.

Taken together, these factors suggest that we will overstate the reach of auto-enrollment. However, we believe the analysis provides a useful picture of the potential scope of population-level auto-enrollment approaches.

Conclusion

A forward looking, tax-based auto-enrollment system would collect coverage information on a tax return in April and use it to enroll eligible consumers into $0 premium plans for a benefit year that runs from June through May. Implementing this type of enrollment system would require significant policy and operational changes.

Based on a simulation using coverage and income data from 2016-2017, we find that 31% of the April uninsured file taxes and have incomes below 170% FPL, such that they are likely to be eligible for $0 premium coverage into which they can plausibly be auto-enrolled. By December, the group of consumers who could have been auto-enrolled represents 24% of the December uninsured, while 7.6% of those likely to have been auto-enrolled have gained employer coverage that might duplicate their auto-enrollment. Analysis of survey data from 2011-2013 suggest that these problems would continue as coverage extended into May, and that a significant fraction – perhaps as high as 1 in 2 – of those auto-enrolled into private insurance coverage could in fact become eligible for Medicaid at some point during the benefit year.

Thus, a forward looking, tax-based approach to auto-enrollment would plausibly generate significant coverage gains compared to current law, and those gains could justify the operational and policy changes necessary to make such a system possible. However, it should not be thought of as a policy that can achieve universal coverage, and the costs of duplicating employer coverage may be significant. In that respect, other approaches to enrollment, such as retroactive auto-enrollment policies, would fare better, though of course come with their own limitations.

Appendix

We use two primary survey data sources for our analysis. The Census Bureau's Survey of Income and Program Participation (SIPP) is a national longitudinal household survey that collects information on topics such as income, program participation, employment, and health insurance coverage. In addition, the Medical Expenditure Panel Survey (MEPS) Household Component (HC) provides information on topics such as health insurance, health status, and socio-economic characteristics.

For SIPP, we focused on adults ages 19 to 64 in December 2011 who reported valid insurance status information for all 29 months through May 2013. We weighted the observations by the individuals' survey weight in April 2012 when taxes are filed. Individuals were considered insured if they reported coverage in Medicare, Medicaid, military health care, or private health insurance. Individuals were considered to have employer coverage if they reported coverage in military health care or identified the source of coverage as current employer, former employer, or union.

For MEPS-HC, we focused on adults ages 19 to 64 in December 2011 (Panel 16) and December 2016 (Panel 21) who reported valid insurance status information for all 24 months. We weighted the observations by the longitudinal weight to provide national estimates. Individuals were considered insured if they reported coverage in Medicare, Medicaid, SCHIP, TRICARE or other public or private insurance. Individuals were considered to have employer coverage if they reported coverage in TRICARE/CHAMPVA or identified the source of coverage as employer or union.

Income level relative to FPL was constructed using the family income and size provided in each dataset. Annual income was calculated by summing monthly family income for all 12 months of the calendar year in SIPP and using the annual total family income in MEPS. It is important to note that the family size and income used may not correspond to the tax unit size and Modified Adjusted Gross Income (MAGI) used to determine Medicaid and Marketplace eligibilities.

Estimates provided by researchers at the Tax Policy Center indicate that 34.2% of tax units with income under 138% FPL, 26.8% of tax units with income 138-170% FPL, and 5.0% of tax units with income above 170% FPL do not file for taxes; we adjusted our estimates to account for those who cannot be auto-enrolled because they fail to file a tax return.

This analysis assumes that all observations in the MEPS and SIPP data represent citizens or lawfully present immigrants. Accordingly, we scale our results to exclude the undocumented population. We scale down our count of the uninsured by 16.2%, based on estimates from the Urban Institute.[8] We also scaled down total non-elderly adults by 4.4% based on Pew's 2017 estimate of 10.5 million undocumented immigrants, DHS's estimate that non-elderly adults account for 84% of the undocumented, and the Census 2017 population estimate of 201 million non-elderly adults.

To identify households who experienced at least 4 months of income below a relevant threshold we considered the SIPP monthly income variable for each month in the benefit year (June 2012 to May 2013) as compared to the income for 2011. Months below a threshold did not have to be consecutive.

Results of MEPS 2016-2017 Simulation

The tables below illustrate the results of the simulation in the 2016-2017 MEPS. Appendix Figure A-1 illustrates the 2016 income of the April 2017 uninsured. Appendix Figure A-2 examines coverage status in April and June of 2017 by income: those below 138% in 2016, those between 138% and 170% FPL in 2016, and those above 170% FPL. Appendix Figure A-3 examines coverage status in April and December of 2017 across the same income groups. These figures are not adjusted to reflect non-filers, but are scaled to reflect lawfully present adults.

Appendix Figure A-1. Coverage Status and Prior Year Income in April 2017, MEPS 2016-2017.

	Uninsured in April 2017	
Income in 2016	People	Percent of Non-Elderly Lawfully Present Adults
Below 50% FPL	2,328,847	1.3%
50-100%	2,945,037	1.7%
100-138%	2,373,468	1.4%
138-170%	2,244,508	1.3%
170-200%	1,505,297	0.9%
200-250%	2,177,873	1.2%
250-300%	1,719,379	1.0%
300-350%	1,268,098	0.7%
350-400%	876,209	0.5%
Above 400%	3,884,428	2.2%
All incomes	21,323,143	12.2%

Appendix Figure A-2. Coverage Gains and Losses by Income in June 2017, MEPS 2016-2017.

	Uninsured in April 2017				Insured in April 2017	
	Employer Coverage		Any Coverage		Any coverage	
Income in 2016	No employer coverage in June	Employer coverage in June	No coverage (any type) in June	Coverage (any type) in June	No coverage (any type) in June	Coverage (any type) in June
Below 138%	7,588,209	59,143	7,343,010	304,342	414,187	22,909,946
138-170%	2,216,991	27,517	2,146,178	98,330	87,288	6,891,322
Above 170%	10,846,407	584,876	10,638,784	792,499	1,466,139	121,685,866
All incomes	20,651,607	671,536	20,127,971	1,195,172	1,967,615	151,487,134

Appendix Figure A-3. Coverage Gains and Losses by Income in December 2017, MEPS 2016-2017

	Uninsured in April 2017				Insured in April 2017	
	Employer Coverage		Any Coverage		Any coverage	
Income in 2016	No employer coverage in December	Employer coverage in December	No coverage (any type) in December	Coverage (any type) in December	No coverage (any type) in December	Coverage (any type) in December
Below 138%	7,153,834	493,518	5,963,032	1,684,320	1,566,065	1,535,790
138-170%	1,995,011	249,497	1,514,358	730,150	406,459	398,602
Above 170%	9,680,215	1,751,068	8,030,312	3,400,971	3,013,311	2,955,057
All incomes	18,829,060	2,494,083	15,507,702	5,815,442	4,985,835	148,468,914

Results of the 2012 Simulations

The tables below illustrate the results of simulations from the 2011-2012 MEPS and 2011-2013 SIPP. Appendix Figure A-4 depicts the 2011 income of the April 2012 uninsured in both surveys. Appendix Figures A-5 through A-8 examine coverage status in April 2012 and either June 2012, December 2012, or May 2013, by income, in MEPS and in SIPP. Finally, Appendix Figure A-9 examines the income during the 12-month benefit period as compared to income in 2011 in SIPP. As above, these figures are not adjusted for filing status, but are scaled to the lawfully present population.

Appendix Figure A-4. Coverage Status and Prior Year Income in April 2012, MEPS 2011-2012 and SIPP 2011-2013.

	Uninsured in April 2012, MEPS 2011-2012		Uninsured in April 2012, SIPP 2011-2013	
Income in 2011	People	Percent of Non-Elderly Lawfully Present Adults	People	Percent of Non-Elderly Lawfully Present Adults
Below 50% FPL	4,097,859	2.4%	2,226,285	1.9%
50-100%	4,862,031	2.8%	3,211,385	2.7%
100-138%	4,390,032	2.6%	2,987,113	2.6%
138-170%	3,415,410	2.0%	2,314,028	2.0%
170-200%	2,697,231	1.6%	1,888,452	1.6%
200-250%	3,917,098	2.3%	2,587,531	2.2%
250-300%	2,360,714	1.4%	1,854,706	1.6%
300-350%	2,130,762	1.2%	1,045,427	0.9%
350-400%	1,699,045	1.0%	696,749	0.6%
Above 400%	4,793,274	2.8%	2,068,935	1.8%
All incomes	34,363,455	20.0%	20,880,611	17.9%

Appendix Figure A-5. Coverage Gains and Losses by Income in December 2012, MEPS 2011-2012

	Uninsured in April 2012				Insured in April 2012	
	Employer Coverage		Any Coverage		Any coverage	
Income in 2011	No employer coverage in December	Employer coverage in December	No coverage (any type) in December	Coverage (any type) in December	No coverage (any type) in December	Coverage (any type) in December
Below 138%	12,779,636	570,286	11,866,451	1,483,471	1,470,003	20,475,236
138-170%	3,252,345	163,066	3,005,205	410,205	219,662	5,606,535
Above 170%	15,809,746	1,788,377	14,707,762	2,890,362	3,525,653	106,174,563
All incomes	31,841,727	2,521,729	29,579,417	4,784,038	5,215,318	132,256,335

Appendix Figure A-6. Coverage Gains and Losses by Income in June 2012, SIPP 2011-2013

	Uninsured in April 2012				Insured in April 2012	
	Employer Coverage		Any Coverage		Any coverage	
Income in 2011	No employer coverage in June	Employer coverage in June	No coverage (any type) in June	Coverage (any type) in June	No coverage (any type) in June	Coverage (any type) in June
Below 138%	8,172,084	252,699	7,717,532	707,251	587,245	11,539,204
138-170%	2,246,762	67,267	2,115,624	198,404	184,680	4,407,035
Above 170%	9,371,645	770,154	8,964,376	1,177,423	1,026,791	78,351,496
All incomes	19,790,491	1,090,120	18,797,533	2,083,078	1,798,716	94,297,736

Appendix Figure A-7. Coverage Gains and Losses by Income in December 2012, SIPP 2011-2013

	Uninsured in April 2012				Insured in April 2012	
	Employer Coverage		Any Coverage		Any coverage	
Income in 2011	No employer coverage in December	Employer coverage in December	No coverage (any type) in December	Coverage (any type) in December	No coverage (any type) in December	Coverage (any type) in December
Below 138%	7,726,232	698,551	6,881,736	1,543,047	1,416,663	10,611,885
138-170%	2,130,109	183,920	1,841,643	472,386	441,198	4,124,389
Above 170%	8,450,045	1,691,754	7,594,461	2,547,338	2,438,399	77,063,919
All incomes	18,306,386	2,574,225	16,317,840	4,562,771	4,296,260	91,800,192

Appendix Figure A-8. Coverage Gains and Losses by Income in May 2013, SIPP 2011-2013

	Uninsured in April 2012				Insured in April 2012	
	Employer Coverage		Any Coverage		Any coverage	
Income in 2011	No employer coverage in May	Employer coverage in May	No coverage (any type) in May	Coverage (any type) in May	No coverage (any type) in May	Coverage (any type) in May
Below 138%	7,555,008	869,775	6,711,460	1,713,323	1,512,232	10,599,619
138-170%	1,963,245	350,783	1,694,967	619,061	505,072	4,087,589
Above 170%	8,024,133	2,117,666	6,996,199	3,145,600	2,855,265	77,306,973
All incomes	17,542,386	3,338,225	15,402,626	5,477,985	4,872,569	91,223,883

Appendix Figure A-9. Households Experiencing Significant Income Changes, SIPP 2011-2013.

	Income during 12 month benefit year		
Income in 2011	At least 4 months income below 138%	At least 4 months income below 170% (but not at least 4 months below 138%)	Total
138-170%	1,120,131		2,314,028
Above 170%	2,535,611	3,572,650	10,141,799

Limitations

The discussion in the main text describes a number of features of an auto-enrollment policy that are not captured by this methodology, including the actual distribution of $0 premium bronze eligibility, a more accurate exclusion of potential enrollees based on citizenship and immigration status, changes in household composition, and states failure to expand Medicaid. In addition, there are several limitations to the data sources and methods used in this analysis. One notable limitation of the SIPP is the seam bias, which is the tendency to report the same status for the reference months during one interview and to report changes in status in between the months of the current and subsequent interview. SIPP participants are interviewed every four months so the duration of health insurance coverage spells may be in multiples of fours. By comparison, the influence of the seam bias is less prominent in MEPS likely due to their different interviewing and sampling methods.

Attrition, a phenomenon where survey participants drop out or fail to respond, is also a common problem in a longitudinal survey. We expect a higher sample loss rate for the SIPP data we examined (Wave 8 to 16) than for the data collected in earlier waves. While the Census Bureau tries to correct for the bias using weighting and imputation, our estimates may still be distorted.

Although MEPS may be better than SIPP in dealing with the seam bias, one limitation of MEPS is that the longitudinal household data only spans over two years. Therefore, the simulations using MEPS will not show the income and coverage status changes for the full benefit year of the auto-enrollment. In addition, the MEPS instrument design changed beginning Spring of 2018, affecting the last round (round 5) of the MEPS 2016-2017 data file. While the affected data was transformed to conform to previous study designs, the precise level of impact is unknown.

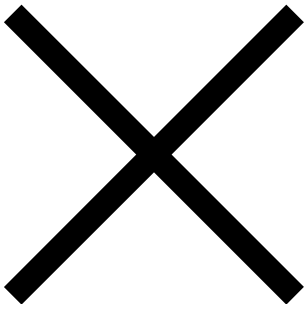
The authors thank Kathleen Hannick of the USC-Brookings Schaeffer Initiative for Health Policy and Gordon Mermin of the Urban-Brookings Tax Policy Center for assistance in this research.

Report Produced by **USC-Brookings Schaeffer Initiative for Health Policy**

Footnotes

1. 1 Consumers with incomes too high to qualify for $0 premium plans could still receive outreach about the opportunity to enroll, which would also generate coverage gains. The impact of those coverage gains is not considered here.
2. 2 Consumers auto-enrolled into bronze plans could receive targeted outreach informing them of the benefits of buying up to silver coverage with cost-sharing reductions with a small monthly premium contribution; this would require affirmative action by the enrollee.
3. 3 If this type of auto-enrollment policy were implemented, some of these individuals may still elect to enroll in employer coverage despite having been automatically enrolled in other coverage and will truly be duplicate enrollees, while some might forego employer coverage.
4. 4 Actual eligibility for $0 premium bronze plans depends on a variety of factors, including age and the specific plans available where the individual lives. Young people and those in those in low-cost geographies are less likely to be eligible for $0 premium plans; 170% FPL represents a threshold below which qualifying for $0 premium coverage is quite likely. For a more detailed geographic and income breakdown of the availability of $0 premium bronze plans, see https://www.kff.org/health-costs/issue-brief/how-aca-marketplace-premiums-are-changing-by-county-in-2020/
5. 5 We limit this analysis to those gaining employer coverage. Some April uninsured individuals also gained individual market or Medicaid coverage in the June to December period, but those enrollments would not be expected to occur if the individual had been auto-enrolled. In addition, some individuals gained Medicare, but that is a one-time coverage churn. See Appendix Figures A-2 and A-3.
6. 6 Correspondence with William Gale, February 2020.
7. 7 Full results from the 2012 simulations appear in the Appendix.

8. 8 In their initial 2016 report, the Urban Institute estimated that 17.8% of uninsured adults 19-64 are undocumented. The 2018 update estimates 16.2% of uninsured ages 0-64 are undocumented. While the earlier estimate matches the age range used in this analysis, the updated report may more closely match the current population, and, in any event, the difference is of limited importance.



Medicare Beneficiaries Without Supplemental Coverage Are at Risk for Out-of-Pocket Costs Relating to COVID-19 Treatment

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Apr 14, 2020

The coronavirus outbreak has heightened concerns about out-of-pocket health care costs pay for COVID-19 treatment (https://www.kff.org/other/poll-finding/kff-health-tracking-poll-early-april particular concern for older adults who are at higher risk of getting seriously ill (https://www policy/issue-brief/how-many-adults-are-at-risk-of-serious-illness-if-infected-with-coronavirus/) from the c require hospitalization. The Trump Administration recently announced that the uninsured pay any hospital costs for COVID-19 treatment (https://www.nytimes.com/2020/04/03/upshot/trum coronavirus.html), and many insurers are voluntarily waiving cost sharing for treatment (https://www.ahip.org/health-insurance-providers-respond-to-coronavirus-covid-19/), including firms th of Medicare Advantage enrollees (https://www.ahip.org/health-insurance-providers-respond-to-coro Other Medicare beneficiaries may also have some or all of their COVID-19 treatment costs supplemental coverage (https://www.kff.org/medicare/issue-brief/sources-of-supplemental-coverage-a beneficiaries-in-2016/), such as Medicaid, employer-based insurance, or Medigap.

However, a significant number of Medicare beneficiaries – nearly 6 million adults 65 and o adults with long-term disabilities – do not have any supplemental coverage and therefore large hospital bill if they are admitted for COVID-19. Nearly 4 in 10 (39%) have incomes les year, nearly 3 in 10 (29%) are in fair or poor health, and 15% are age 85 or older (Figure 1) these beneficiaries live in long-term care facilities, such as nursing homes, which CMS has particularly susceptible to infections (https://www.cms.gov/newsroom/press-releases/cms-announc protect-nursing-home-residents-covid-19).

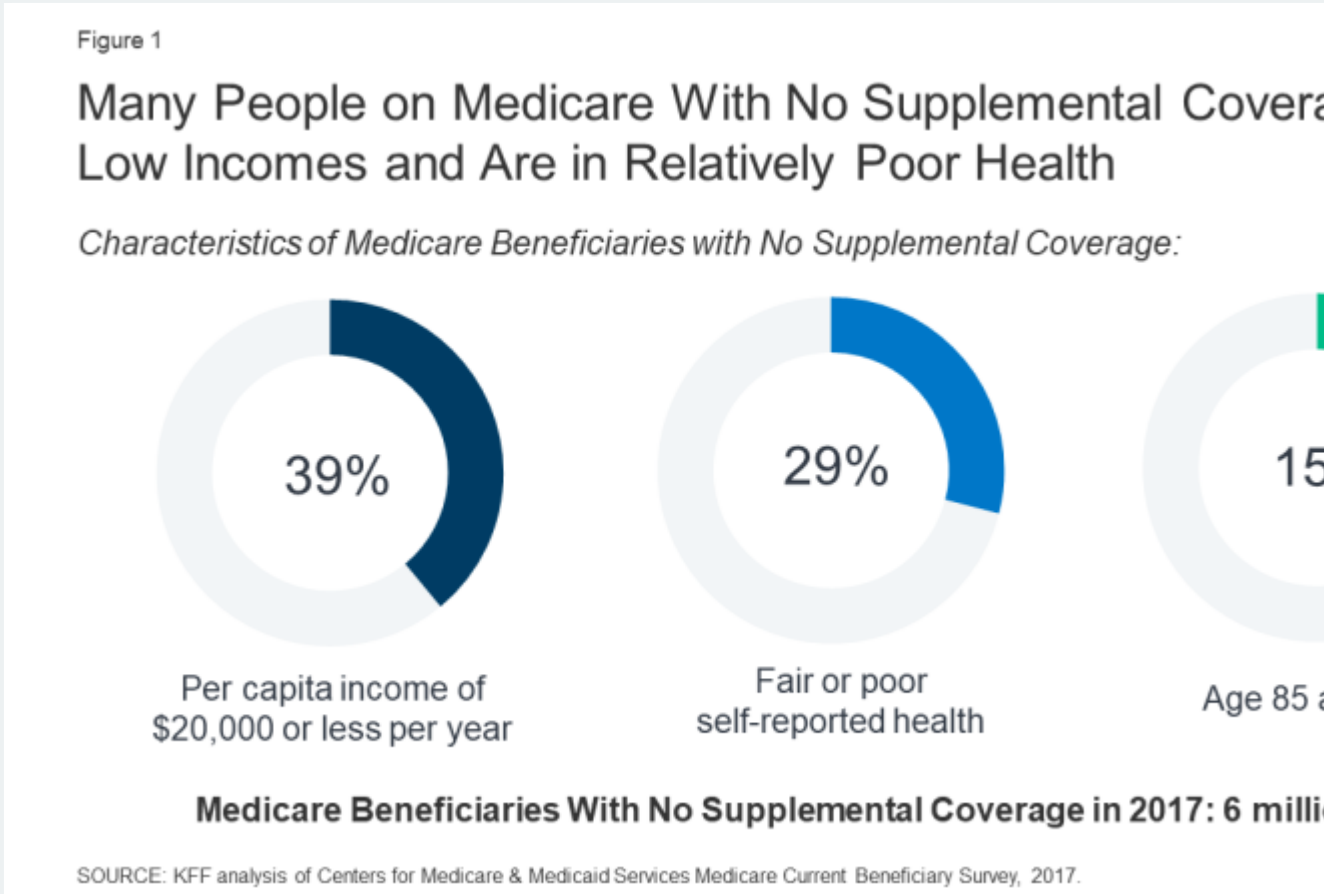

Figure 1: Many People on Medicare With No Supplemental Coverage Have Low Inc Relatively Poor Health

While the Medicare program protects beneficiaries from surprise medical bills (https://www.healthsystemtracker.org/brief/an-examination-of-surprise-medical-bills-and-proposals-to-pro them-3/) for covered services, beneficiaries are responsible for paying separate deductibles hospitalizations, outpatient services, and prescription drugs, as well as cost sharing for al they use. Without supplemental coverage, these 6 million beneficiaries would face out-of- services needed to treat COVID-19, which could include, at minimum, a $1,408 deductible hospitalization (https://www.kff.org/medicare/issue-brief/how-much-could-medicare-beneficiaries-pay-f related-to-covid-19/), unless they had been hospitalized in the past couple of months.

To illustrate, for a Medicare beneficiary living on income of $20,000 per year (just above 1 Poverty Level for one person), the $1,408 deductible for an inpatient hospitalization woul fully 7% of annual income. These out-of-pocket costs would come on top of other expens many of whom were having problems paying medical bills due to costs prior to the coron (https://www.kff.org/medicare/issue-brief/problems-getting-care-due-to-cost-or-paying-medical-bills-amon beneficiaries/), particularly those who do not qualify for any help with deductibles or cost sh Medicaid or the Medicare Savings Programs.

These estimates may be conservative because they do not take into account any additi
COVID-19 treatment, such as an extended stay in a skilled nursing facility, which requir
for each day of care after 20 days, or other outpatient services.

These 6 million Medicare beneficiaries are not the only Americans who face potentially
costs if they are hospitalized for COVID-19, though this group has received little attenti
discussions. Certainly others, such as privately insured patients in high deductible plan
seeing a big bill for their treatment if the insurer has not waived cost-sharing for COVID
Unfortunately, these potentially high out-of-pocket expenses for COVID-related treatm
the economy is in freefall, exacerbating worries about affordability in the midst of grea
for many Americans.

TOPICS Coronavirus (COVID-19) (https://www.kff.org/topic/coronavirus-covid-19/), Medicare (https://www.kff.org/topic/medicare/) TAGS Coverage (https://www.kff.org/tag/coverage/), Cost Sharing (https://www.kff.org/tag/cost-sharing/), Medicare Advantage (https://www.kff.org/tag/medicare-advantage/)

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CHCF BLOG </blog>

COVID-19 Shines a Harsh Light on Racial and Ethnic Health Disparities

Stories that caught our attention

APRIL 13, 2020

By Xenia Shih Bion <https://www.chcf.org/person/xenia-shih-bion/>

SHARE

An employee wearing a protective mask hands a shopping bag to a customer outside a Whole Foods supermarket in Berkeley, California, on March 31, 2020. Photo: David Paul Morris / Bloomberg via Getty Images

Since late 2019, when the novel coronavirus first began its global march, a common narrative has followed it into almost every country — COVID-19 is an equal opportunity disease. But early data from Illinois, Michigan, and New York tell a far different story: The coronavirus disproportionately infects and kills people of color.

ESSENTIAL COVERAGE

In Illinois, Black people represent 14.6% of the population but 28% of confirmed COVID-19 cases, Professor Ibram X. Kendi, director of The Antiracist Research and Policy Center at American University, wrote in *The Atlantic* <https://www.theatlantic.com/ideas/archive/2020/04/coronavirus-exposing-our-racial-divides/609526/>. In Michigan, Black people make up 14.1% of the population but 40% of COVID-19 deaths.

Kendi's analysis of data released by the *New York Times* <https://www.nytimes.com/interactive/2020/04/01/nyregion/nyc-coronavirus-cases-map.html> found that, in the five New York City zip codes with the highest infection rates, there was "a significant overrepresentation of Latinos (45.8%) and Asians (23.4%), and a significant underrepresentation of whites (21.2%) and Blacks (8%) when compared with their citywide populations."

"In practice, in the real world, this virus behaves like others, screeching like a heat-seeking missile toward the most vulnerable in society," *New York Times* opinion columnist Charles M. Blow wrote <https://www.nytimes.com/2020/04/05/opinion/coronavirus-social-distancing.html>. "And this happens not because it prefers them, but because they are more exposed, more fragile, and more ill."

Here's a look at how COVID-19 is exacerbating the health disparities that already burdened people of color </publication/2019-edition-health-disparities-by-race/>.

More People Uninsured

The pandemic has amplified the importance of health insurance coverage. While all racial and ethnic groups nationally had large coverage gains under the Affordable Care Act (ACA), Black people, Latinos, American Indians and Alaska Natives, and Native Hawaiians and other Pacific Islanders remain more likely to be uninsured compared to white people, according to KFF <https://www.kff.org/disparities-policy/issue-brief/communities-of-color-at-higher-risk-for-health-and-economic-challenges-due-to-covid-19/>.

The racial disparity in coverage is conspicuous when comparing states that expanded Medicaid eligibility under the ACA to those that did not. A Commonwealth Fund analysis <https://www.commonwealthfund.org/publications/2020/jan/how-aca-narrowed-racial-ethnic-disparities-access> of data up to January 2018 estimated that 46% of working-age Black adults live in the 15 states that did not expand Medicaid — a much larger share than the national average — along with 36% of Latinos. As of now, 14 states continue to resist Medicaid expansion.

Immigration status also is a barrier to health insurance coverage. Among the nonelderly population, noncitizens — both documented and undocumented — are significantly more likely than citizens to be uninsured <https://www.kff.org/disparities-policy/fact-sheet/health-coverage-of-immigrants/>. Additionally, the public charge rule, which became effective on February 24, has contributed to a "chilling effect" among immigrant communities <https://www.chcf.org/blog/public-charge-rule-could-erode-enrollment-insurance-coverage/>. Even immigrants who are legally beyond the reach of the public charge rule have, out of fear, been disenrolling or avoiding public benefits like Medi-Cal.

In recent weeks, the US Citizenship and Immigration Services has been encouraging immigrants to seek necessary medical treatment or preventive services for COVID-19. The agency stated <https://www.uscis.gov/greencard/public-charge> that it "will neither consider testing, treatment, nor preventative care (including vaccines, if a vaccine becomes available) related to COVID-19 as part of a public charge inadmissibility determination . . . even if such treatment is provided or paid for by one or more public benefits."

Nonetheless, "the rule has instilled fear in immigrant communities who have already been wary of accessing health coverage long before the rule went into effect and even in cases where the rule does not apply," Kathryn Pitkin Derose, senior policy researcher at RAND Corporation, wrote in *The Hill* <https://thehill.com/opinion/white-house/491080-the-public-charge-rules-likely-hazard-to-our-nations-health-during-covid>.

People who are uninsured face increased challenges obtaining coronavirus testing and treatment partly because they may lack a usual source of care or may fear out-of-pocket medical costs. KFF reported that 26% of Latinos and 20% of Black people said they had no usual source of care when sick other than the emergency room, compared to 14% of white people. When asked if they had forgone needed health care because of cost, 21% of Latinos and 17% of Black people said they did, compared to 13% of white people.

Increased Likelihood of Underlying Health Conditions

During a White House press briefing on April 7 <https://www.whitehouse.gov/briefings-statements/remarks-president-trump-vice-president-pence-members-coronavirus-task-force-press-briefing-april-7-2020/>, Anthony Fauci, MD, director of the National Institute of Allergy and Infectious Diseases, drew a parallel between the HIV/AIDS crisis, which devastated the gay community, and COVID-19, which is "shining a bright light on how unacceptable" health disparities in the Black community are.

Once infected with the coronavirus, Black Americans are more likely to become ill or die because of underlying health conditions. "Environmental, economic, and political factors have compounded for generations, putting Black people at higher risk of chronic conditions that leave lungs weak and immune systems vulnerable: asthma, heart disease, hypertension, and diabetes," Akilah Johnson and Talia Buford reported in ProPublica <https://www.propublica.org/article/early-data-shows-african-americans-have-contracted-and-died-of-coronavirus-at-an-alarming-rate>.

In the words of Peter Hotez, MD, PhD, the dean of tropical medicine at Baylor College of Medicine, COVID-19 will become a "disparity disease," meaning it will "follow the well-worn tracks of poverty, race, and comorbidity," Benjamin Wallace-Wells wrote <https://www.newyorker.com/news/news-desk/the-coronavirus-and-inequality-meet-in-detroit> in the *New Yorker.*

As if to illustrate this point, a new study from the Harvard University T.H. Chan School of Public Health found that long-term exposure to air pollution was associated with higher COVID-19 death rates, Lisa Friedman reported <https://www.nytimes.com/2020/04/07/climate/air-pollution-coronavirus-covid.html> in the *New York Times*. As the article notes, these findings could mean that places like California's Central Valley and communities of color — many of which are exposed to disproportionately high levels of air pollution — are more likely to experience more severe cases of COVID-19.

Because Native Americans have high rates of diabetes, hypertension, and heart disease, they are another pandemic risk group. "COVID-19 could be a perfect storm for Indian Country," Dante Desiderio, executive director of the Native American Financial Officers Association, told Maria Givens in Vox <https://www.vox.com/2020/3/25/21192669/coronavirus-native-americans-indians>.

The Indian Health Service (IHS), which serves 2.2 million American Indians and Alaska Natives, is chronically underfunded and underresourced. "Before COVID-19, the IHS was meeting only about half of tribal health needs," Debby Warren wrote in *Nonprofit Quarterly* <https://nonprofitquarterly.org/covid-19-a-perfect-storm-for-indian-country/>. "Today, its 24 hospitals have 71 or fewer ventilators and just 33 intensive care unit beds." Furthermore, Givens reported that not a single IHS clinic can run coronavirus lab tests in-house.

Need for Real-Time Data by Race

Early state figures showing catastrophic racial disparities in COVID-19 cases and deaths have prompted calls for the systematic collection and reporting of racial and ethnic data nationwide. "This is probably one of the most important lessons that we've learned from [Hurricane] Katrina, [from] the 2008 financial crisis: If we're not paying attention to data that is disaggregated by race and ethnicity, the efforts that we often put in place wash right over those communities and miss them," Michael McAfee, CEO of PolicyLink, told *Politico* <https://www.politico.com/news/2020/04/06/coronavirus-demographics-170353>.

Most cities and states are not reporting race along with counts of confirmed cases and fatalities, the *New York Times* reported <https://www.nytimes.com/2020/04/07/us/coronavirus-race.html>. This may be changing. On April 7, Trump publicly acknowledged the racial disparity for the first time and said he expected to have statistics within the next few days.

California now is stratifying COVID-19 data by race. On April 9, the California Department of Public Health released an initial analysis of data <https://www.cdph.ca.gov/programs/opa/pages/nr20-048.aspx> representing 54% of the state's COVID-19 cases and 53% of deaths. That data revealed that 26% of COVID-19 deaths were among Latinos, 18% among Asians, and 8% among Black people. This is roughly in line with the diversity of California overall, but the data are limited to the sample size.

"Preliminary data from Los Angeles County paints a different picture," Sandra R. Hernández, MD, president and CEO of CHCF, and Kara Carter, senior vice president of strategy and programs at CHCF, wrote in a blog post </blog/covid-19-perfect-storm-health-care-inequality/>. "Their current numbers show Black residents dying at a slightly higher rate than other groups."

Some counties, including San Francisco and Santa Clara, are working to break down their data sets. Santa Clara plans to release a data tracker with demographic information, hospitalizations figures, and more, Tony Barboza and Joseph Serna reported in the *Los Angeles Times* <https://www.latimes.com/california/story/2020-04-06/missing-racial-data-coronavirus-deaths-worries-los-angeles-county-officials>.

What have you read about COVID-19's amplification of health disparities? Tweet at me <https://twitter.com/xshihbion> with #EssentialCoverage or email me <https://www.chcf.org/person/xenia-shih-bion/>.

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Prior to joining CHCF, Xenia was a research assistant at the Prevention Institute, where she wrote about nutrition policy. In addition, she has managed marketing and communications for a digital health start-up and an education technology nonprofit. Xenia received a bachelor's degree in journalism from the University of Missouri and a master's degree in public health from the University of California, Berkeley.

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NASHP

States Protect Consumers' Coverage and Improve COVID-19 Care Delivery through Insurance Reforms

April 13, 2020 / by Christina Cousart

As COVID-19 diagnoses grow, states are making rapid-fire adjustments so consumers can access the care they need. One key strategy has been promoting health insurance enrollment [https://nashp.org/states-act-to-increase-coverage-and-insulate-consumers-from-covid-19-costs/] to protect consumers from potentially exorbitant medical bills. Recognizing more protection is needed, state insurance regulators are also making sure consumers maintain their coverage, find appropriate care, and are protected from exorbitant or surprise medical bills.

Enabling Continuity of Coverage, despite Life Disruptions

Maintenance of health insurance coverage will be a challenge for many, especially for the recently unemployed who face sudden income uncertainty or even loss of employer-provided health insurance. Several states are mandating or requesting that insurers refrain from terminating health plans. While some states define specific conditions under which carriers must suspend terminations – for example, Arkansas prohibits terminations in the case of job loss or COVID-19 diagnosis – others, including Colorado, Indiana, and Maine, apply broadly in the case of non-payment of premiums during the public health emergency.

These policies do not absolve consumers of their responsibility to pay their premiums, but rather grant a needed reprieve (usually up to 60 days) during which consumers are required to contact their insurers to figure

out a payment strategy. Several states also recommend that insurers consider waving any late fees or penalties for non- or late payment, recognizing that additional fees put undue burden on already strained households.

States are also working to provide flexibility to businesses to help them retain their ability to offer coverage during lean times. Such flexibilities include waiving minimum participation rates, eliminating "hours worked" and minimum contribution requirements, and opening enrollment to individuals who may have declined coverage during a company's typical open enrollment period.

Directing Consumers to Appropriate Care and Services

As health systems become increasingly strained, it is more important that ever to ensure that consumers are directed to the most appropriate care settings. Health insurers have a direct communication channel to their enrollees and serve an important role in helping direct consumers to care. Most states have requested insurers to help keep consumers properly informed during the pandemic. Such measures include posting updated information about COVID-19 on insurer websites, establishing robust communication channels so insurers can rapidly respond to consumer inquiries, and expanding nurse help-lines to aid in triaging care.

Encouraging Remote Care via Telehealth

Both state and federal leaders have recognized the importance of telehealth to help mitigate the spread COVID-19 by enabling consumers to solicit services from home, regulators can enable immediate self-quarantine of individuals suspected of infection, while also helping preventing needless exposure for those at risk of infection. States are recommending that insurers bolster their available telehealth workforce, including staff available to handle behavioral health services. While some states already enforce parity laws [https://www.cchpca.org/telehealth-

policy/current-state-laws-and-reimbursement-policies] for telehealth delivery, meaning that telehealth services are reimbursed at the same rate as in-person services, some states are newly requiring parity for telehealth, if only for the limited duration of this public health emergency.

To ease widespread implementation of telehealth services, the Department of Health and Human Services Office of Civil Rights (OCR) has temporarily relaxed privacy and security requirements [https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html] to enable widespread access to telehealth tools during this emergency. In tandem, states have enacted or recommended policies to bolster insurer capacity to offer telehealth services. These include suggestions for how insurers could relax restrictions that normally prohibit utilization of telehealth including:

- Waiving requirements for an in-person consultation prior to rendering of telehealth services;
- Allowing services to be delivered straight to a consumers' homes (versus a certified point of care); and
- Removing prohibitions on the use of common technologies, such as FaceTime, Skype, or telephone (without video), which are normally restricted due to privacy concerns.

Several states, including Connecticut, Delaware, and Iowa, are also encouraging insurers to offer telehealth services at reduced or zero-dollar cost sharing to further incentivize consumers to use telehealth services. Massachusetts has mandated telehealth coverage for COVID-19 related services with no cost-sharing.

Expediting Access to Necessary Services

Insurers and providers have established processes used to assess if an enrollee is receiving appropriate, covered services to treat an illness.

These processes include pre-authorization requirements and utilization reviews that are conducted before a service is performed. However, these checks can impose administrative burdens and affect the timeliness of care, which together adds additional strain to health care providers. Several states have existing laws that put time limits on approvals to help expedite services, however, under the current state of emergency many are recommending that insurers waive or suspend use of these tools (e.g., prior authorizations, utilization review). For example, Colorado and Georgia explicitly call for elimination of pre-authorization requirements to transition patients to in-home or acute care settings, which would help maneuver patients out of limited hospital beds to alternative care settings. Such changes will help expedite care and alleviate strained administrative systems, which, in turn, allows systems to better serve patients.

Protecting Patients from High Medical Bills

Recognizing that even the insured are likely to face some medical costs related to COVID-19, states led the way in issuing guidance to recommend that insurers cover testing without cost sharing for consumers. The federal government followed by enacting the Families First Coronavirus Response Act [https://www.congress.gov/bill/116th-congress/house-bill/6201?q=%7B%22search%22%3A%5B%22hr+6201%22%5D%7D&s=1&r=1] that requires insurers to cover testing for COVID-19, but concerns remain that consumers may be billed for COVID-19-related treatment. A few states, including Massachusetts and New Mexico, have mandated coverage of COVID-19 treatment and others, including Florida, Georgia, and Kansas, have requested that insurers consider such steps. Several major insurers have stepped forward [https://www.ahip.org/health-insurance-providers-respond-to-coronavirus-covid-19/] and announced they will cover COVID-19 treatments at low-to-no cost, even without a mandate. However, variation exists over what kind of treatments will be covered and how care delivery settings may affect coverage.

As discussed in the recent National Academy for State Health Policy (NASHP) blog, States Act to Increase Medicaid/Marketplace Coverage to Insulate Consumers from COVID-19 Care Costs [https://nashp.org/states-act-to-increase-coverage-and-insulate-consumers-from-covid-19-costs/] , rapid evolution of health care settings [https://nashp.org/anticipating-hospital-bed-shortages-states-suspend-certificate-of-need-programs-to-allow-quick-expansions/] and limitations on available workforces [https://nashp.org/states-address-provider-shortages-to-meet-the-health-care-demands-of-the-pandemic/] put consumers at particular risk to receive care out-of-network, which could lead to surprise medical or balance bills. For example, hospitals and new makeshift facilities are bringing in new providers to address surplus demand, but new providers may serve as contractors, in which case they may not technically be considered part of a hospital's network. States have put forth a number of solutions to mitigate these issues – ranging from urging carriers to review and modify networks to meet increased demand to clear mandates that insurers cover out-of-network providers at in-network rates if conditions make it difficult to seek in-network care.

Massachusetts has enacted some of the strictest consumer protections, mandating in-network coverage of acute care services related to COVID-19 treatment and prohibiting providers from balancing billing consumers for the cost of out-of –network services. Massachusetts also specifies reimbursement rates for services delivered by out-of-network providers – the in-network rate when the insurer has a an existing agreement with the hospital at which the provider is practicing, and 135 percent of the Medicare rate if no such agreement exists.

Collectively, these changes will help protect consumers during this extraordinary time. However, as this crisis continues, these policies could have significant long-term ramifications for insurance markets as insurers absorb the new costs related to these mandates. NASHP will continue to monitor these changes, including long-term impact.

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States Use Race and Ethnicity Data to Identify Disparities and Inform their COVID-19 Responses

April 13, 2020 / by Carrie Hanlon and Elinor Higgins

The COVID-19 pandemic is shining a light [https://www.kff.org/disparities-policy/issue-brief/communities-of-color-at-higher-risk-for-health-and-economic-challenges-due-to-covid-19/] on well-established [https://www.nationalacademies.org/news/2002/03/minorities-more-likely-to-receive-lower-quality-health-care-regardless-of-income-and-insurance-coverage] racial disparities in health care access and quality [https://www.ahrq.gov/research/findings/nhqrdr/index.html] , and in social and economic factors [https://www.healthaffairs.org/doi/full/10.1377/hlthaff.24.2.325] affecting health status and outcomes. The racial inequities exposed by case identification and death rates data give states opportunities to improve their responses and interventions.

As state and local data becomes available, Louisiana [https://www.usnews.com/news/best-states/louisiana/articles/2020-04-07/louisiana-data-virus-hits-blacks-people-with-hypertension] and Illinois [https://twitter.com/GovPritzker/status/1247302804894625793?s=20] governors have highlighted racial disparities in COVID-19 cases and deaths. This aligns with governors' recent public statements about equity – 22 governors [https://nashp.org/the-state-of-states-how-governors-plan-to-address-health-related-social-and-economic-factors-in-2020/] mentioned the need for educational, economic, and social equity in their state of the state addresses earlier this year.

State public health agencies are working around the clock to inform the public about the pandemic by regularly monitoring and reporting data, which is one of their core functions [https://www.cdc.gov/publichealthgateway/publichealthservices/essentialhealth An analysis by the National Academy for State Health Policy (NASHP) of state public health websites found that 25 states (AL, AR, AZ, CA, CT, GA, ID, IL, IN, LA, MA, MD, MI, MN, MS, NY, NC, OH, OK, SC, TN, TX, VA, WA, and WI) and Washington, DC are reporting COVID-19 data by race and/or ethnicity.

Among the findings:

- Six states report case data (laboratory-confirmed positive cases), three report mortality data, and 17 report both cases and mortality by race and/or ethnicity.
- States use a variety of categories to report race and ethnicity data. For example, Louisiana reports race data for the following categories: American Indian/Alaska Native, Asian, black, Native Hawaiian/Pacific Islander, other, unknown, and white. Louisiana reports ethnicity data as either Hispanic/Latino or non-Hispanic/Latino. Connecticut reports Hispanic, non-Hispanic white, non-Hispanic black, non-Hispanic Asian, non-Hispanic other, and non-Hispanic unknown.
- Eighteen states report a large proportion of unknown (or missing) race/ethnicity.
- Fourteen states illustrate racial or ethnic disparities where the percentage of deaths or cases for one population is disproportionately high, compared to the demographic breakdown of the state. For example, Mississippi reported that 72 percent of its deaths from COVID-19 have been in the African American population, despite the fact that African Americans make up only 38 percent of the state's overall population.

State health secretaries and legislators [https://thehill.com/homenews/state-watch/491598-hogan-commits-to-producing-racial-breakdown-of-coronavirus-impact] also are emphasizing the importance of identifying disparities to understand and respond to the pandemic and promote health equity. Recently, Massachusetts' Health and Human Services Secretary, MaryLou Sudders said [https://boston.cbslocal.com/2020/04/08/coronavirus-cases-race-ethnicity-data-massachusetts/] , "I want to be clear, obtaining racial and ethnic data on cases of COVID-19 is crucial for examining where and on whom the burden of illness and death is falling…It's actually essential for the commonwealth response to the pandemic and important information for all of us to understand."

There are additional opportunities for states to monitor and address COVID-19 disparities. Gov. Andrew Cuomo of New York [https://thehill.com/homenews/state-watch/491797-cuomo-on-disproportionate-minority-covid-deaths-why-do-the-poorest] has committed to collecting more comprehensive data about COVID-19 in minority communities. Publicly reporting COVID-19 testing [https://www.buzzfeednews.com/article/nidhiprakash/coronavirus-tests-covid-19-black] , hospitalization, and recovery by race and ethnicity could further allow state and local policymakers, providers, and other stakeholders to monitor and ensure equity in access to resources for prevention and treatment in order to improve outcomes.

State and city leaders can harness COVID-19 data to tailor their current responses to the pandemic and continue to identify strategies to meet the health and health-related social needs of communities of color. States use race/ethnicity data [https://www.hcup-us.ahrq.gov/reports/race/StandAloneR_EExecSum4_28forweb.pdf] in a number of ways, including targeting or soliciting funding, tailoring stakeholder outreach and engagement, informing public health

initiatives, and strengthening governmental processes to address disparities strategically and comprehensively.

In response to data in her state, Gov. Gretchen Whitmer established the Michigan Coronavirus Task Force on Racial Disparities [https://www.michigan.gov/whitmer/0,9309,7-387-90499-525224--,00.html] to develop recommendations for addressing disparities "right now as we work to mitigate the spread of COVID-19 in Michigan." Task Force chair, Lt. Gov. Garlin Gilchrist II, tweeted [https://twitter.com/LtGovGilchrist/status/1248644072346202112?s=20] , "COVID-19 is a constant reminder of how dangerous racial disparities and inequality are for people of color. 14% of our population is Black, but more than 40% of deaths are in Black communities. I'm working alongside @GovWhitmer [https://twitter.com/GovWhitmer] to make Michigan a leader in addressing this."

City leaders also are taking action. Chicago Mayor Lori E. Lightfoot announced [https://www.chicago.gov/city/en/depts/mayor/press_room/press_releases/2020 a multi-pronged strategy to "address systemic health inequities within the COVID-19 crisis." Specifically, the mayor in collaboration with nonprofit partners is:

- Establishing a Racial Equity Rapid Response Team to engage community members;
- Conducting regional briefings in targeted communities and with street outreach workers; and
- Calling for more detailed data collection.

Importantly, the city's health department signed a public health order enhancing data-sharing requirements for certain facilities to support COVID-19 tracking.

States can incorporate lessons into their existing state initiatives to ensure access to coverage [https://nationalacade.sharepoint.com/Projects/PROJECTS%20-From%20S/Pop%20Health%20Team/Blogs/Equity%20and%20data%20collection_COVID19/ion%20on%20approaches%20to%20expanding%20Medicaid%20or%20marketplace%20coverage%20as%20a%20way%20to%20reach%20more%20people%20%20https:/nashp.org/states-act-to-increase-coverage-and-insulate-consumers-from-covid-19-costs] and address health equity through accountable health model [https://nashp.org/states-develop-new-approaches-to-improve-population-health-through-accountable-health-models/] s, Medicaid managed care contract language [https://nashp.org/how-states-address-social-determinants-of-health-in-their-medicaid-contracts-and-contract-guidance-documents/] for social determinants of health, unique data-sharing agreements [https://nashp.org/qa-how-connecticut-matched-its-medicaid-and-homelessness-data-to-improve-health-through-housing/] , and workforce strategies [https://nashp.org/community-health-worker-resources-for-states/] . As the Coronavirus Aid, Relief and Economic Security Act (CARES Act) funding is made available to states and hospitals, leaders can use the funds to support communities and populations disproportionally affected [https://apnews.com/71d952faad4a2a5d14441534f7230c7c] by COVID-19 due to structural and social inequities. States' efforts to address health equity will continue throughout and beyond this pandemic. NASHP will continue to track states' public reporting of COVID-19 by race and ethnicity.

States Publicly Reporting COVID-19 Data by Race/Ethnicity*
State

AL [https://alpublichealth.maps.arcgis.com/apps/opsdashboard/index.html#/6d2771faa9da4a2786a509d8
AR [https://www.healthy.arkansas.gov/programs-services/topics/novel-coronavirus]
AZ [https://www.azdhs.gov/preparedness/epidemiology-disease-control/infectious-disease-epidemiology/index.php#novel-coronavirus-home]
CA [https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/ncov2019.aspx]
CT [https://portal.ct.gov/-/media/Coronavirus/CTDPHCOVID19summary4072020.pdf?la=en]
DC [https://coronavirus.dc.gov/page/coronavirus-data]

GA [https://dph.georgia.gov/covid-19-daily-status-report]

ID [https://public.tableau.com/profile/idaho.division.of.public.health#!/vizhome/DPHIdahoCOVID-19Dashboard_V2/DPHCOVID19Dashboard2]

IL [http://www.dph.illinois.gov/covid19/covid19-statistics]

IN [https://coronavirus.in.gov/]

LA [http://ldh.la.gov/Coronavirus/]

MA [https://www.mass.gov/doc/covid-19-cases-in-massachusetts-as-of-april-8-2020/download]

MD [https://coronavirus.maryland.gov/]

MI [https://www.michigan.gov/coronavirus/0,9753,7-406-98163_98173---,00.html]

MN [https://www.health.state.mn.us/diseases/coronavirus/situation.html]

MS [https://msdh.ms.gov/msdhsite/_static/14,0,420.html]

NY [https://covid19tracker.health.ny.gov/views/NYS-COVID19-Tracker/NYSDOHCOVID-19Tracker-Fatalitie
3Aembed=yes&%3Atoolbar=no&%3Atabs=n]

NC [https://www.ncdhhs.gov/divisions/public-health/covid19/covid-19-nc-case-count#by-race-ethnicity

OH [https://coronavirus.ohio.gov/wps/portal/gov/covid-19/dashboards/overview/]
OK [https://coronavirus.health.ok.gov/sites/g/files/gmc786/f/eo_-_covid-19_report_-_4-9-20.pdf]
SC [https://scdhec.gov/infectious-diseases/viruses/coronavirus-disease-2019-covid-19/testing-sc-data-c
TN [https://www.tn.gov/health/cedep/ncov.html]
TX [https://txdshs.maps.arcgis.com/apps/opsdashboard/index.html#/ed483ecd702b4298ab01e8b9cafc8

VA [https://public.tableau.com/views/VirginiaCOVID-19Dashboard/VirginiaCOVID-19Dashboard?:embed=yes&:display_count=yes&:showVizHome=no&:toolbar=no]
WA [https://www.doh.wa.gov/emergencies/coronavirus]
WI [https://www.dhs.wisconsin.gov/covid-19/data.htm]

*As of April 12, 2020. View an updated interactive map highlighting state efforts to track COVID-19 case and death rates by race and ethnicity here [https://nashp.org/how-states-report-covid-19-data-by-race-and-ethnicity/] .

** Cases in this table refer to laboratory-confirmed positive COVID-19 cases.

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EFFECTS OF THE AFFORDABLE CARE ACT DEPENDENT COVERAGE MANDATE ON HEALTH INSURANCE COVERAGE FOR INDIVIDUALS IN SAME-SEX COUPLES

Christopher S. Carpenter
Gilbert Gonzales Jr.
Tara McKay
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Effects of the Affordable Care Act Dependent Coverage Mandate on Health Insurance Coverage for Individuals in Same-Sex Couples

Christopher S. Carpenter, Gilbert Gonzales Jr., Tara McKay, and Dario Sansone

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ABSTRACT

A large body of research documents that the 2010 dependent coverage mandate of the Affordable Care Act was responsible for significantly increasing health insurance coverage among young adults. No prior research has examined whether sexual minority young adults also benefitted from the dependent coverage mandate, despite previous studies showing lower health insurance coverage among sexual minorities and the fact that their higher likelihood of strained relationships with their parents might predict a lower ability to use parental coverage. Our estimates from the American Community Surveys using difference-in-differences and event study models show that men in same-sex couples age 21-25 were significantly more likely to have any health insurance after 2010 compared to the associated change for slightly older 27 to 31-year-old men in same-sex couples. This increase is concentrated among employer-sponsored insurance, and it is robust to permutations of time periods and age groups. Effects for women in same-sex couples and men in different-sex couples are smaller than the associated effects for men in same-sex couples. These findings confirm the broad effects of expanded dependent coverage and suggest that eliminating the federal dependent mandate could reduce health insurance coverage among young adult sexual minorities in same-sex couples.

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1. Introduction and motivation

Substantial research has documented that sexual minorities (lesbian women, gay men, bisexual individuals, and other non-heterosexual populations) have worse health outcomes, including increased prevalence of mental health and substance use disorders, HIV infection, and risk factors for chronic disease such as cigarette smoking and heavy alcohol consumption (Boehmer 2002; Bostwick et al. 2010; Carpenter and Sansone 2020; Cochran et al. 2013; Gonzales et al. 2016; Gonzales and Henning-Smith 2017; Gorman et al. 2015; Hatzenbuehler et al. 2008; Meyer 1995). Despite having greater health care needs, sexual minorities also experience barriers to medical care, as they are more likely to be uninsured and delay or forgo medical care because of financial cost (Buchmueller and Carpenter 2010; Dahlhamer et al. 2016; Gonzales and Blewett 2014; Heck et al. 2006; Ponce et al. 2010). These disparities have been identified and targeted for elimination by the National Academy of Medicine (IOM 2011) and the National Institutes of Health (Pérez-Stable 2016). Improving health insurance coverage and access to care may be one important lever for reducing sexual orientation-based disparities.

Prior research has examined how LGBTQ-specific policies - such as domestic partnership and same-sex marriage laws - impact private health insurance coverage for sexual minorities (Buchmueller and Carpenter 2012; Dillender 2015; Gonzales 2015), but very little research has examined the impacts of broad population-based health reforms on sexual minorities (Carpenter and Sansone 2020). The Affordable Care Act (ACA) represented one of the most important health insurance reforms in recent history, and a large body of research documents the effects of the ACA at reducing rates of uninsurance in the nonelderly adult population. In particular, the 2010 ACA dependent coverage mandate - which allows young adults up to age 26 to enroll as dependents on a parent's private health plan - significantly increased insurance coverage among young adults below age 26 compared to the associated change for slightly older individuals who were not eligible for parental coverage (Antwi et al. 2013; Barbaresco et al. 2015; Mulcahy et al. 2013; Sommers and Kronick 2012; Wallace and Sommers 2016).

In addition, numerous studies have examined the impact of the ACA dependent coverage mandate on racial and ethnic minorities (Chen et al. 2016; O'Hara and Brault 2013; Scott, Salim, et al. 2015; Shane and Ayyagari 2014), women (Robbins et al. 2015), rural populations (Look et al. 2017), and young adults with specific medical conditions and disabilities (Ali et al. 2016; Golberstein et al. 2015; Porterfield and Huang 2016; Saloner and Cook 2014; Scott, Rose, et al. 2015). To our knowledge, however, there is no research that has specifically examined the causal effects of the ACA dependent coverage mandate on sexual minorities.

In this paper we provide the first evidence on how the ACA dependent coverage mandate affected health insurance coverage for sexual minorities cohabiting in same-sex couples as well as how it affected disparities in health insurance coverage between same-sex couples and different-sex couples. There are several reasons to believe that the ACA dependent coverage mandate may have differentially affected health insurance coverage of sexual minority populations. First, sexual

minority adolescents may be less able to take advantage of a parent's employer-sponsored health plan due to the higher likelihood of poor relationships with parents. A large literature in psychology and family development documents that discrimination and stigma surrounding the process of "coming out" can strain relationships between parents and sexual minority children (Cramer and Roach 1988; D'Augelli et al. 1998; Goldfried and Goldfried 2001; Heatherington and Lavner 2008; Radkowsky and Siegel 1997; Ryan et al. 2010; Savin-Williams 1989; Waldner and Magruder 1999). Sexual minority youth may receive less support and acceptance because of their sexual identity in early adulthood compared to heterosexual youth.[5] Some sexual minority individuals may even be disowned by their parents, as family rejection is a leading cause of homelessness among sexual minority youth (Durso and Gates 2012). Thus, strained familial ties would reduce the effectiveness of a dependent coverage mandate at increasing insurance for sexual minority young adults.

Second, sexual minorities may have fewer alternative sources of health insurance coverage than heterosexual individuals. The vast majority of adults in the United States obtain health insurance through their employer (Barnett and Vornovitsky 2016), and there is strong evidence that sexual minorities face potential barriers to employment, including labor market discrimination (Tilcsik 2011). Even for sexual minorities with employment, however, their same-sex partners and spouses may lack access to health insurance because historically employers have been less generous in offering insurance coverage to same-sex partners and spouses of employees than in offering insurance coverage to different-sex partners and spouses of employees.[6] Even in the presence of an employer offer of health insurance to a same-sex partner or spouse, an employed sexual minority individual with a same-sex partner or spouse may not feel comfortable effectively outing herself to her employer for fear of workplace reprisals, especially since most US states lack employment nondiscrimination protection on the basis of sexual orientation (MAP 2019). Thus, parental coverage may be an attractive source of insurance for sexual minority adults in same-sex couples, particularly for those without access to own employer-sponsored insurance.

Third, differences in health, human development, and socioeconomic status between sexual minorities and heterosexuals may result in differential demand or need for health insurance by sexual orientation. A large body of research shows that sexual minority adults are more likely to have college and advanced degrees compared to heterosexuals (Black et al. 2007; Carpenter and

[5] A 2013 Pew Research Center report indicated that, among a nationally representative sample of lesbian, gay, and bisexual Americans, the median age at which gay men told a close friend or a family member about their sexual orientation was 18; for lesbians the median age was 21 (Pew 2013). Our samples will focus on individuals in cohabiting same-sex romantic relationships, which is likely to be positively correlated with having come out to family members.

[6] The overwhelming majority of employers cover different-sex spouses under family insurance plans, and of course all individuals in different-sex couples always had the legal option to marry over our primary sample period (2008-2012). The same was not true for individuals in same-sex couples; nationwide access to legal same-sex marriage was only granted in the United States in 2015 in the United States Supreme Court ruling *Obergefell v. Hodges*, and employer surveys have shown that not all employers have adopted insurance benefits for legal same-sex spouses even after *Obergefell* (Dawson et al. 2016).

Gates 2008; Gonzales and Blewett 2014). If sexual minorities are disproportionately more likely to delay employment (where again the vast majority of Americans obtain health insurance) they may be more likely to need access to a parent's insurance plan. Relatedly, a range of health conditions and health behaviors prevalent among sexual minority adults may also influence the demand for dependent coverage. Sexual minority women, for example, are less likely to utilize family planning and contraceptive services as well as health care related to childbirth and labor (i.e. maternity care), and these are leading sources of insurance-related healthcare for heterosexual women in adulthood (Agénor et al. 2014; Agénor et al. 2017; Charlton et al. 2011; Charlton et al. 2014; Ela and Budnick 2017; Kerr et al. 2013; Tornello et al. 2014). On the other hand, sexual minority men may be more likely to need health care for conditions prevalent among this population, including sexually transmitted infections, smoking cessation, and substance use disorders (Gonzales et al. 2016; Green and Feinstein 2012; Institute of Medicine 2011; Wolitski and Fenton 2011). Thus, differential patterns in family relationships, employer behavior, human development, and health profiles will likely affect (in a direction difficult to predict *ex-ante*) the ability of a dependent coverage mandate to increase health insurance coverage for sexual minorities relative to heterosexual young adults.

Ultimately, whether the ACA dependent coverage mandate affected health insurance coverage of sexual minorities – and whether any such effects are different than the effects for heterosexual people – remains an empirical question. Using data from the American Community Survey (ACS), we provide the first evidence on this question by examining individuals in same-sex couples who were age-eligible for parental insurance coverage benefits (i.e., 21 to 25-year-old) before and after 2010 and comparing this difference to the associated difference for slightly older individuals in same-sex couples who were not age-eligible for the ACA dependent coverage provision (i.e., 27 to 31-year-old).

2. The Affordable Care Act Dependent Coverage Provision

The Affordable Care Act (ACA) was signed into law by President Barrack Obama in 2010, and expanded health insurance to millions of Americans through Medicaid expansions for low-income families and individuals and subsidies to purchase private health insurance for middle-income Americans. One of the first reforms to be implemented was the dependent coverage provision. Starting on September 23, 2010, this provision required employers to extend employer-sponsored health insurance to the dependent children of covered employees until 26 years of age.

Prior to the implementation of the ACA, more than 30 states enacted similar policies, but the impacts of state-level dependent coverage provisions were small (Cantor et al. 2012; Monheit et al. 2011). State-level dependent coverage provisions were often limited to a minority of employers that "fully insured" their employers through an insurance carrier (rather than "self-insured" employers). Numerous studies demonstrate that the federal dependent coverage provision had a relatively large impact on employer-sponsored insurance coverage, ranging between 6-8 percentage point increases in employer-sponsored insurance for young adults (Barbaresco et al.

2015; Cantor, Monheit, et al. 2012; Sommers and Kronick 2012). Unlike many of the pre-ACA state dependent coverage mandates, the ACA dependent coverage provision did not require that the dependent child be enrolled in school, did not require that the dependent be unmarried, and extended the age of dependency until age 26 (which was more generous than many states had implemented). As a result, it is not surprising that previous research has not found differential effects of the ACA dependent coverage provision among states with prior dependent coverage provisions when compared to the other states (Antwi et al. 2013; Barbaresco et al. 2015)

The dependent coverage provision of the ACA did not extend to spouses or unmarried partners of the policyholder's dependents, however. Thus, for individuals in same-sex and different-sex couples who we identify in the ACS, their only route to parental insurance coverage via the ACA was through the individual's *own* parent, not the parent of the spouse or partner.

3. Data

3.1 The American Community Survey

This study uses data from the American Community Survey (ACS) which is publicly available through IPUMS-USA at the University of Minnesota (Ruggles et al. 2020). The ACS is a nationally representative and repeated cross-sectional dataset. It contains demographic, economic, social, and housing information on 1% of the U.S. population (or approximately 3 million people each year). The large sample sizes available in the ACS facilitate studies on relatively small subpopulations, such as individuals in same-sex couples.

Importantly, the ACS has included a question on current health insurance status since 2008. We are able to identify whether the individual had any health insurance at the time of the survey, as well as the source of health insurance. Specifically, we can identify whether the individual had any of the following types: employer-sponsored insurance (ESI, including those covered by their employer, a spouse's employer, or another family member's current employer, former employer, or union), direct/privately purchased insurance, TRICARE (health insurance for active duty military personnel), Medicare, Medicaid, health care through the Department of Veterans Affairs (VA), or health care through the Indian Health Service. It is worth emphasizing that these categories are not mutually exclusive: individuals could be covered by more than one type of insurance (IPUMS 2019). We expect the ACA dependent mandate should primarily increase the likelihood that eligible young adults experienced an increase in employer-sponsored insurance. Unfortunately, the ACS does not ascertain whether a person with ESI was the policyholder or a dependent on a parent or a spouse's/partner's health plan.[7]

The ACS does not directly ask individuals about their sexual orientation. To identify a subset of sexual minorities, we follow a large body of prior research that uses intrahousehold relationships

[7] Other surveys contain this information (e.g., the Annual Social and Economic Supplement (ASEC) to the Current Population Survey), but we need the much larger sample sizes of the ACS to identify meaningful effects for sexual minorities.

to identify individuals in same-sex couples (Black et al. 2000; Gonzales and Blewett 2014; Sansone 2019). Specifically, the ACS identifies a primary reference person, defined as "the person living or staying here in whose name this house or apartment is owned, being bought, or rented". For simplicity, we refer to the primary reference person as the household head. The ACS also collects information on the relationship to the household head for all members of the household, and the range of possible relationships includes husband, wife, and unmarried partner (as a different category than roommate). Notably, individuals of the same sex as the household head who describe their relationship to the household head as a 'spouse' were recoded to unmarried partners through 2012 in compliance with the federal Defense of Marriage Act (which did not recognize married same-sex couples for all federal purposes). Our final sample includes 2,781 and 3,614 men and women in same-sex couples, respectively, and 235,954 and 304,318 men and women in different-sex couples, respectively (all of whom are age 21-25 or 27-31).

3.2 Data quality and limitations

The ACS is a mandatory survey: although nobody has been prosecuted for not responding to the ACS survey (Selby, 2014), this approach significantly increases the response rate (typically above 90%) and data quality (U.S. Census 2017; U.S. Census 2019). Despite this, one key issue when dealing with same-sex couples is misclassification error: individuals can incorrectly report their sex or relationship to the household head. Since the proportion of different-sex couples is much larger than that of same-sex couples, there is the risk that several same-sex couples may actually be misidentified different-sex couples—even when such measurement errors may be rare. The U.S. Census Bureau implemented several changes between 2007 and 2008 to address this issue. These improvements resulted in a substantial drop in the reported number of same-sex couples between these two years, thus indicating more reliable estimates (U.S. Census, 2013).

Moreover, observations with imputed sex or relationship to the household head have been dropped to further reduce such measurement errors (Black et al., 2007; DeMaio et al. 2013; Gates and Steinberger 2007). It is also worth mentioning that older respondents in different-sex couples were the most likely to be misclassified as same-sex couples due to their lower levels of familiarity with the terminology pertaining to same-sex couples (Lewis et al., 2015). Since we focus on younger respondents, we exclude these cases by construction. Another advantage of ACS is that around a third of the households use Computer Assisted Telephone (CATI) or Personal Interviews (CAPI). In such interviews, respondents are asked to verify the sex of their same-sex husband/wife, thus reducing such miscoding (Gates and Steinberger, 2007).

Notwithstanding these issues, the U.S. Census and the ACS remain the largest and most reliable data on same-sex couples. For example, the across-metropolitan distribution of male same-sex couples in the 1990 Census lines up extremely well with AIDS deaths in 1990, a year during which AIDS deaths were predominately concentrated among gay men (Black et al., 2000). Fisher et al. (2018) found similar estimates when comparing economic statistics (such as income distribution) between Census and tax data. Using health data, Carpenter (2004) showed that individuals most

likely to be in same-sex unmarried partnerships were indeed behaviorally gay, lesbian, or bisexual individuals, i.e. they exhibited sexual behaviors that were unlike those of individuals most likely to be in different-sex couples.

There are other surveys that contain information on sexual orientation or sexual behavior (e.g., the General Social Survey, or GSS). However, these alternative data sources have sample sizes that are too small for our analyses. The main disadvantage of using ACS data is that it is not possible to identify single LGBTQ individuals without a partner or same-sex couples who do not live together. Furthermore, since there is no individual-level information on sexual orientation, researchers cannot identify bisexual individuals in different-sex (or same-sex) couples (Hsieh and Liu 2019). In order to quantify these limitations, we have analyzed data from the 2013-2018 National Health Interview Survey (Blewett et al. 2020), which contain information on individual self-reported sexual orientation as well as household structure. Our calculations indicate that among 21-31 year old adults, 28 percent of self-identified sexual minority men (i.e., men who describe themselves as gay, bisexual, or 'something else') are in a household with a same-sex unmarried partner or same-sex spouse, while 39 percent of self-identified sexual minority women (i.e., women who describe themselves as lesbian, bisexual, or 'something else') are in a household with a same-sex unmarried partner or same-sex spouse. The associated share for self-identified heterosexual individuals is 47 percent. Thus, while the ACS same-sex couples are unlikely to represent the majority of sexual minority individuals in the United States, they do capture a substantial share (28-39 percent) of these populations of interest.

4. Econometric framework

We use a standard difference-in-differences approach to examine the impact of the ACA's dependent coverage mandate on young adults in same-sex and different-sex couples. Formally, the estimated difference-in-difference model is the following:

$$y_{igst} = \alpha + \beta\left(Treat_{ig} * Post_t\right) + \delta_s + \mu_t + \pi_g + x'_{st}\gamma_1 + x'_{igst}\gamma_2 + \varepsilon_{igst}$$

where y_{igst} is whether individual i in age group g living in state s at time t had health insurance coverage. Our main outcome is whether an individual had any health insurance coverage, but we also analyze the other sources described above.

The coefficient of interest is β. $Treat_{ig}$ indicates whether an individual was in the treated age group 21-25[8] as opposed to the control group 27-31.[9] $Post_t$ indicates whether an individual was

[8] We exclude individuals age 26 from the main analysis since we do not know if they were in the treatment group of the control group, though the vast majority of them were likely in the control group. As discussed in the empirical section, coding them as such does not materially change our findings. Strictly speaking, insurers were allowed to remove dependent children on the first day of the month following the month of the child's 26th birthday, although employers could decide to continue coverage for the whole calendar year beyond the child's 26th birthday (White House 2010).

[9] As discussed in the empirical section, we also test in Table 4 the robustness of our main findings to other reasonable permutations of ages in the treatment and control groups and find that these choices do not change our conclusions.

interviewed after or before 2010. Our main estimates focus on the years 2008-2012, but we also extend the time period up to 2018. Since the public use ACS does not include information on when during the calendar year the respondents were interviewed, and some insurers chose to comply with the ACA dependent coverage provision sooner than September 2010 (White House 2010), we exclude 2010 from most specifications since we cannot accurately determine treatment status. This also allows us to minimize the likelihood of anticipation effects, since it is possible that young people reduced their insurance coverage in the period between the enactment in March 2010 and the implementation of the reform in September 2010 (Antwi et al. 2013). Meanwhile, many employers updated their policies to allow young adults to enroll in the 2010 open enrollment periods for insurance that would begin the following year.

The specification includes state fixed effects (δ_s), year fixed effects (μ_t), age fixed-effects (π_g), time-varying state-level controls (x'_{st}), as well as individual-level controls (x'_{igst}). We do not include $Treat_{ig}$ and $Post_t$ separately in the model because $Treat_{ig}$ is perfectly collinear with the age fixed effects π_g while $Post_t$ is perfectly collinear with the year fixed effects μ_t. The vector of individual controls x'_{igst} includes race, ethnicity, education (Bachelor's degree or higher), and language spoken. The vector of time-varying state controls x'_{st} includes income per capita, unemployment rate, state population size, racial, ethnic and age composition, percentage of state population with positive income from any state or local public assistance or welfare program, and cohabitation rate among different-sex couples. All specifications also account for LGBTQ policy changes: constitutional and statutory bans on same-sex marriage, same-sex marriage legalization, same-sex domestic partnership legalization, same-sex civil union legalization, LGBTQ non-discrimination laws, and LGBTQ hate crime laws. We also include controls for other relevant state policies: ACA Medicaid expansions and Medicaid private options.

This specification is estimated using only the sample of (married and unmarried) same-sex or different-sex couples. We estimate each specification separately for men and women. Standard errors are clustered at the level of the treatment: age (Abadie et al. 2017; Bertrand et al., 2004).[10] All specifications are weighted using the ACS person weights computed by the U.S. Census Bureau.

5. Results

Below, we present a collage of evidence on the effects of the ACA dependent coverage provision on health insurance coverage for individuals in same-sex couples. We begin by showing raw trends in health insurance outcomes, separately by gender and whether the individual is in a same-sex couple. We then turn to difference-in-differences regression results that compare changes in these outcomes for age-eligible (age 21-25) and slightly older (age 27-31) individuals in same-sex

[10] All reported estimates have been computed using Stata 15. Given the small number of clusters, Stata automatically corrects critical values and p-values using - instead of a standard normal distribution - a T-distribution with degrees of freedom equal to the number of clusters minus one (Cameron et al. 2008).

couples, and we do the same exercise for individuals in different-sex couples. We then present a range of robustness analyses – including event study regression estimates – that confirm the increases in health insurance we document for men in same-sex couples are real. Finally, we present a range of analyses that shed light on the mechanisms underlying the effects on insurance.

5.1 Descriptive statistics and trends

Table 1 presents descriptive statistics for married and cohabiting young adults in the ACS. It shows that the vast majority of cohabiting young adults have health insurance, while a lower share (but still a majority) have employer-sponsored insurance. The majority of the sample is white and employed.

Figure 1 presents raw trends in the likelihood of any health insurance coverage for young adult men in same-sex couples (upper left panel), young adult men in different-sex couples (upper right panel), young adult women in same-sex couples (lower left panel), and young adult women in different-sex couples (lower right panel), separately by whether the individual is in the treatment age group or the control age group. Several patterns are apparent. First, health insurance coverage rates for individuals in same-sex couples were substantially lower than the associated rates for individuals in different-sex couples, especially in the early part of the sample period. This supports prior research showing disparities in health insurance coverage by sexual orientation. Second, younger individuals in both same-sex and different-sex couples both had lower rates of health insurance coverage than their slightly older counterparts in the early part of the sample period. Third, these gaps fell substantially beginning around 2011, consistent with an important role of the ACA dependent coverage provision extending parental ESI access to young adults. Finally, although there are only two data points prior to the ACA dependent coverage provision, there are not obviously different pre-treatment trends across the treatment (21 to 25-year-old) and control (27 to 31-year-old) groups.

Figure 2 plots the same rates for employer-sponsored insurance, and the format of Figure 2 is identical to that of Figure 1. The patterns in Figure 2 are broadly similar to those observed in Figure 1, though there is much less consistent evidence of a sexual orientation-related difference in employer-sponsored insurance for the younger individuals than there was in the likelihood of any insurance in Figure 1.[11] Overall the patterns in Figures 1 and 2 support a visual role for the ACA dependent coverage provision at increasing health insurance coverage for young adults aged 21-25 years in same-sex and different-sex couples. Moreover, there is some visual support for the idea that the ACA dependent mandate helped close gaps in health insurance coverage between adults in same-sex couples and adults in different-sex couples. We formalize and test for these differences in a regression framework in the next section.

[11] The gap in the likelihood of having any health insurance during the pre-treatment period for 21-25 year old men in same-sex couples compared to men in different-sex couples is driven by a much higher likelihood of reporting Medicaid coverage for men in different-sex couples compared to men in same-sex couples.

5.2 Effects of the ACA Dependent Coverage Provision on same-sex couples

Table 2 presents our baseline estimates of the effects of the ACA dependent coverage provision on the likelihood of any insurance coverage (columns 1, 3, and 5) and employer-sponsored insurance coverage (columns 2, 4, and 6).[12] We present results for men in the top panel and for women in the bottom panel. We present difference-in-differences results for individuals in same-sex couples in columns 1 and 2, and for comparison purposes we present the associated difference-in-differences results for individuals in different-sex couples in columns 3 and 4. These difference-in-differences models include all the individual controls described above, as well as the state/time varying controls for state demographic and economic characteristics and state LGBTQ policy environments. In columns 5 and 6 of Table 2 we report estimates from a fully interacted triple difference model where we test whether the insurance changes experienced by same-sex couples in columns 1-2 were meaningfully different from those experienced by different-sex couples in columns 3-4 by showing the coefficient on the triple interaction among being in the treatment group (age 21-25), being observed after 2010, and being in a same-sex couple (in a model that also controls for all the two-way interactions). In each panel we also report the mean of the dependent variable for the treatment group (age 21-25) prior to the reform (2008-2009).

The results in the top panel of columns 1 and 2 of Table 2 confirm the trends highlighted in Figures 1 and 2: the ACA dependent coverage provision was associated with an 8 percentage point increase in the likelihood that young men in same-sex couples aged 21-25 years reported having any health insurance coverage compared to the associated change for men in same-sex couples who were slightly older (age 27-31), and this estimate is statistically significant at the one percent level. Relative to the mean of the dependent variable for age-eligible men in same-sex couples prior to the reform, this is approximately a 12.8 percent effect. The results in the top panel of column 2 of Table 2 indicate that there was an even larger estimated average increase (11.1 percentage points) in the likelihood of employer-sponsored insurance for age-eligible men in same-sex couples, and this estimate is also statistically significant at the five percent level. Relative to the average of employer-sponsored insurance for age-eligible men in same-sex couples prior to the ACA dependent coverage provision, this is an even larger relative effect (23.4 percent).

[12] Prior research has examined whether the ACA dependent mandate affected household structure and marital status outcomes (Abramowitz 2016). In results not reported but available upon request, we also tested whether the ACA dependent coverage provision affected the likelihood of being in a same-sex couple. It is plausible that age-eligible individuals in dating relationships would have previously formed a cohabiting partnership with their romantic partner in order to gain health insurance (if the partner had a job with generous insurance, for example). After the ACA dependent coverage provision, these individuals might choose to get insurance from their parents and delay cohabitation with their romantic partner. If so, this would induce composition bias and affect interpretation of our core difference-in-differences models. We estimated equation (1) where the outcome is an indicator for being in a same-sex unmarried/married partnership and the sample is individuals in same-sex unmarried/married partnerships and single household heads, separately for men and for women. We found no statistically significant relationship between the ACA dependent coverage provision and this outcome for men or women, suggesting that composition biases are unlikely in our setting.

Turning to the difference-in-differences results for women in same-sex couples in the bottom panel of Table 2, we find smaller point estimates that are not statistically significant, though they are both positive in sign, consistent with the idea that the ACA dependent coverage provision increased insurance coverage for women in same-sex couples. The point estimate in the bottom panel of column 2 of Table 2, for example, indicates that the ACA dependent coverage mandate increased the likelihood that a woman aged 21-25 years in a same-sex couple had employer sponsored insurance by 3.5 percentage points, or 7.3 percent relative to the pre-reform mean for age-eligible women in same-sex couples. Thus, while we lack precision to identify statistically significant effects for women in same-sex couples, the evidence suggests a protective role for the ACA dependent coverage mandate for this group.

These estimates are broadly consistent with prior literature on the effects of the ACA dependent coverage mandate. Antwi et al. (2013) estimates that the dependent coverage provision increased the likelihood of any insurance coverage by three percentage points and the likelihood of having employer-sponsored dependent insurance by seven to ten percentage points using the Survey of Income and Program Participation. Barbaresco et al. (2015) find that the ACA dependent coverage provision increased the likelihood of any health insurance coverage by six percentage points using the Behavioral Risk Factor Surveillance System. Sommers et al. (2013) use data from the National Health Interview Survey and find increases in insurance coverage of about five percentage points associated with the ACA dependent coverage provision. Thus, our core estimates for men in same-sex couples are similar in magnitude to existing estimates from the prior literature.

5.3 Event study

We present standard event study estimates in Figures 3 and 4 for any health insurance and employer sponsored insurance, respectively, for individuals in same-sex couples (men in the top panel and women in the bottom panel). In these models we replace the indicator for "after 2010" with a series of event time indicators, interacting each ACS year with an indicator for treatment group observations (i.e., individuals age 21-25). Formally, we estimate the following model:

$$y_{igst} = \alpha + \sum_{k=2008}^{2018} \beta_k \left(Treat_{ig} * Year_k \right) + \delta_s + \mu_t + \pi_g + x'_{st}\gamma_1 + x'_{igst}\gamma_2 + \varepsilon_{igst}$$

All regressors are defined as in Section 4. As usual in the literature, we have normalized the first lead operator (the interaction with $Year_{2009}$) to zero. In line with the main specifications in Table 2, we have continued to exclude observations from 2010 in our analysis.

There is no evidence of differential pre-trends among respondents age 21-25 relative to those age 27-31 in any of the figures, thus supporting the parallel trend assumption in our difference-in-differences strategy. Moreover, the effect of the ACA dependent coverage provision appears nearly immediately (by 2011) for men in same-sex couples for both any insurance and employer-

sponsored insurance. For men in same-sex couples, several individual event-time interactions are individually statistically significant.

For women in same-sex couples in Figures 3 and 4 we similarly observe no evidence of differential pre-trends, and there is also visual evidence of an increase in both any insurance coverage and employer-sponsored insurance in the years after 2010. Some of the individual post-ACA interaction terms are themselves individually significant.

5.4 Effect on different-sex couples and triple difference estimates

Columns 3 and 4 of Table 2 present the associated results on individuals in different-sex couples to benchmark the relative magnitudes of the effects of the ACA dependent coverage provision. Notably, in line with the previous literature and the trends in Figures 1-2, the pre-reform means for any insurance in column 3 for individuals in different-sex couples are substantially higher than the associated means for individuals in same-sex couples in column 1. For men in different-sex couples we estimate an increase in any insurance coverage of 1.2 percentage points, with a 3.8 percentage point increase in employer-sponsored insurance. Relative to the pre-reform means, these estimates correspond to 1.7 and 7.8 percent relative effects, respectively. For women the corresponding estimates are 2.6 and 2.8 percentage point increases (3.5 and 5.5 percent relative effects), respectively. All the difference-in-differences estimates for individuals in different-sex couples in columns 3 and 4 are statistically significant at the one percent level.[13]

Although the magnitude of the insurance increases for men in same-sex couples in the top panel of columns 1 and 2 of Table 2 is much larger than the associated increases for men in different-sex couples in the top panel of columns 3 and 4 of Table 2, in columns 5 and 6 we present triple difference models to explicitly test whether the increase in health insurance coverage for individuals in same-sex couples associated with the ACA dependent coverage provision was statistically different than the associated change for individuals in different-sex couples. Each entry in columns 5 and 6 is the coefficient on a triple interaction term among the indicators for being the treatment age group (21-25 years), being observed after 2010, and being in a same-sex couple. Formally, we estimate the following model:

$$y_{igstk} = \alpha + \beta\left(Treat_{ig} * Post_t * SameSex_{ik}\right) + \mu_{gt} + \pi_{kt} + \rho_{gk} + \delta_s + x'_{st}\gamma_1 + x'_{igstk}\gamma_2 + \varepsilon_{igstk}$$

[13] As an alternative way to benchmark the effect size for heterosexual individuals, we examined a sample of all household heads who reported being single. Since we know from other data that the share of individuals who identify as heterosexual is around 95 percent in most credible population-based datasets (Gates 2011), the vast majority of single household heads are likely to be heterosexual. We present those estimates in Appendix Table B1, which indicate that the ACA dependent coverage provision increased the likelihood of any health insurance coverage among single household heads by about 3.6 percentage points for both men and women, with larger increases in employer sponsored insurance (5.9 and 5.3 percentage points for men and women, respectively). These estimates are slightly larger than the associated difference-in-differences estimates for individuals in different-sex couples in columns 3 and 4 of Table 2, but the estimates for men are notably smaller than the difference-in-differences estimates for men in same-sex couples in the top panel of columns 1 and 2 of Table 2.

where y_{igstk} is whether individual *i* in age group *g* living in state *s* at time *t* had any health insurance coverage (or employer-sponsored insurance). The subscript k indicates whether an individual is in a same-sex or different-sex couple. The coefficient of interest is β. $Treat_{ig}$ and $Post_t$ are defined as in Section 4 and interacted with the same-sex couple indicator $SameSex_{ik}$. The specification includes age-specific time effects that are common across couples (μ_{gt}), time-varying effects specific to same-sex couples (π_{kt}), age-specific effects among same-sex couples (ρ_{gk}), state fixed effects (δ_s), state controls (x'_{st}), and individual controls $\left(x'_{igstk}\right)$. We do not include the double-interactions between $Treat_{ig}$, $Post_t$, and $SameSex_{ik}$ since they are perfectly collinear with the fixed effects μ_{gt}, π_{kt}, and ρ_{gk}.

We emphasize here that these triple difference estimates are presented for descriptive purposes only. That is, we are not arguing that additionally differencing out the effect for individuals in different-sex couples allows us to more accurately estimate the true causal effect of the ACA dependent coverage provision on individuals in same-sex couples, and we recognize that pathways into and out of relationships for sexual minorities and heterosexual individuals may differ for any number of reasons, including possibly due to the roles of social and policy context. Instead, we present these triple difference estimates as another interesting benchmark for understanding the strength and magnitude of the ACA dependent mandate effects on individuals in same-sex couples.

The findings in the top panel of columns 5 and 6 of Table 2 indicate that the increases in the likelihood of any insurance coverage for men in same-sex couples associated with the ACA dependent coverage provision were, in fact, significantly larger than the associated increases for men in different-sex couples. For any health insurance, for example, we estimate that age-eligible men in same-sex couples experienced an increase of 6.5 percentage points greater than what was experienced by age-eligible men in different-sex couples coincident with the ACA dependent coverage provision. We estimate a similarly sized 6.1 percentage point triple interaction for employer-sponsored insurance in the top panel of column 6, but it is not statistically significant. For women (presented in the bottom panel of Table 2) we find much smaller triple difference estimates, and neither is statistically significant.

5.5 Extensions and robustness checks

In Table 3 we present the associated results for outcomes reflecting the other sources of health insurance. We present results from the specification in columns 1-4 of Table 2 with the main effects, individual controls, and state/time varying controls, and we present the coefficient on the interaction term between the indicators for age 21-25 years and after 2010. As in Table 2, we present results for men in same-sex couples in the top panel and for women in same-sex couples in the bottom panel. We reprint the estimates for having any health insurance and for having employer-sponsored insurance in columns 1 and 2, respectively, and we present results for direct/privately purchased insurance in column 3, for Tricare in column 4, for Medicare in column

5, for Medicaid in column 6, for Veterans Affairs (VA) coverage in column 7, and for Indian Health Service coverage in column 8.

The results in the top panel of Table 3 suggest that the discrepancy between the larger increase in employer-sponsored insurance and the increase in the likelihood of any health insurance for men in same-sex couples associated with the ACA dependent coverage mandate is due in part to a large reduction in the uninsurance rate and a sizable reduction in the likelihood of reporting Medicaid coverage (though the Medicaid estimate is not statistically significant). These results suggest that the ACA's dependent coverage provisions were effective at lowering the uninsurance rate for young men in same-sex couples. Meanwhile, the 'reverse crowd out' phenomenon (i.e., increases in private health insurance that are coincidentally associated with decreases in public health insurance) has been documented in previous research on state-level dependent coverage provisions (Levine et al. 2011). Coefficient estimates on the other sources of insurance are very small and not statistically significant. For women in same-sex couples in the bottom panel of Table 4, we continue to find no evidence of statistically significant changes in health insurance coverage associated with the ACA dependent coverage provision except for a marginally significant reduction in Tricare coverage, in line with the decline in military participation among young adults following the ACA reform documented by Chatterji et al. (2019).

In Table 4 we present robustness checks where we vary the ACS years used in the analysis (columns 1-3) and the age-based definitions of treatment and control groups (columns 4-6) for the outcome of any health insurance. We restrict attention to individuals in same-sex couples, and we present results for men in the top panel and for women in the bottom panel. Each column header describes the sample restriction that we impose. The patterns in Table 4 confirm that the finding of increased health insurance for men in same-sex couples associated with the ACA dependent coverage provision is highly robust to reasonable alternative choices about which years of the ACS to include and which ages should constitute treatment and control groups. In every case we find that the ACA dependent mandate is associated with large and statistically significant increases in the likelihood of having health insurance for men in same-sex couples.[14] This pattern is reassuring given that some prior research on the ACA dependent coverage provision has documented sensitivity of findings on health insurance coverage to these alternative choices (Slusky 2017). For women, we continue to find suggestive—but not statistically significant—evidence of increases in health insurance coverage associated with the ACA dependent coverage provision, except for the full period 2008-2018 which does return a marginally significant increase in insurance coverage of 6.3 percentage points (or 9.6 percent of the pre-reform mean for the treatment group).[15]

[14] The larger estimates when including respondents in later years could be due to the fact that some insurance plans ('grandfathered employer plans') were allowed to refuse coverage to age-qualified dependent children whose own employers offered them health insurance until 2014 (Antwi et al. 2013).

[15] As a placebo test, we have also compared changes in insurance coverage between individuals age 27-31 and those age 32-36 before and after 2010. The estimated difference-in-difference coefficient in Appendix Table B2 is small and statistically insignificant for both men and women in same-sex couples, when looking at either the probability

In Table 5, we present a series of additional robustness checks and extensions for our main results for men in same-sex households. We vary the format of Table 5 slightly in that we focus only on men in same-sex households – the group for whom we find the most consistent evidence of protective effects of the ACA dependent coverage mandate – and present results for any insurance in the top panel and for employer-sponsored insurance in the bottom panel. In Column 1 of Table 5 we show results from a model where instead of controlling for time-varying state characteristics we include a full set of state-by-year fixed effects. In this flexible model we continue to find that the ACA dependent coverage provision was associated with even larger and statistically significant increases in health insurance coverage and employer sponsored insurance for men in same-sex couples.

In column 2 of Table 5, we show results from a sample that excludes the handful of states that had legal access to same-sex marriage before 2010, and in column 3 of Table 5 we show results from a sample that excludes states that had legal access to same-sex marriage at any time during our 2008-2012 sample period. Neither sample restriction meaningfully changes the core finding, which is important and suggestive that young men in same-sex couples could be enrolled in a parent's ESI plan rather than a spouse's ESI plan. This robustness is not particularly surprising since the research design hinges on over-time comparisons across slightly younger and slightly older young adults, and thus it is difficult to think about confounding factors that differentially affected these two groups.[16]

5.6 Suggestive evidence on the underlying mechanisms

Having documented a robust increase in the likelihood of having any health insurance coverage and employer-sponsored insurance for men in same-sex couples associated with the ACA dependent coverage provision, that in some cases is significantly larger than the same effect enjoyed by men in different-sex couples, we turn the focus of our analysis in Table 6 to several tests that help us further understand mechanisms and plausibility. The format of Table 6 follows that of Table 5 in that we concentrate on men in same-sex couples and report results for any health

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of having any insurance coverage or employer-sponsored insurance, thus supporting our identification strategy and the claim that the estimated increase in health insurance coverage among respondent age 21-25 is causal and not resulting from a spurious relationship.

[16] The Appendix reports the results of several other robustness tests we performed on the main results reported in columns 1 and 2 of Table 2. Appendix Table B3 shows that our main results are robust to clustering standard errors at the state level (as in Antwi et al., 2013), to estimating heteroscedasticity-robust standard errors, to estimating p-values using the wild cluster bootstrap procedure (MacKinnon and Webb 2018; Roodman et al. 2019), to estimating p-values using the effective number of clusters (Carter et al. 2017; Lee and Steigerwald 2018), to estimating models without the ACS person weights, and to estimating models using the ACS replication weights. Appendix Table B4 shows that our main results are also robust to excluding same-sex spouses from the 2012 estimation sample and only examining individuals in same-sex unmarried partnerships to address concerns about misclassification errors being more common among married couples (O'Connell and Feliz, 2011), to including 2010 ACS data and counting that year as treated by the ACA dependent coverage provision, to including 2010 ACS data and coding that year as untreated, to including 26-year-old respondents as part of the control group, and to restricting attention to individuals age 23-25 versus 27-29 as suggested by Slusky (2017). Appendix Table B5 shows that our main results for men are robust to excluding each individual state one at a time.

insurance in the top panel and for employer-sponsored insurance in the bottom panel. In columns 1 and 2 of Table 6, we show results separate for individuals whose state of residence at the time of the interview was equal or not equal to their reported state of birth, respectively. Although out-of-state migration is correlated with many important unobservable characteristics (including, presumably, sexual orientation), we note that pre-reform means of the outcome variables are quite similar across these two groups and certainly smaller than the differences between individuals in same-sex couples and individuals in different-sex couples in Table 2. We hypothesize that individuals who had not migrated from their state of birth were more likely to be physically proximate to their parents, thus reducing the cost of accessing dependent coverage. Non-migration since birth may also signal stronger family relationships. Indeed, we observe much larger effects for non-migrants than for migrants.

In columns 3 and 4 of Table 6 we present results separately for individuals who are the household head (i.e., the primary reference person in whose name the property is owned or rented) versus the partner or spouse of the household head, respectively. A stark pattern emerges: all of the effect of the ACA dependent coverage provision accrues to partners of household heads, with no effect on the household heads themselves. There are several possible explanations for these results. First, it could be that the household heads had employer-sponsored insurance that did not cover family members. Second, it could be that the household heads had employer-sponsored insurance that covered some family members but did not cover same-sex partners. While large firms over this time period were increasingly offering health insurance benefits to same-sex unmarried partners, coverage was far from universal. In fact, Dawson et al. (2016) found that in 2016 only 43% of firms offering spousal benefits had extended such coverage to same-sex spouses. Third, it could be that the household heads did not want to effectively out themselves to their employers as being sexual minorities, which they would have had to do in order to claim same-sex partners as dependents for health insurance purposes. Without additional data, we cannot directly test which of these channels was driving this pattern.[17]

In Table 7 we further explore mechanisms by examining other possible margins of adjustment. Specifically, we examine employment and student status. We hypothesize that the increased access to parental health insurance coverage via the ACA dependent coverage mandate allowed individuals to reduce employment (if they were working primarily to obtain health insurance) and/or increase schooling. It is worth remembering that some prior dependent coverage mandates at the state level imposed requirements such as enrolling in school and/or being unmarried (in addition to being below a certain age threshold). We report these results in Table 7, with effects

[17] In Appendix Tables B6 and B7 we investigated heterogeneity in the results for men in same-sex couples with respect to education and race, respectively. Table B6 shows that the increases in insurance coverage experienced by men in same-sex couples associated with the ACA dependent coverage mandate were observed primarily for individuals without a Bachelor's degree. Table B7 shows that the increases in insurance coverage are statistically significant only for white men in same-sex couples, though the point estimates for the other race groups are in some cases large and positive even when they are not statistically significant.

for men in same-sex couples in the top panel and for women in same-sex couples in the bottom panel. Each column shows the results from the standard difference-in-differences specification for various indicator variables: being employed (in the prior week) in column 1, being unemployed in column 2, being in the labor force (either employed or unemployed) in column 3, working at least 30 hours per week in column 4, working at least 40 hours per week in column 5, and being a student within the past three months in column 6.

The patterns in Table 7 reveal that the ACA dependent coverage provision had little effect on employment or labor force attachment or school enrollment for men in same-sex couples in the top panel. All estimates are small and statistically insignificant. For women in same-sex couples in the bottom panel, in contrast, we estimate that the ACA dependent coverage provision was associated with statistically significant reductions in the likelihood of working at least 40 hours per week (column 4) and with a statistically significant reduction in total work hours of about 4.5 hours (column 5). This pattern is consistent with the lack of an overall change in employer-sponsored insurance for women in same-sex couples and suggests that women in same-sex couples may have traded own employer-sponsored insurance for parental coverage in response to the ACA dependent coverage mandate. The reductions in full-time work are accounted for by women in same-sex couples having increased risk of being unemployed (column 2), exiting the labor force (column 3), and being a student (column 7), though not all of these estimates are statistically significant.

6. Discussion and conclusion

A large body of prior research documents that the dependent coverage provision of the Affordable Care Act was associated with meaningful increases in health insurance coverage for young adults after it took effect in 2010. We provide the first examination of whether young adults in same-sex couples – the vast majority of whom are likely to be gay, bisexual, queer, and lesbian – also benefitted from this reform. We hypothesized that a higher likelihood of strained relationships with parents might mean that sexual minorities in same-sex couples would have lower opportunity to benefit from the dependent coverage provision. Perhaps surprisingly, then, we found that young adults in same-sex couples who were age-eligible for the ACA dependent mandate experienced significant increases in health insurance coverage after 2010 compared to the associated change for their slightly older counterparts who were not eligible to gain parental coverage. This increase was driven by large improvements in the likelihood of having employer-sponsored insurance. The effects we identify were consistently observed for young men in same-sex couples, with smaller effects that were not always statistically significant for young women in same-sex couples.

How large are the effects we identify? Consider that from 2008-2018 the share of young men in same-sex couples aged 21-25 years who reported employer-sponsored insurance increased by about 24 percentage points (upper left panel of Figure 1). When measured over the full sample period, we estimate that the ACA dependent mandate significantly increased the likelihood of employer sponsored insurance by 11.8 percentage points (top panel of column 3 of Table 4). Thus,

we estimate that the ACA dependent coverage provision can account for about half of the increase in overall health insurance coverage for young men in same-sex couples over this time period.

We also found that the increase in health insurance we identify for men in same-sex couples is significantly larger than the associated increase for men in different-sex couples. Why might this be the case? There are several possibilities, though we do not have data to adjudicate among them. First, as noted above, men in same-sex couples who were not the household head may have had greater need for parental health insurance coverage due to lack of access to the employer-sponsored insurance of their partners/spouses. Even if they did have partners/spouses with employer sponsored insurance coverage that would have extended to same-sex partners, they may have feared employer-based discrimination or other reprisals by taking it up. Second, men in same-sex couples may have had higher demand for health insurance because of the differential burden of some health conditions within the sexual minority male community, including HIV and poor mental health. These factors may have contributed to the larger effects of the ACA dependent coverage mandate on insurance coverage for men in same-sex couples compared with men in different-sex couples.

Regarding women in same-sex couples, we found weaker evidence of increases in health insurance associated with the ACA dependent coverage provision, though several patterns point to improvements that were smaller in scale than those we identify for men in same-sex couples. First, the point estimates from our main specification in Table 2 – though not statistically significant – were sizable as a share of the pre-reform mean, especially for employer-sponsored insurance (an estimated 7.3 percent relative increase for 21-25 year old women in same-sex couples after 2010 compared to the associated change for 27-31 year old women in same-sex couples). Second, Table 4 showed that lengthening the time period under study returned successively larger estimates of the protective effect of the ACA dependent coverage provision on the likelihood of any health insurance coverage for women in same-sex couples, such that the estimates attained marginal statistical significance when we considered the longest period (2008-2018). Third, further robustness analyses of the results for women shown in Appendix Table B8 demonstrate that the increases in insurance coverage for women in same-sex couples associated with the ACA dependent coverage mandate were much larger for women who did not migrate from their state of birth than for women who did migrate from their state of birth, similar to the patterns we observed for men in same-sex couples in Table 6. Finally, Appendix Table B8 also confirms that the ACA dependent coverage mandate was associated with statistically significant increases in the likelihood of having employer-sponsored insurance for women in same-sex couples who were the partners of the household head (but not for women in same-sex couples who were themselves the household heads). This pattern exactly matches the pattern for men in same-sex couples in Table 6. Thus, taken together, we conclude that there are several patterns suggesting that the ACA dependent coverage provision also increased insurance coverage for women in same-sex couples, though these effects are consistently smaller than those observed for men in same-sex couples. These findings are similar to those in other studies in the literature: both Antwi et al. (2013) and

Barbaresco et al. (2015) also found larger effects for men than for women associated with the ACA dependent coverage provision, even if they did not specifically examine individuals in same-sex couples.[18]

Our study is subject to several limitations, many of them owing to challenges in identifying sexual minorities in the ACS. First, because the ACS does not include direct questions about sexual orientation at the individual level, we cannot identify effects of the ACA dependent coverage provision on health insurance coverage of single sexual minorities. It could be that being in a same-sex couple signals some positive relationship with family members (i.e., perhaps the sexual minorities who have difficult relationships with parents are less likely to be coupled). Related to this, despite documented disparities in health for transgender individuals (Lagos 2018), we have no information on gender identity, and so we cannot address the effects of the ACA on transgender populations, who may also have strained relationships with their parents and unique healthcare needs. A related limitation of relying on relationships to the ACS household head to identify same-sex couples is that if an unmarried same-sex couple moved in with one of the couple's parents, it would be very unlikely that we could identify them as a same-sex couple. In that situation the household head would likely be the parent, not the member of the same-sex couple, and one member of the couple would be identified as son or daughter but the other member of the couple would most likely be identified as 'other nonrelative'. That is, if the same-sex couple does not involve the householder, there is no way to identify in the ACS that those two individuals in the same-sex couple are in a romantic relationship.[19]

Second, although the ACS permits us to identify different types of health insurance, for employer-sponsored insurance, we do not know the name of the person in whose name the employer policy is written (i.e., the policyholder). Because of this, we can speculate that unmarried partner men age 21-25 in same-sex couples are gaining health insurance from their own parent, but we cannot directly confirm this. Of course, we can think of no other confounding policy or other variable that would differentially affect individuals aged 21-25 compared to those aged 27-31 coincident with the 2010 ACA dependent mandate, and so we are leaning heavily on the difference-in-differences design in this case. Third, the ACS lacks information on access to care, health services utilization,

[18] From a statistical point of view, it is worth emphasizing that the confidence intervals for the estimated impacts of the ACA dependent coverage mandate on women in same-sex couples are often very large and overlapping with those for men in same-sex couples. Nevertheless, there are many substantive reasons why the estimated effects could be larger for sexual minority men in same-sex couples than for sexual minority women in same-sex couples. For example, most of the labor economics literature shows that gay men suffer a wage penalty compared to comparably skilled heterosexual men, while lesbians earn a wage premium compared to comparably skilled heterosexual women (Klawitter 2015; Neumark 2018), which is consistent with the idea that labor market discrimination against gay men is stronger than against lesbian women. This would be consistent with a greater need among men in same-sex couples for parental insurance coverage than among women in same-sex couples.

[19] Note moreover that this problem is more severe for sexual minorities than for heterosexuals, since if a different-sex couple chose to get married and move in with one of their parents, the different-sex spouse would be identified as son-in-law or daughter-in-law of the household head.

and health outcomes, and so we can only examine effects on health insurance coverage. We leave examination of these other health outcomes to future research.

Despite these limitations, our findings confirm the broad effects of expanded dependent coverage and suggest that eliminating the federal dependent mandate could reduce health insurance coverage among young adult sexual minorities in same-sex couples. In so doing, our study also provides one of the literature's first quasi-experimental examinations of how population-targeted (i.e., not LGBTQ-specific) health policies affected sexual minorities, including whether it had differential effects relative to heterosexual populations. Social science and public health literatures have made important advances in documenting heterogeneous treatment effects by age, gender, race/ethnicity, and education across a range of important health and social policies. Our results highlight the importance of adding sexual orientation to that standard list of demographic characteristics in order to monitor and achieve health equity for LGBTQ people in the United States.

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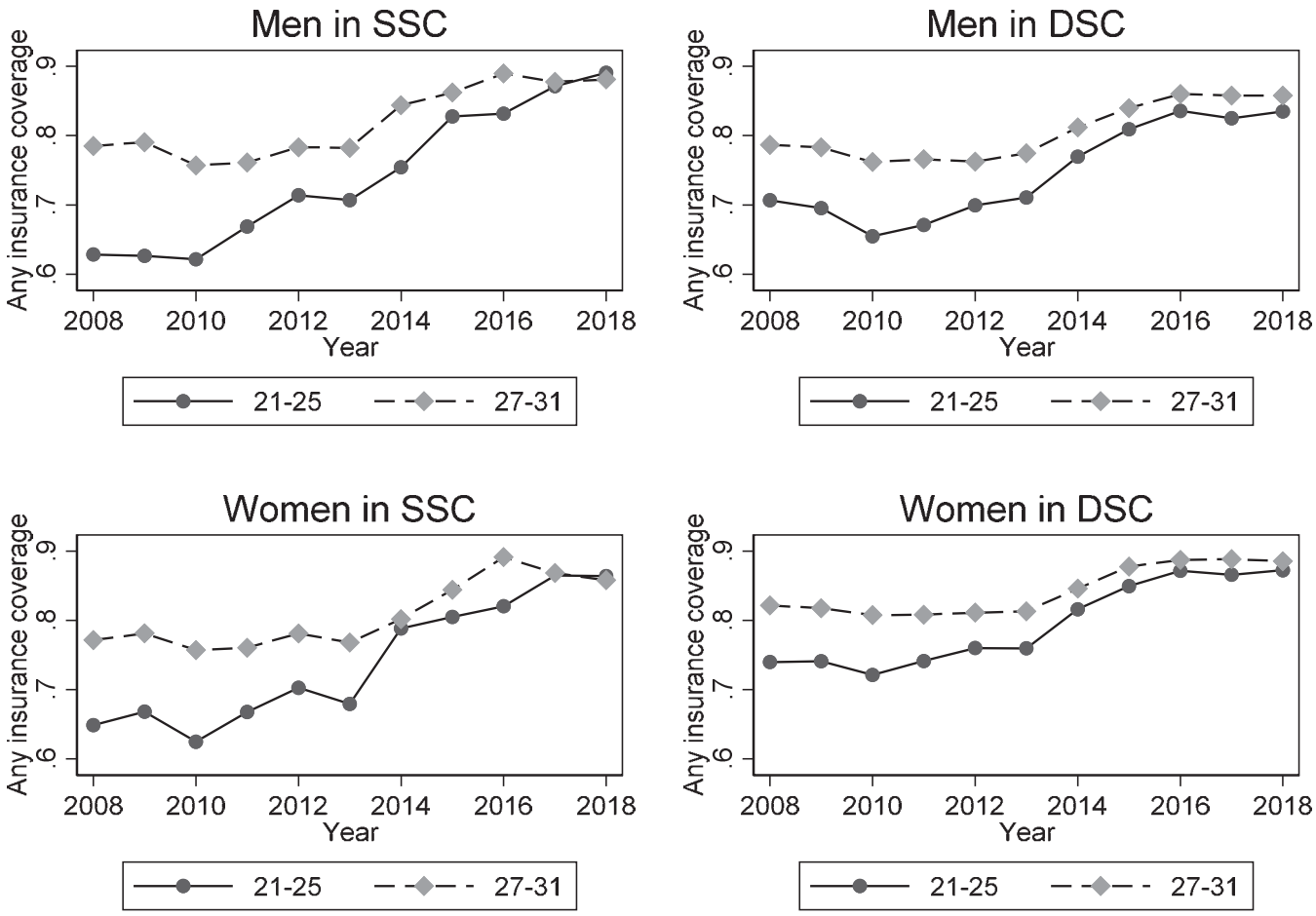
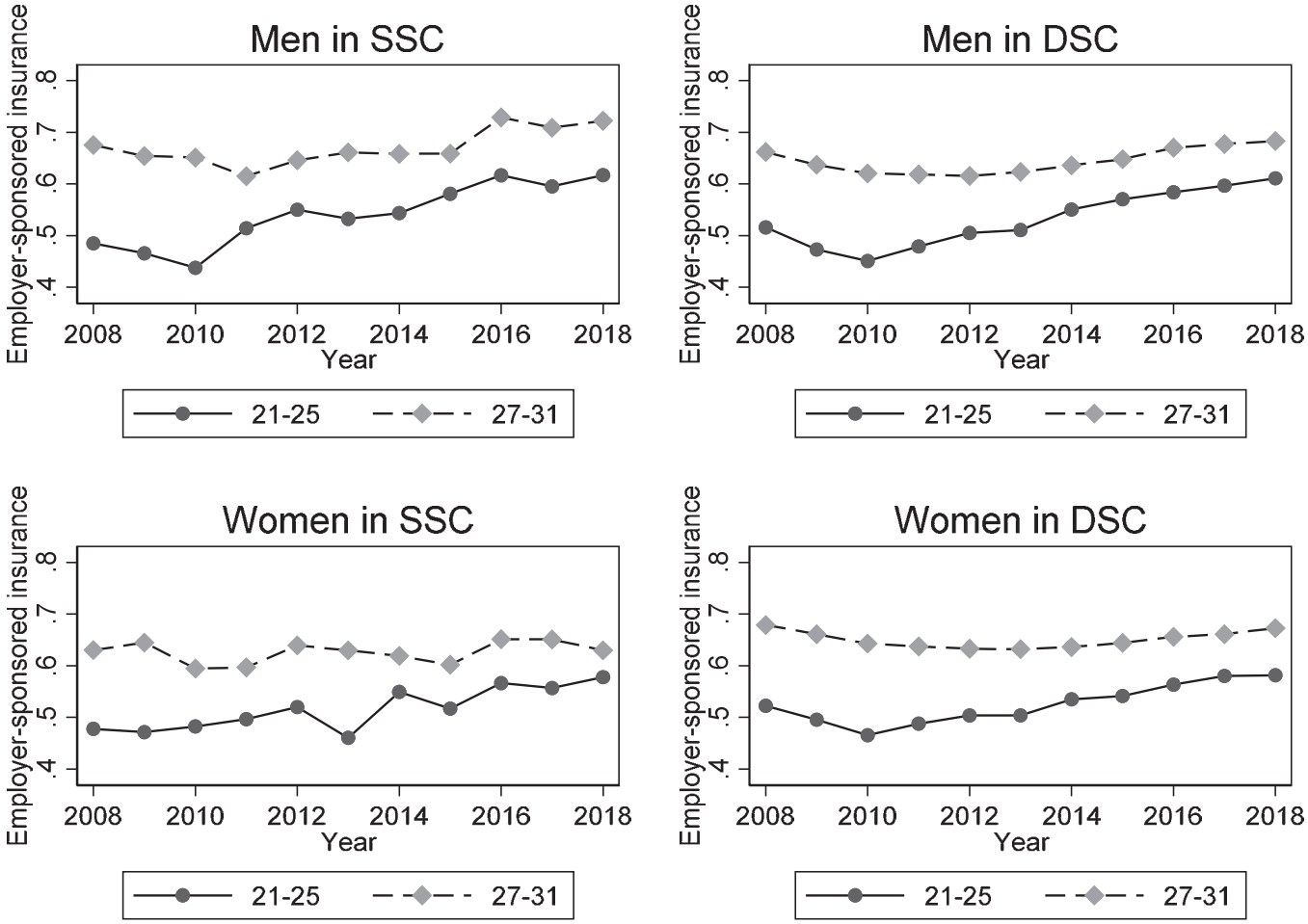
Figure 1: Trends in health insurance rates. Individuals in same-sex couples (SSC) and different-sex couples (DSC).



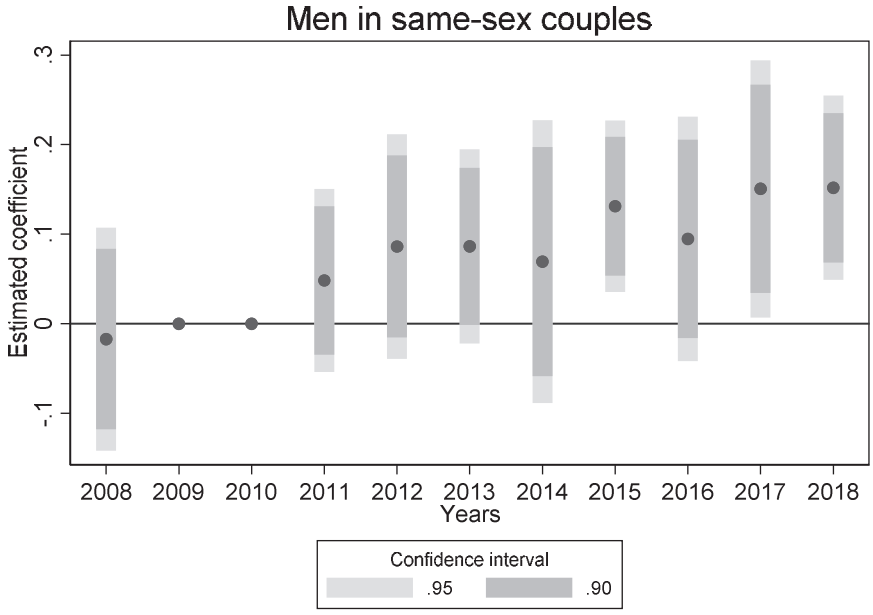
Notes: The dependent variable is whether the respondent had any health insurance coverage. "SSC" indicates same-sex couples. "DSC" indicates different-sex couples. Weighted summary statistics using person weights. Source: ACS 2008-2018.

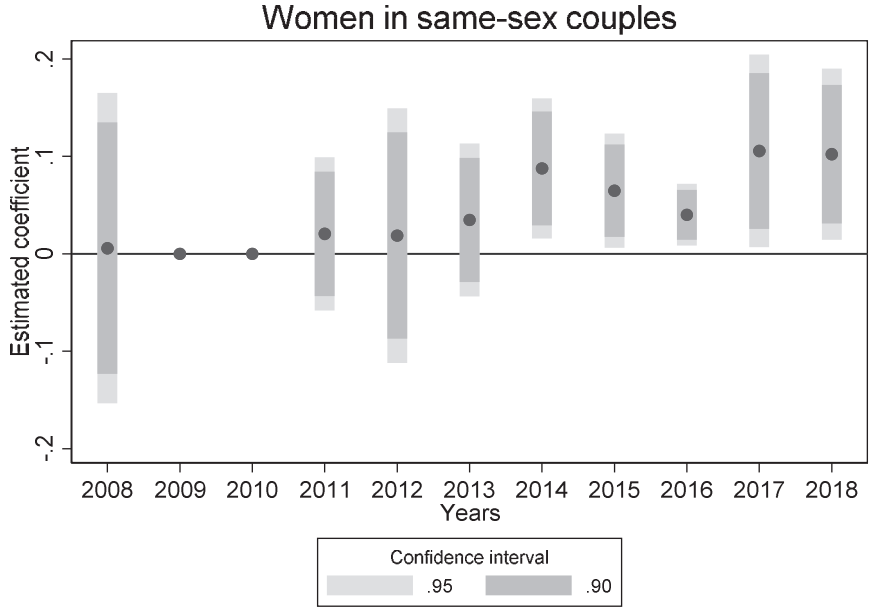
Figure 2: Trends in employer health insurance rates. Individuals in same-sex couples (SSC) and different-sex couples (DSC).



Notes: The dependent variable is whether the respondent had health insurance through an employer. "SSC" indicates same-sex couples. "DSC" indicates different-sex couples. Weighted summary statistics using person weights. Source: ACS 2008-2018.

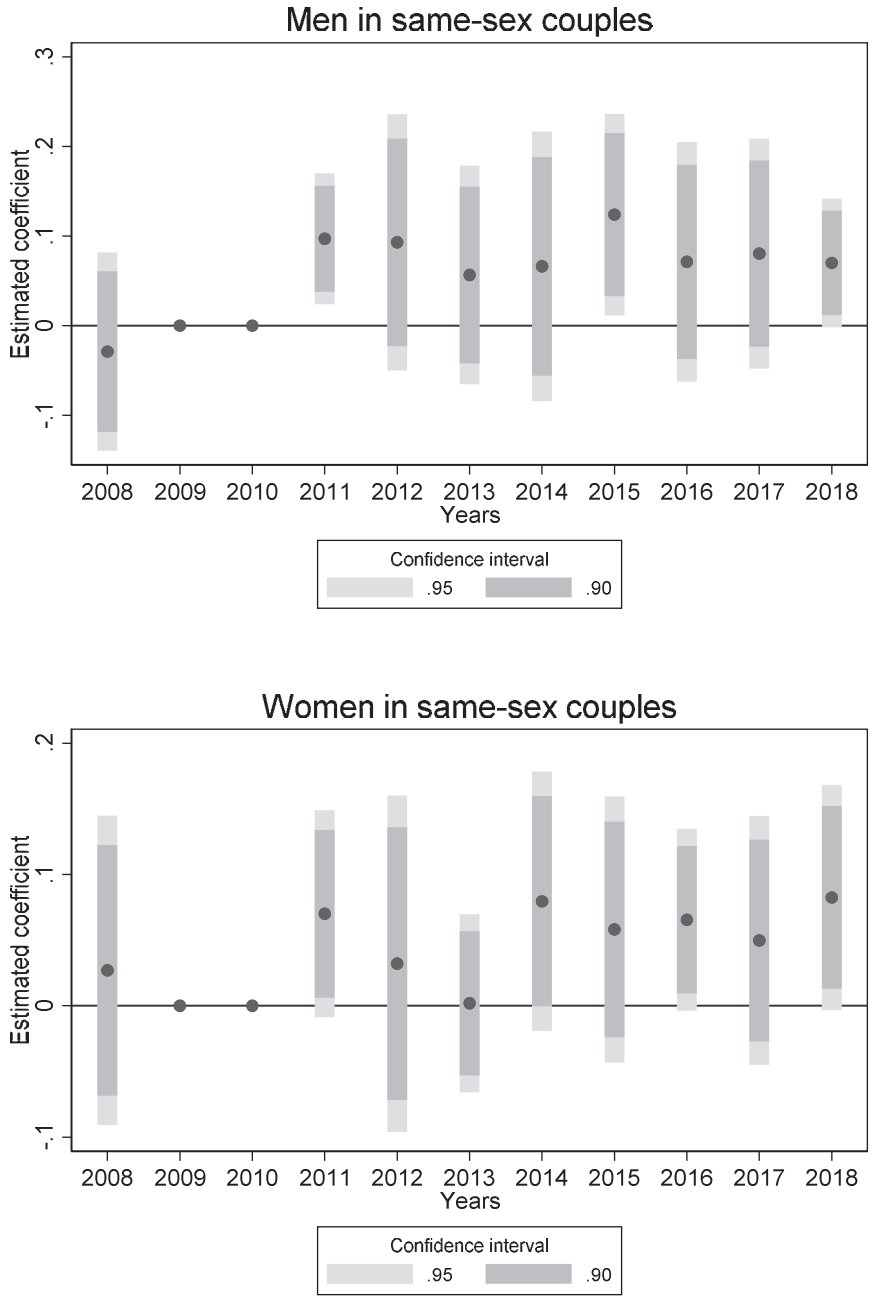
Figure 3: Event study estimates of the effect of ACA on any health insurance among individuals in same-sex couples.





Notes: The dependent variable is whether the respondent had any health insurance coverage. Sample includes respondents in either married or unmarried same-sex couples. Individuals age 21-25 are compared to those age 27-31. Same fixed effects, individual and state controls as Table 2. Shaded bars represent the 90 and 95 percent confidence intervals. Weighted regressions using person weights. Source: ACS 2008-2018 (excluding 2010).

Figure 4: Event study estimates of the effect of ACA on employer-sponsored insurance among individuals in same-sex couples.



Notes: The dependent variable is whether the respondent had health insurance through an employer. Sample includes respondents in either married or unmarried same-sex couples. Individuals age 21-25 are compared to those age 27-31. Same fixed effects, individual and state controls as Table 2. Shaded bars represent the 90 and 95 percent confidence intervals. Weighted regressions using person weights. Source: ACS 2008-2018 (excluding 2010).

Table 1: Summary statistics for individuals in same-sex and different-sex couples

	Individuals in same-sex couples		Individuals in different-sex couples	
	Male	Female	Male	Female
Main dependent variables:				
Has any health insurance coverage	0.739	0.736	0.752	0.792
Has employer sponsored insurance	0.598	0.577	0.595	0.603
Individual controls:				
White	0.782	0.755	0.784	0.788
Black	0.089	0.122	0.086	0.068
Asian	0.038	0.027	0.036	0.055
Other races	0.091	0.096	0.093	0.088
Hispanic	0.182	0.150	0.197	0.184
College education	0.368	0.342	0.261	0.333
Does not speak English	0.013	0.004	0.013	0.021
Other key characteristics:				
Employed (vs. Unemployed/NILF)	0.822	0.814	0.888	0.681
Unemployed (vs. Employed/NILF)	0.065	0.084	0.063	0.056
Work 30h/week or more	0.802	0.779	0.901	0.630
Work 40h/week or more	0.664	0.622	0.812	0.481
Student	0.188	0.219	0.118	0.159
Total personal income (pre-tax)	33,911	26,270	38,064	22,297
Observations	2,781	3,614	235,954	304,318

Notes: Sample includes respondents in either married or unmarried same-sex and different-sex couples, aged 21-25 or 27-31 years. Weighted summary statistics using person weights. Source: ACS 2008-2012 (excluding 2010).

Table 2: Effect of ACA dependent coverage mandate on health insurance for individuals in same-sex and different-sex couples.

	Individuals in same-sex couples		Individuals in different-sex couples		Individuals in same-sex and different-sex couples	
	Any insurance	Employer sponsored insurance	Any insurance	Employer sponsored insurance	Any insurance	Employer sponsored insurance
	(1)	(2)	(3)	(4)	(5)	(6)
Men						
Age 21-25 * Post-2010	0.080***	0.111**	0.012***	0.038***	--	--
	(0.023)	(0.040)	(0.003)	(0.007)		
Age 21-25 * Post-2010 * Same-sex	--	--	--	--	0.065**	0.061
					(0.027)	(0.042)
N	2,781	2,781	235,954	235,954	238,735	238,735
Mean of DV for 21-25 pre-2010	0.627	0.474	0.701	0.495	0.627	0.474
Adjusted R-squared	0.176	0.161	0.134	0.127	0.134	0.127
Women						
Age 21-25 * Post-2010	0.015	0.035	0.026***	0.028***	--	--
	(0.037)	(0.042)	(0.006)	(0.005)		
Age 21-25 * Post-2010 * Same-sex	--	--	--	--	-0.018	-0.001
					(0.038)	(0.041)
N	3,614	3,614	304,318	304,318	307,932	307,932
Mean of DV for 21-25 pre-2010	0.659	0.475	0.740	0.509	0.659	0.475
Adjusted R-squared	0.121	0.120	0.136	0.156	0.136	0.156
Controls for:						
Age and year FE	X	X	X	X		
State FE	X	X	X	X	X	X
Individual controls	X	X	X	X	X	X
State time-varying policies	X	X	X	X	X	X
Age-by-year, state-by-year, & age-by-state FE					X	X

Notes: The dependent variable in columns 1,3, and 5 is whether the respondent had any health insurance coverage. The dependent variable in columns 2, 4, and 6 is whether the respondent had health insurance through an employer. Sample includes respondents in either married or unmarried different-sex or same-sex couples. Individuals age 21-25 are compared to those age 27-31. The mean of the dependent variable only refers to individuals age 21-25 interviewed in 2008 or 2009 (and only in same-sex couples in columns 5-6). Individual controls: ethnicity, race, language, education. State controls: income per capita, unemployment rate, population, racial and age composition, percentage of state population with positive welfare income, cohabitation rate among different-sex couples, constitutional and statutory bans on same-sex marriage, same-sex marriage legalization, same-sex domestic partnership legalization, same-sex civil union legalization, LGBTQ anti-discrimination laws, LGBTQ hate crime laws, Medicaid pre-expansion. Standard errors clustered at the age level in parentheses. Weighted regressions using person weights. Source: ACS 2008-2012 (excluding 2010). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Effect of ACA on health insurance among same-sex couples, by type of coverage.

	Any coverage	Employer	Direct purchase	TRICARE	Medicare	Medicaid	Veterans Affairs	Indian Health Service
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Men								
Age 21-25 * Post-2010	0.080***	0.111**	-0.010	0.005	-0.004	-0.013	0.001	-0.003
	(0.023)	(0.040)	(0.026)	(0.013)	(0.006)	(0.015)	(0.009)	(0.005)
N	2,781	2,781	2,781	2,781	2,781	2,781	2,781	2,781
Mean of DV for 21-25 pre-2010	0.627	0.474	0.099	0.017	0.006	0.078	0.005	0.005
Adjusted R-squared	0.176	0.161	0.036	0.056	-0.002	0.054	0.015	0.043
Women								
Age 21-25 * Post-2010	0.015	0.035	-0.005	-0.021*	-0.010	-0.025	0.000	0.005
	(0.037)	(0.042)	(0.018)	(0.010)	(0.006)	(0.021)	(0.007)	(0.004)
N	3,614	3,614	3,614	3,614	3,614	3,614	3,614	3,614
Mean of DV for 21-25 pre-2010	0.659	0.475	0.098	0.025	0.012	0.129	0.002	0.000
Adjusted R-squared	0.121	0.120	0.029	0.052	0.005	0.086	0.047	0.056
Controls for:								
Age, State and year FE	X	X	X	X	X	X	X	X
State time-varying policies	X	X	X	X	X	X	X	X
Individual controls	X	X	X	X	X	X	X	X

Notes: Sample includes respondents in either married or unmarried same-sex couples. Individuals age 21-25 are compared to those age 27-31. The mean of the dependent variable only refers to individuals age 21-25 interviewed in 2008 or 2009. Same fixed effects, individual and state controls as Table 2. Standard errors clustered at the age level in parentheses. Weighted regressions using person weights. Source: ACS 2008-2012 (excluding 2010). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Robustness of the effect of ACA on health insurance among same-sex couples with respect to sample years and treatment/control group ages.

	Vary year range			Vary age range		
	2008-2014	2008-2016	2008-2018	19-25 vs 27-33	20-25 vs 27-32	22-25 vs 27-30
	(1)	(2)	(3)	(4)	(5)	(6)
Men						
Treated age group * Post-2010	0.090**	0.100**	0.118**	0.093***	0.080***	0.059**
	(0.033)	(0.034)	(0.037)	(0.022)	(0.021)	(0.019)
N	4,611	6,950	9,712	3,653	3,254	2,257
Mean of DV for treated age pre-2010	0.627	0.627	0.627	0.612	0.627	0.653
Adjusted R-squared	0.132	0.133	0.125	0.176	0.176	0.175
Women						
Treated age group * Post-2010	0.041	0.042	0.063*	0.009	0.014	0.030
	(0.027)	(0.027)	(0.031)	(0.031)	(0.036)	(0.043)
N	6,048	8,922	12,519	4,824	4,237	2,922
Mean of DV for treated age pre-2010	0659	0.659	0.659	0.653	0.656	0.681
Adjusted R-squared	0.107	0.100	0.093	0.120	0.124	0.121
Controls for:						
Age, state and year FE	X	X	X	X	X	X
State time-varying policies	X	X	X	X	X	X
Individual controls	X	X	X	X	X	X

Notes: The dependent variable is whether the respondent had any health insurance coverage. Sample includes respondents in either married or unmarried same-sex couples. Individuals age 21-25 are compared to those age 27-31 in columns 1-3. Column 4 compares individuals age 19-25 to those age 27-33. Column 5 compares individuals age 20-25 to those age 27-32. Column 6 compares individuals age 22-25 to those age 27-30. The mean of the dependent variable only refers to individuals in the treated age group interviewed in 2008 or 2009. Same fixed effects, individual and state controls as Table 2. Standard errors clustered at the age level in parentheses. Weighted regressions using person weights. Source: ACS 2008-2014 (Column 1), 2008-2016 (Column 2), 2008-2018 (Column 3); 2008-2012 (Columns 4-6). All specifications exclude 2010. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Further robustness tests of the effect of ACA on health insurance among men in same-sex couples.

	Control for state-year FE	Exclude states w/ SSM 2004-2009	Exclude states w/ SSM 2004-2012
	(1)	(2)	(3)
Any health insurance coverage			
Age 21-25 * Post-2010	0.095**	0.081**	0.079**
	(0.030)	(0.026)	(0.033)
N	2,781	2,664	2,298
Mean of DV for 21-25 pre-2010	0.627	0.621	0.610
Adjusted R-squared	0.189	0.175	0.175
Employer sponsored insurance			
Age 21-25 * Post-2010	0.127**	0.113**	0.135***
	(0.045)	(0.037)	(0.039)
N	2,781	2,664	2,298
Mean of DV for 21-25 pre-2010	0.474	0.470	0.454
Adjusted R-squared	0.180	0.161	0.152
Controls for:			
Age, state and year FE	X	X	X
State time-varying policies		X	X
Individual controls	X	X	X
State-year FE	X		

Notes: The dependent variable in the top panel is whether the respondent had any health insurance coverage. The dependent variable in the bottom panel is whether the respondent had health insurance through an employer. Sample includes male respondents in either married or unmarried same-sex couples. Individuals age 21-25 are compared to those age 27-31. The mean of the dependent variable only refers to individuals age 21-25 interviewed in 2008 or 2009. Same individual and state controls as Table 2. Column 1 includes state-year fixed effects. Column 2 excludes states that had legalized same-sex marriage between 2004 and 2009. Column 3 excludes states that had legalized same-sex marriage between 2004 and 2012. Standard errors clustered at the age level in parentheses. Weighted regressions using person weights. Source: ACS 2008-2012 (excluding 2010). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Evidence on the mechanisms of the effect of ACA on health insurance among men in same-sex couples.

	State of birth = current state of residence	State of birth ≠ current state of residence	Household heads	Spouses or partners
	(1)	(2)	(3)	(4)
Any health insurance coverage				
Age 21-25 * Post-2010	0.112**	0.041	0.010	0.124***
	(0.038)	(0.058)	(0.043)	(0.037)
N	1,266	1,150	1,235	1,546
Mean of DV for 21-25 pre-2010	0.642	0.678	0.709	0.571
Adjusted R-squared	0.145	0.197	0.163	0.183
Employer sponsored insurance				
Age 21-25 * Post-2010	0.204***	0.072	-0.020	0.187***
	(0.035)	(0.083)	(0.069)	(0.049)
N	1,266	1,150	1,235	1,546
Mean of DV for 21-25 pre-2010	0.477	0.508	0.561	0.414
Adjusted R-squared	0.159	0.184	0.175	0.149
Controls for:				
Age, State and year FE	X	X	X	X
State time-varying policies	X	X	X	X
Individual controls	X	X	X	X

Notes: The dependent variable in the top panel is whether the respondent had any health insurance coverage. The dependent variable in the bottom panel is whether the respondent had health insurance through an employer. Sample includes male respondents in either married or unmarried same-sex couples. Individuals age 21-25 are compared to those age 27-31. The mean of the dependent variable only refers to individuals age 21-25 interviewed in 2008 or 2009. Same fixed effects, individual and state controls as Table 2. Column 1 includes only men whose current state of residence is the same of their state of birth. Column 2 includes only men whose current state of residence is different from their state of birth. Individuals born abroad have been excluded in columns 1-2. Column 3 includes only household heads. Column 4 includes only married spouses or unmarried partners. Standard errors clustered at the age level in parentheses. Weighted regressions using person weights. Source: ACS 2008-2012 (excluding 2010). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Effect of ACA on additional outcomes for individuals in same-sex couples.

	Employed	Unem-ployed	In the labor force	40h/week or more	Number of h/week	Student
	(1)	(2)	(3)	(4)	(5)	(6)
Men						
Age 21-25 * Post-2010	-0.016	0.013	-0.003	-0.016	-0.502	0.003
	(0.035)	(0.021)	(0.034)	(0.051)	(1.761)	(0.025)
N	2,781	2,781	2,781	2,781	2,781	2,781
Mean of DV for 21-25 pre-2010	0.792	0.074	0.867	0.600	34.38	0.246
Adjusted R-squared	0.056	0.036	0.040	0.076	0.078	0.033
Women						
Age 21-25 * Post-2010	-0.051	0.023*	-0.028	-0.076**	-4.458***	0.019
	(0.032)	(0.012)	(0.031)	(0.029)	(0.563)	(0.031)
N	3,614	3,614	3,614	3,614	3,614	3,614
Mean of DV for 21-25 pre-2010	0.807	0.088	0.895	0.543	34.29	0.265
Adjusted R-squared	0.057	0.045	0.028	0.075	0.069	0.033
Controls for:						
Age, State and year FE	X	X	X	X	X	X
State time-varying policies	X	X	X	X	X	X
Individual controls	X	X	X	X	X	X

Notes: The dependent variable is whether an individual was employed in column 1, whether an individual was unemployed in column 2, whether an individual was in the labor force in column 3, whether an individual usually worked at least 40h/week in column 4, number of hours usually worked per week in column 5, whether an individual was attending school in the three months preceding the interview in column 6. Sample includes male or female respondents in either married or unmarried same-sex couples. Individuals age 21-25 are compared to those age 27-31. The mean of the dependent variable only refers to individuals age 21-25 interviewed in 2008 or 2009. Same fixed effects, individual and state controls as Table 2. Standard errors clustered at the age level in parentheses. Weighted regressions using person weights. Source: ACS 2008-2012 (excluding 2010). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Online Appendix

Appendix A: Variable description

A.1 Dependent variables

Any health insurance coverage is an indicator equal to one if the respondent had any health insurance coverage at the time of the interview; zero otherwise. This includes employer-provided insurance, privately purchased insurance, Medicare, Medicaid or other governmental insurance, TRICARE or other military care or Veterans Administration-provided insurance. The Census Bureau does not consider respondents to have coverage if their only coverage is from Indian Health Services, as IHS policies are not always comprehensive.

Employer-sponsored health insurance is an indicator equal to one if the respondent had health insurance through a current employer, former employer, or union at the time of interview; zero otherwise. Importantly for our analysis, persons covered by another family member's current employer, former employer, or union are also coded as insured through an employer.

Employed is an indicator equal to one if the respondent worked at least one hour for pay or profit in the week preceding the interview, rather than being unemployed or not in the labor force. Unpaid family workers who worked at least 15 hours per week in the family business or farm are considered employed. On the other hand, housework at home is not included in this category. Respondents temporarily absent from their jobs (because of illness or vacation time) are still considered employed. Active military members are also coded as employed.

Unemployed is an indicator equal to one if the respondent did not have a job, was looking for a job, and had not yet found one at the time of the interview, rather than being employed or not in the labor force. Persons who had never worked but were actively seeking their first job are considered unemployed.

In the labor force is an indicator equal to one if the respondent was a part of the labor force, either working or seeking work, in the week preceding the interview; zero otherwise.

Number of hours worked weekly. The ACS reports the number of hours per week that the respondent usually worked, if the person worked during the 12 months preceding the interview. This variable is top coded at 99. Respondents who did not work in the 12 months preceding the interview are assigned value zero. From this variable we have generated the indicator *Working at least 40 hours per week* equal to one if the respondent used to work at least 40 hours per week; zero otherwise. Note that this variable is zero for respondents who did not work.

Student status is an indicator equal to one if the respondent attended school or college in the 3 months preceding the interview; zero otherwise.

A.2 Individual-level controls

Age reports the respondent's age in years at the time of the interview.

Race. A series of indicator variables has been constructed to record the respondent's race: Black, Asian, or other races. Asian includes Chinese, Japanese, Other Asian or Pacific Islander. Other races include American Indian, Alaska Native, other race not listed, or individuals who selected two or three major races. White has been used as the comparison category.

Hispanic is an indicator equal to one if the respondent was identified as Mexican, Puerto Rican, Cuban, or Other Hispanic; zero otherwise.

Higher Education is an indicator equal to one if the respondent's highest degree completed was a Bachelor's degree or higher (Master's degree, Professional degree beyond a bachelor's degree, Doctoral degree); zero otherwise.

Does not speak English is an indicator equal to one if the respondent was not able to speak English; zero otherwise. This variable is self-reported.

A.3 LGBT policy variables

SSM legal is an indicator variable equal to one in all states and time periods when same-sex marriage was legal; zero otherwise. The effective date has been used to code this variable. These data have been primarily obtained from the National Center for Lesbian Rights.[20]

SSM ban is a series of indicator variables equal to one in all states and time periods in which same-sex marriage was banned in the state constitution or state statute; zero otherwise. These indicators remain equal to one even in later years after the legalization of same-sex marriage in a given state. When more than one statutory ban was passed in a state, the oldest one has been used to code the state statute ban variable. These data have been primarily obtained from the Freedom to Marry campaign.[21]

Domestic partnership is an indicator variable equal to one in all states and time periods in which same-sex domestic partnerships were legal; zero otherwise. This indicator remains equal to one even in later years when\if a state had converted same-sex domestic partnerships into marriages. These data have been primarily obtained from the National Center for Lesbian Rights.[22]

Civil union is an indicator variable equal to one in all states and time periods in which same-sex civil unions were legal; zero otherwise. This indicator remains equal to one even in later years when\if a state had converted same-sex civil unions in marriages. These data have been primarily obtained from the National Center for Lesbian Rights.[23]

Anti-discrimination law is an indicator equal to one in all states and time periods in which employer discrimination based on sexual orientation was not allowed; zero otherwise. This variable has been

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[20] Source: http://www.nclrights.org/wp-content/uploads/2015/07/Relationship-Recognition.pdf. Accessed Oct/1/2019.
[21] Source: http://www.freedomtomarry.org/pages/winning-in-the-states. Accessed Oct/1/2019.
[22] See Footnote 5.
[23] See Footnote 5.

set equal to one even if the law covered only sexual orientation, not gender identity, or if a law protecting trans individuals was passed at a later date. Laws protecting only public employees have not been considered. These data have been primarily obtained from the Freedom for All Americans campaign.[24]

Hate crime is a series of indicator variables equal to one in all states and time periods in which there was a law specifically addressing hate or bias crimes based on sexual orientation only, or on sexual orientation and gender identity; zero otherwise. Since some states passed these laws after 2009, these variables have not been set equal to one for all states after President Obama signed the Matthew Shepard and James Byrd, Jr. Hate Crimes Prevention Act into law on October 28, 2009. These data have been primarily obtained from the Human Rights Campaign. [25]

A.4 ACS state-level controls

All of the ACS state level control variables have been computed using all individuals in the American Community Survey.

Share black reports for each year the proportion of state population that was black.

Ethnic composition reports for each year the proportion of state population that was Hispanic.

Age 18-35 reports for each year the proportion of state population whose age was between 18 and 35.

Proportion on welfare reports for each year the proportion of state population that received income from various public assistance programs commonly referred to as "welfare". Assistance from private charities has not been included.

Proportion unmarried reports for each year the proportion of state different-sex couples (over all married and unmarried different-sex couples) that were unmarried.

A.5 Additional state-level controls

The following variables have been derived from data downloaded from the Bureau of Labor Statistics.[26]

Population records the estimates (in log) of the civilian noninstitutional population ages 16 and older computed by the Census Bureau.

Unemployment rate records the state-month unemployment rates for the civilian noninstitutional population ages 16 and older, not seasonally adjusted. From this, we have computed the average unemployment rate in each state.

[24] Source: https://www.freedomforallamericans.org/states/.Accessed: Oct/21/2019.
[25] Source: https://www.hrc.org/state-maps/hate-crimes. Accessed: Oct/25/2019.
[26] Source: https://www.bls.gov/lau/rdscnp16.htm. Accessed: Oct/1/2019.

Income per capita records the state-year personal income, not seasonally adjusted. The data have been retrieved from FRED, Federal Reserve Bank of St. Louis.[27]

A.6 Additional policy controls

ACA pre-expansion. The Affordable Care Act (ACA) provided states with the option, effective April 2010, to receive federal Medicaid matching funds to cover low-income adults in order to get an early start on the 2014 Medicaid expansion. This indicator variable is equal to one in all states and time periods covered by an early Medicaid expansion to low-income adults through this new ACA option; zero otherwise. These data have been obtained from the Kaiser Family Foundation.[28]

Medicaid expansion is an indicator variable equal to one in all states and time periods covered by a 'regular' ACA Medicaid expansion (i.e., not a pre-expansion); zero otherwise. These data have been obtained from the Kaiser Family Foundation.[29]

Private option is an indicator variable equal to one in all states and time periods in which a state Medicaid program decided to buy private health insurance for its Medicaid population instead of providing coverage directly through the state's Medicaid program (or in which a private option waiver was effective); zero otherwise. These data have been obtained from Families USA.[30]

[27] Applied filters: income; not seasonally adjusted, per capita, state. Source: https://fred.stlouisfed.org/. Accessed: Oct/25/2019

[28] Source: https://www.kff.org/health-reform/issue-brief/states-getting-a-jump-start-on-health/. Accessed Oct/1/2019.

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Appendix B: Additional figures and tables

Table B1: Effect of ACA on single household heads.

	Single men		Single women	
	Any insurance	ESI	Any insurance	ESI
	(1)	(2)	(3)	(4)
Age 21-25 * Post-2010	0.036***	0.059***	0.036***	0.053***
	(0.008)	(0.009)	(0.008)	(0.006)
N	101,272	101,272	130,703	130,703
Mean of DV for 21-25 pre-2010	0.711	0.532	0.757	0.460
Adjusted R-squared	0.120	0.089	0.080	0.157
Controls for:				
Age, State and year FE	X	X	X	X
State time-varying policies	X	X	X	X
Individual controls	X	X	X	X

Notes: The dependent variable in columns 1 and 3 is whether the respondent had any health insurance coverage. The dependent variable in columns 2 and 4 is whether the respondent had health insurance through an employer. Sample includes male or female single household head respondents. Individuals age 21-25 are compared to those age 27-31. The mean of the dependent variable only refers to individuals age 21-25 interviewed in 2008 or 2009. Same fixed effects, individual and state controls as Table 2. Standard errors clustered at the age level in parentheses. Weighted regressions using person weights. Source: ACS 2008-2012 (excluding 2010). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B2: Effect of ACA on health insurance among same-sex couples. Placebo test.

	Men		Women	
	Any insurance	ESI	Any insurance	ESI
	(1)	(2)	(3)	(4)
Age 27-31 * Post-2010	0.010	-0.009	0.019	0.010
	(0.031)	(0.038)	(0.023)	(0.028)
N	3,857	3,857	4,680	4,680
Mean of DV for 37-31 pre-2010	0.788	0.663	0.777	0.638
Adjusted R-squared	0.140	0.140	0.091	0.103
Controls for:				
Age, State and year FE	X	X	X	X
State time-varying policies	X	X	X	X
Individual controls	X	X	X	X

Notes: The dependent variable in columns 1 and 3 is whether the respondent had any health insurance coverage. The dependent variable in columns 2 and 4 is whether the respondent had health insurance through an employer. Sample includes respondents in either married or unmarried different-sex or same-sex couples. Individuals age 27-31 are compared to those age 32-36. The mean of the dependent variable only refers to individuals age 27-31 interviewed in 2008 or 2009. Same fixed effects, individual and state controls as Table 2. Standard errors clustered at the age level in parentheses. Weighted regressions using person weights. Source: ACS 2008-2012 (excluding 2010). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B3: Effect of ACA on health insurance among same-sex couples. Technical changes.

	State-level clustered SE	Robust SE	Wild bootstrap	Effective cluster	Unweighted	Replication weights	Replication weights and age as PSU
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Men							
Age 21-25 * Post-2010	0.080**	0.080*	0.080***	0.080***	0.081**	0.080**	0.080**
	(0.029)	(0.056)	(0.005)	(0.009)	(0.010)	(0.049)	(0.049)
N sample	2,781	2,781	2,781	2,781	2,781	2,781	2,781
N population	--	--	--	--	--	290,925	290,925
Mean of DV for 21-25 pre-2010	0.627	0.627	0.627	0.627	0.667	0.627	0.627
Adjusted R-squared	0.176	0.176	0.176	0.176	0.132	0.201	0.201
Women							
Age 21-25 * Post-2010	0.015	0.015	0.015	0.015	0.007	0.015	0.015
	(0.677)	(0.688)	(0.709)	(0.705)	(0.792)	(0.713)	(0.713)
N sample	3,614	3,614	3,614	3,614	3,614	3,614	3,614
N population	--	--	--	--	--	367,445	367,445
Mean of DV for 21-25 pre-2010	0.659	0.659	0.659	0.659	0.683	0.659	0.659
Adjusted R-squared	0.121	0.121	0.121	0.121	0.101	0.142	0.142
Controls for:							
Age, State and year FE	X	X	X	X	X	X	X
State time-varying controls	X	X	X	X	X	X	X
Individual controls	X	X	X	X	X	X	X

Notes: The dependent variable is whether the respondent had any health insurance coverage. Sample includes respondents in either married or unmarried same-sex couples. Individuals age 21-25 are compared to those age 27-31. P-values shown in parenthesis instead of standard errors. Standard errors in column 1 are clustered at the state level. Standard errors in column 2 are not clustered. Wild bootstrapped p-values in column 3 have been computed using the command boottest in Stata (Roodman et al. 2019). P-values in columns 4 have been computed from the effective number of clusters using the command clusteff in Stata (Lee and Steigerwald 2018). The estimates in column 5 are unweighted. The estimates in columns 6-7 have been obtained using replication weights as described by IPUMS (https://usa.ipums.org/usa/repwt.shtml). Same fixed effects, individual and state controls as Table 2. Source: ACS 2008-2012 (excluding 2010). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B4: Effect of ACA on health insurance among same-sex couples. Additional extensions.

	Only unmarried	Include 2010 as treated	Include 2010 as control	Include 26 as control	23-25 vs 27-29
	(1)	(2)	(3)	(4)	(5)
Men					
Treated age group * Post-2010	0.095***	0.074**	0.067***	0.085***	0.061**
	(0.022)	(0.030)	(0.018)	(0.023)	(0.021)
N	2,670	3,471	3,471	3,087	1,739
Mean of DV for 21-25 pre-2010	0.627	0.627	0.625	0.627	0.653
Adjusted R-squared	0.176	0.155	0.155	0.172	0.178
Women					
Treated age group * Post-2010	0.013	-0.005	0.034	0.023	0.017
	(0.038)	(0.027)	(0.037)	(0.037)	(0.050)
N	3,414	4,537	4,537	3,998	2,228
Mean of DV for 21-25 pre-2010	0.659	0.659	0.646	0.659	0.688
Adjusted R-squared	0.122	0.120	0.121	0.117	0.122
Controls for:					
Age, State and year FE	X	X	X	X	X
State time-varying controls	X	X	X	X	X
Individual controls	X	X	X	X	X

Notes: The dependent variable is whether the respondent had any health insurance coverage. Column 1 excludes married same-sex couples (identified in 2012). Column 2 includes young respondents (21-25) from 2010 in the treatment group, older respondent (27-31) in the control group. Column 2 includes all respondents from 2010 in the control group. Column 4 includes respondents age 26 in the control group (age 26-31). Column 5 compares individuals age 23-25 to those age 27-29. Same fixed effect, individual and state controls as Table 2. Standard errors clustered at the age level in parentheses. Weighted regressions using person weights. Source: ACS 2008-2012 (excluding 2010, except in columns 2-3). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B5: Effect of ACA on health insurance among men in SSC. Exclude one state at a time

Excluded state	Any health insurance coverage		Employer sponsored insurance	
Alabama	0.081***	(0.023)	0.120**	(0.039)
Alaska	0.079***	(0.023)	0.110**	(0.040)
Arizona	0.077***	(0.021)	0.106**	(0.038)
Arkansas	0.079***	(0.023)	0.112**	(0.040)
California	0.075**	(0.025)	0.112**	(0.043)
Colorado	0.087**	(0.027)	0.117**	(0.045)
Connecticut	0.076**	(0.024)	0.106**	(0.040)
Delaware	0.081***	(0.023)	0.112**	(0.040)
DC	0.083***	(0.023)	0.119**	(0.040)
Florida	0.076**	(0.024)	0.094*	(0.044)
Georgia	0.093***	(0.022)	0.123**	(0.040)
Hawaii	0.079***	(0.023)	0.113**	(0.039)
Idaho	0.080***	(0.022)	0.111**	(0.039)
Illinois	0.064**	(0.025)	0.092*	(0.042)
Indiana	0.075***	(0.021)	0.106**	(0.042)
Iowa	0.078***	(0.022)	0.107**	(0.039)
Kansas	0.081***	(0.024)	0.113**	(0.040)
Kentucky	0.084***	(0.023)	0.113**	(0.040)
Louisiana	0.083***	(0.023)	0.114**	(0.038)
Maine	0.077***	(0.024)	0.110**	(0.039)
Maryland	0.083***	(0.023)	0.114**	(0.039)
Massachusetts	0.087***	(0.025)	0.123***	(0.037)
Michigan	0.077***	(0.022)	0.114**	(0.041)
Minnesota	0.079***	(0.024)	0.115**	(0.036)
Mississippi	0.081***	(0.023)	0.113**	(0.040)
Missouri	0.079***	(0.023)	0.109**	(0.040)
Montana	0.082***	(0.023)	0.115**	(0.039)
Nebraska	0.080***	(0.023)	0.111**	(0.040)
Nevada	0.077***	(0.021)	0.108**	(0.038)
New Hampshire	0.081***	(0.022)	0.113**	(0.038)
New Jersey	0.078***	(0.023)	0.116**	(0.038)
New Mexico	0.071***	(0.020)	0.103**	(0.035)
New York	0.088***	(0.026)	0.129**	(0.043)
North Carolina	0.081**	(0.028)	0.103*	(0.047)
North Dakota	0.080***	(0.023)	0.111**	(0.040)
Ohio	0.076**	(0.029)	0.098*	(0.044)
Oklahoma	0.083***	(0.023)	0.115**	(0.041)
Oregon	0.088***	(0.025)	0.113**	(0.040)
Pennsylvania	0.088***	(0.023)	0.114**	(0.041)
Rhode Island	0.077***	(0.023)	0.108**	(0.039)
South Carolina	0.081***	(0.023)	0.111**	(0.040)
South Dakota	0.079***	(0.022)	0.110**	(0.039)
Tennessee	0.087***	(0.023)	0.115**	(0.038)
Texas	0.080**	(0.030)	0.114**	(0.045)
Utah	0.079***	(0.023)	0.116**	(0.039)
Vermont	0.080***	(0.023)	0.111**	(0.040)
Virginia	0.090***	(0.025)	0.109**	(0.043)
Washington	0.067**	(0.024)	0.106**	(0.035)
West Virginia	0.080***	(0.023)	0.111**	(0.040)
Wisconsin	0.084**	(0.026)	0.118**	(0.040)
Wyoming	0.078***	(0.023)	0.110**	(0.040)

Reported coefficient of age 21-25*post-2010. Same structure as Column 1-2 Table 2. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B6: Effect of ACA on health insurance among men in same-sex couples. By education.

	All	High school or less	Some college	BA or more
	(1)	(2)	(3)	(4)
Any health insurance coverage				
Age 21-25 * Post-2010	0.080***	0.177*	0.060	0.036
	(0.023)	(0.079)	(0.055)	(0.064)
N	2,781	659	1,038	1,084
Mean of DV for 21-25 pre-2010	0.627	0.454	0.640	0.880
Adjusted R-squared	0.176	0.101	0.099	0.078
Employer sponsored insurance				
Age 21-25 * Post-2010	0.111**	0.236***	0.128**	0.052
	(0.040)	(0.060)	(0.055)	(0.065)
N	2,781	659	1,038	1,084
Mean of DV for 21-25 pre-2010	0.474	0.270	0.493	0.766
Adjusted R-squared	0.161	0.091	0.085	0.064
Controls for:				
Age, State and year FE	X	X	X	X
State time-varying policies	X	X	X	X
Individual controls	X	X	X	X

Notes: The dependent variable in the top panel is whether the respondent had any health insurance coverage. The dependent variable in the bottom panel is whether the respondent had health insurance through an employer. Sample includes male respondents in either married or unmarried same-sex couples. Individuals age 21-25 are compared to those age 27-31. The mean of the dependent variable only refers to individuals age 21-25 interviewed in 2008 or 2009. Same individual and state controls as Table 2. Column 1 includes all individuals. Column 2 includes only individuals with a high school degree, GED, or less than high school. Column 3 includes only individuals with some college education or an associate degree. Column 4 includes individuals with a bachelor's degree or a higher educational level. Standard errors clustered at the age level in parentheses. Weighted regressions using person weights. Source: ACS 2008-2012 (excluding 2010). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B7: Effect of ACA on health insurance among same-sex couples. By race.

	All	White	Black	Other	Hispanic
	(1)	(2)	(3)	(4)	(5)
Men					
Age 21-25 * Post-2010	0.080***	0.113***	-0.166	0.044	0.106
	(0.023)	(0.023)	(0.178)	(0.102)	(0.096)
N	2,781	2,222	194	365	480
Mean of DV for 21-25 pre-2010	0.627	0.653	0.530	0.510	0.399
Adjusted R-squared	0.176	0.153	0.111	0.215	0.224
Employer sponsored insurance					
Age 21-25 * Post-2010	0.111**	0.139**	0.130	-0.023	0.099
	(0.040)	(0.045)	(0.230)	(0.083)	(0.114)
N	2781	2,222	194	365	480
Mean of DV for 21-25 pre-2010	0.474	0.497	0.261	0.439	0.323
Adjusted R-squared	0.161	0.137	0.194	0.218	0.185
Controls for:					
Age, State and year FE	X	X	X	X	X
State time-varying controls	X	X	X	X	X
Individual controls	X	X	X	X	X

Notes: The dependent variable in the top panel is whether the respondent had any health insurance coverage. The dependent variable in the bottom panel is whether the respondent had health insurance through an employer. Sample includes male respondents in either married or unmarried same-sex couples. Individuals age 21-25 are compared to those age 27-31. The mean of the dependent variable only refers to individuals age 21-25 interviewed in 2008 or 2009. Column 4 includes Asian, Pacific Islander, American Indian, Alaska Native, other or mixed races. Same fixed effect and state controls as Table 2. Individual controls: language and education. Standard errors clustered at the age level in parentheses. Weighted regressions using person weights. Source: ACS 2008-2012 (excluding 2010). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B8: Evidence on the mechanisms of the effect of ACA on health insurance among women in same-sex couples.

	State of birth = current state of residence	State of birth ≠ current state of residence	Household heads	Spouses or partners
	(1)	(2)	(3)	(4)
Any health insurance coverage				
Age 21-25 * Post-2010	0.088*	-0.012	0.015	0.020
	(0.047)	(0.076)	(0.049)	(0.057)
N	1,929	1,422	1,687	1,927
Mean of DV for 21-25 pre-2010	0.656	0.682	0.679	0.642
Adjusted R-squared	0.119	0.142	0.113	0.127
Employer sponsored insurance				
Age 21-25 * Post-2010	0.086	0.026	-0.030	0.095**
	(0.057)	(0.058)	(0.061)	(0.041)
N	1,929	1,422	1,687	1,927
Mean of DV for 21-25 pre-2010	0.476	0.482	0.497	0.456
Adjusted R-squared	0.140	0.128	0.119	0.128
Controls for:				
Age, State and year FE	X	X	X	X
State time-varying policies	X	X	X	X
Individual controls	X	X	X	X

Notes: The dependent variable in the top panel is whether the respondent had any health insurance coverage. The dependent variable in the bottom panel is whether the respondent had health insurance through an employer. Sample includes female respondents in either married or unmarried same-sex couples. Individuals age 21-25 are compared to those age 27-31. The mean of the dependent variable only refers to individuals age 21-25 interviewed in 2008 or 2009. Same fixed effects, individual and state controls as Table 2. Column 1 includes only women whose current state of residence is the same of their state of birth. Column 2 includes only women whose current state of residence is different from their state of birth. Individuals born abroad have been excluded in columns 1-2. Column 3 includes only household heads. Column 4 includes only married spouses or unmarried partners. Standard errors clustered at the age level in parentheses. Weighted regressions using person weights. Source: ACS 2008-2012 (excluding 2010). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

SOCIETY OF ACTUARIES

COVID-19 Costs to Commercial Health Insurers

April 2020

COVID-19 Costs to Commercial Health Insurers

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Over the past month, the emergence of the COVID-19 pandemic has had a significant and devastating impact on many aspects of people's lives, as well as on a wide array of industries. The health care services industry is one which is undergoing upheaval with ramifications on many different aspects, from access to services, to cost and utilization of services. As health care providers deal with this crisis on the front lines, payers are scrambling to determine the impact of this pandemic on current and future health care costs. Some key considerations of health care payers include the costs of current COVID-19 treatments, the impact of staying at home and social distancing on current health care costs, and future health care costs beyond the first wave of COVID-19.

COVID-19 presents a unique problem in terms of estimating cost due to its novelty and prevalence throughout the world. For countries with nationalized health care, such as Great Britain, and most of the European Union countries, the onus of determining its associated costs and reimbursing providers falls on government health entities. For countries like the United States, the payer responsibility is spread between government entities, health insurance providers, self-insured employers, stop loss insurers, and reinsurers. This brief will focus on costs related to the United States.

Costs of Current COVID-19 Treatments

The different types of costs related to the COVID-19 disease itself are relatively straightforward, but their estimation can be more challenging. There are different levels of severity associated with this disease and each one comes with its own potential costs. A categorization of COVID-19 disease states is listed below in Table 1 along with a range of prevalences among them. In addition, a series of potential cost types related to different stages are also included in this table.

Table 1
TYPES OF MEDICAL EXPENSES ASSOCIATED WITH VARIOUS COVID-19 DISEASE STATES

Disease State and Services Rendered	Asymptomatic	Mild	Moderate	Severe	Critical	Deceased
Population Prevalence	20%-40%	20%-30%	15%-30%	12%-20%	2%-6%	1% - 4%
COVID-19 Testing	5%	50%	75%	100%	100%	100%
Physician Visit	0%	50%	80%	90%	90%	90%
Therapeutic Drugs	5%	20%	30%	30%	30%	30%
Hospital Admission	0%	0%	0%	100%	100%	95%
Intensive Care Unit (ICU)	0%	0%	0%	0%	100%	95%
ICU with Ventilator	0%	0%	0%	0%	75%	95%

In the current environment, physician visit costs are most likely to take place through telemedicine or a telephonic setting. Also, severe cases are considered to be those that result in hospitalization in this example. Finally, deceased members are considered to be those who died while receiving treatment for the virus. Not all COVID-19 deaths occur or will occur in a hospital setting and this table attempts to reflect this reality.

The next logical step is to estimate the costs associated with each service rendered within a particular disease state. Several industry studies have looked at potential estimates for health care services related to COVID-19. Table 2 includes estimated ranges of expenses for the cost categories shown in Table 1.

Table 2

COST ESTIMATES OF SERVICES ASSOCIATED WITH COVID-19

Cost of Services	Low Estimate	Mid Estimate	High Estimate
COVID-19 Testing[1]	$ 40	$ 70	$ 100
Physician Visit[2]	$ 75	$ 125	$ 200
Therapeutic Drugs[3,4,5]	$ 70	$ 100	$ 500
Daily Hospital Costs[6]	$ 3,000	$ 5,000	$ 7,000
Daily ICU/Ventilator Costs	$ 10,000	$ 15,000	$ 20,000

Note that the estimates are derived from different sources with an intentionally wide range to reflect some of the unit pricing differences that may exist in different geographies. They are based on typical commercial health insurance pricing with the midpoint representing values close to the average of what was available. The reimbursement rates are intended to be for commercial health insurance. These rates may change significantly as insurers explore the possibility of unique provider reimbursement arrangements specific to COVID-19. Table 3 below summarizes some new ICD-10-CM COVID-19 coding changes that went live in March and will be effective for hospital discharges on or after April 1. These new codes implemented by the Centers for Medicare & Medicaid Services (CMS)[7] are likely to drive contracting changes between insurers and participating hospitals. In this particular table, CC stands for "Co-morbidities and/or Complications," while MCC stands for "Major Co-morbidities and/or Complications." MS-DRG stands for "Medicare Severity Diagnosis Related Group." Also, ICD-10-CM is a methodology for providing diagnosis detail on claims. These are all standard terminologies used by providers to appropriately classify claims and help determine reimbursement amounts.

Table 3

UPDATED ICD-10-CM COVID-19 CODES

Diagnosis Code	Description	CC	MCC	MS-DRG
U07.1	COVID-19	MCC	04	177,178,179
			15	791,793
			25	974,975,976

The emphasis on hospital costs is because, while COVID-19 treatment is relatively inexpensive for individuals who do not require hospitalization, costs for hospitalized COVID-19 patients can be prohibitive. Table 4 below illustrates that point as the costs for the first three disease states that do not result in hospitalization pale in comparison to those that do. In addition, patients who require intensive care (ICU) and intubation have even steeper cost estimates than those who are merely hospitalized. In fact, critical patients who survive often have higher costs than those who don't since they may require additional hospitalization at a lower acuity setting as they convalesce. Those costs were calculated using factors from Table 2. Lengths of Stay were estimated using anticipated lengths of stay and potential variances for each disease state. Also, some of the lower acuity hospitalizations may have very short stays. This is more likely to take place in settings where hospital space is becoming scarce and patients may be sent home with oxygen to continue there recovery there, thus freeing up space for new cases as well as more severe conditions.

Table 4
COST ESTIMATES OF DIFFERENT COVID-19 DISEASE STATES

Total Treatment Cost	Asymptomatic	Mild	Moderate	Severe	Critical	Deceased
Low Estimate	$0	$0	$100	$4,000	$63,000	$100
Mid Estimate	$100	$200	$200	$30,000	$143,000	$102,000
High Estimate	$300	$300	$600	$57,000	$242,000	$172,000

This model of potential costs helps to emphasize the importance of identifying members who are on track to hospitalization and intensive care and utilizing whatever steps are needed to try to treat them prior to their hospitalization.

In addition, understanding COVID-19 disease state distributions is key to estimating total cost impacts on a macro level. There are significant variations in how susceptible different populations are to the virus. One trend that stands out is the variation of hospitalization and mortality rates by Age. According to a study conducted by Neil Ferguson et al. of the Imperial College of London on data from Chinese patients, there is a strong correlation between age and hospitalization rates, as hospitalizations rise significantly with age. Mortality rates are even more skewed towards higher ages as shown in Table 5 below[8].

Table 5
COVID-19 HOSPITALIZATION RATES FOR DIFFERENT AGE COHORTS

Age Cohort	Under 10	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80+
Hospitalization Rate	0.1%	1.0%	1.0%	3.4%	4.3%	8.2%	11.8%	16.6%	18.4%
Mortality Rate	0.0%	0.0%	0.0%	0.0%	0.2%	0.6%	2.0%	4.3%	7.8%

While not explicitly shown, one can infer that the rate of patients in an intensive care unit will probably lie somewhere between the hospitalization rate and the mortality rate, again skewed more towards older populations. As new data emerges over time, this distribution can be further explored and fine-tuned. In addition, it is important to note that the definition of what qualifies as an infection may skew the overall hospitalization and mortality rate values. This is particularly in light of the uncertainty around the levels of cases with no symptoms or mild symptoms. It may be better to emphasize the key point that mortality and morbidity statistics by age point to a heavily skewed distribution towards older members rather than to focus on

Nevertheless, the incidence rate of COVID-19 along with the hospitalization rate is key to estimating future costs. As time passes, the likelihood increases that different therapies and cures will be developed to help bring down fatalities, hospitalizations, and, ultimately, the costs of this disease. The most important goal is to produce a vaccine. This is necessary in order to achieve the most dramatic reductions and stop the pandemic in its tracks. Despite extensive work by many on this endeavor, that goal is not likely to be achieved until sometime next year.

Finally, there are other aspects of the COVID-19 pandemic which are not being specifically addressed in this brief. Those include reductions in elective medical services due to the implementation of social distancing measures, as well as closures of “non-essential” businesses. In addition, there are likely to be lower rates of accidents as people remain at home. Behavioral health disorders and substance abuse are likely to rise as individuals attempt to cope with increased loneliness and job losses. These all need to be considered when projecting medical costs. Nevertheless, significant uncertainty remains surrounding the expected duration of COVID-19. As a result, it is difficult to project medical costs for future years.

These and other considerations will be addressed in future SOA COVID-19 briefs.

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U.S. Health Reform—Monitoring and Impact

With New Marketplaces Created by the Affordable Care Act, Is It Still Less Expensive to Serve Low-Income People in Medicaid Than in Private Coverage?

April 2020

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Robert Wood Johnson Foundatio

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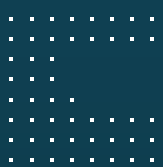

With support from the Robert Wood Johnson Foundation (RWJF), the Urban Institute is undertaking a comprehensive monitoring and tracking project to examine the implementation and effects of health reform. The project began in May 2011 and will take place over several years. The Urban Institute will document changes to the implementation of national health reform to help states, researchers and policymakers learn from the process as it unfolds. Reports that have been prepared as part of this ongoing project can be found at **www.rwjf.org** and **www.healthpolicycenter.org**.

Many believe that low-income people with private insurance have considerably higher health care spending than those with Medicaid, because commercial insurance payments for hospitals and physicians are much higher than such Medicaid payments.[1,2,3,4,5] On average, commercial insurers pay hospitals about 89 percent above Medicare levels,[6] and Medicaid payments to hospitals, counting supplemental payments and disproportionate share hospital payments, are about equal to Medicare payments.[7,8] Commercial insurers typically pay physicians above Medicare levels,[9] and Medicaid physician fees average about 60 percent of Medicare levels.[5,10] However, differences in total spending by payer type are also driven by factors beyond provider payment rates, such as administrative costs, patient health status, and the settings in which care was received. For example, many Medicaid enrollees receive care at hospital emergency rooms (ERs) and federally qualified health centers, which is considerably costlier than care provided in a physician's office.

In the wake of the Affordable Care Act's (ACA's) Medicaid expansion and new Marketplaces—in which competition between private insurers has placed downward pressure on costs—premiums have been lower than expected. Thus, it is important to reassess the cost of Medicaid relative to private insurance within this new health insurance landscape. Cost differences will especially affect states interested in partial Medicaid expansions to adults with incomes up to 100 percent of the federal poverty level (FPL), which would leave most adults with incomes between 100 and 138 percent of FPL eligible for subsidized Marketplace coverage.[11]

Using 2014–16 data from the Medical Expenditure Panel Survey (MEPS) Household Component, we assess differences in the total per capita cost of care (for insurance and households) for those who purchase Marketplace coverage versus those who enroll in Medicaid. We also assess differences in costs between those with private Marketplace coverage versus those with private group (i.e., employer-based) insurance and those with Medicaid versus those with group insurance. Using unadjusted and regression-adjusted models that control for differences in socioeconomic characteristics and health status, we evaluate whether differences in health expenditures by service type are driven by differences in utilization, price, or both. Though average total per capita expenditures for Marketplace enrollees are higher than those for Medicaid enrollees, the difference in expenditures between the two groups is not statistically significant. However, the regression-adjusted models show that Marketplace enrollees, compared with Medicaid enrollees, have significantly higher expenses for physician and hospital outpatient visits and ER services. These models also show that Marketplace enrollees generally consume less hospital care than Medicaid enrollees, but expenditures per unit of care consumed (e.g., expenditures per office visit, inpatient stay, and ER visit)—which capture differences in reimbursement levels but may also reflect differences in treatment intensity—are higher for those with Marketplace coverage than for those with Medicaid.

There are fewer significant differences in expenditures and utilization (overall and by service type) between Marketplace enrollees and those with private group coverage. Regression-adjusted health expenditures for those enrolled in private group plans is around $800 higher (13.5 percent) than for those with Medicaid. Compared with people with private group coverage, Medicaid enrollees typically use more care, but their utilization costs less per visit (i.e., for physician/outpatient, hospital inpatient, and ER visits).

BACKGROUND

Several years after ACA implementation, we now know that Marketplace plans differ from typical commercial plans. The ACA ties income-related tax credits to the premiums of the second-lowest-cost silver plan offered in an enrollee's area of residence. Anyone who chooses a costlier plan, either a costlier silver plan or in a different metal tier, must pay the full marginal cost of the difference in premiums. This structure has resulted in intense competition in many insurance markets. In competitive markets, health insurers can gain market share by negotiating lower provider payments than their competitors and lowering premiums; this is often accomplished by insurers limiting their networks of hospitals and physicians. A recent study found that premiums in Marketplaces with one insurer were about 35 percent higher than in Marketplaces in rating regions with five or more insurers.[12]

Several insurers that only provided coverage through public programs before the ACA, called Medicaid insurers, have participated in many Marketplaces. These insurers, which include large national chains like Centene, Molina, and CareSource, have lower premiums and higher market shares than their competitors.[13] These insurers have taken advantage of the low provider payment rates they negotiated for their Medicaid products, sometimes increasing them for their Marketplace business but still likely paying below commercial rates in most areas. In contrast, commercial insurers often charge significantly higher premiums for Marketplace coverage, and some of the largest (e.g., United, Aetna, Humana, and Cigna) have drastically scaled back their participation in the Marketplaces or exited many markets entirely. Consequently, Marketplace plans in many rating regions have proven to be much less expensive than they would be if Medicaid insurers did not participate. In this study, we use post-ACA implementation data (2014–16) to examine whether, on average, it is less expensive to cover an individual in Medicaid than in Marketplace coverage.

Several recent studies have also examined differences in costs of coverage in Medicaid versus commercial insurance, and some specifically examine Marketplace coverage. This research shows that Medicaid reimbursements to providers are significantly lower than those of Marketplace plans. This differential makes Medicaid less costly, but low reimbursement rates may translate to poor access to health care services for some Medicaid beneficiaries.[14,15,16]

Other studies have assessed payment differentials between private insurance and Medicaid in more limited contexts. A regression-adjusted analysis of MEPS data found that Medicaid has the lowest office-based physician payment rates among all the insurance types studied, including employer-sponsored insurance, Marketplace coverage, other nongroup coverage, and Medicare.[17] Medicaid payment rates averaged only 64.5 percent of total Marketplace payment levels, and average out-of-pocket costs per office-based visit for Medicaid patients were only $4, compared with $51 for Marketplace patients. In addition, compared with Marketplace enrollees, Medicaid enrollees have significantly lower third-party and out-of-pocket payments for all office-based visits. Another analysis, using data predating ACA implementation, found that private insurance payment rates have grown significantly higher than Medicaid rates since 2001.[18]

DATA

The Medical Expenditure Panel Survey is a nationally representative survey of household members drawn from the respondent pool from the prior year's National Health Interview Survey. We rely on 2014–16 pooled estimates, representing the period immediately following the creation of subsidized coverage in the Marketplaces and Medicaid expansion. We compare spending and utilization between enrollees in Marketplace insurance plans, Medicaid, and private group insurance.

The MEPS full-year consolidated data files provide detailed information on spending by public and private payers and out-of-pocket spending on various health care services used during the year. The survey also collects data on each individual's monthly health insurance status. Based on this information, we create health insurance categories for those with full-year Marketplace, Medicaid, and private group coverage. In the private group coverage category, we include those with employer-sponsored insurance, TRICARE and other military coverage, unknown private coverage, coverage from someone outside the household, and other group coverage. We exclude those reporting multiple insurance sources during the year from these full-year coverage groups.

Adults who stay enrolled in one coverage type for a full year may have different characteristics and utilization and spending patterns than those who enroll for only part of the year. This primarily pertains to Marketplace plans, which often provide temporary coverage for adults between jobs. We restrict our sample to those with the same full-year coverage,

but as a robustness check, we also create insurance groups for those with any Marketplace coverage during the year, those with any Medicaid coverage and no months of Marketplace coverage, and those with any private group coverage and no months of Marketplace or Medicaid coverage.

The MEPS contains detailed utilization and cost information for each medical event reported during the year. Using this information for events with both imputed and nonimputed expenditures, we classify utilization and spending into physician and outpatient hospital, inpatient hospital, ER, prescription drug, and other services (namely dental, home health, medical equipment, and visits to non-physician providers).

To address underestimated national health expenditures in MEPS, we inflate expenditures of service and payer categories using the respective adjustment factors provided by MEPS researchers.[19] We adjust reported expenditures from all payment sources except out-of-pocket spending, because it is one of the MEPS's strongest features, and no administrative data source exists to which out-of-pocket spending might be benchmarked. Even after these adjustments, the MEPS expenditure data do not equal National Health Expenditure Accounts (NHEA) data because MEPS does not collect data on spending on long-term services and supports, the institutionalized population, over-the-counter drugs, public health, and insurance administration. Overall, these adjustment factors increase MEPS Medicaid expenditures by 54 percent and MEPS private health insurance expenditures by 26 percent to match adjusted NHEA averages (excluding services not collected on the MEPS). Differences in expenditures between Medicaid and Marketplace enrollees would be even larger without these adjustments.

All spending estimates have been put in real terms, adjusted for general price inflation. We use the Centers for Medicare & Medicaid Services personal health care indices,[20] by service type, to inflate expenditure amounts to 2016 dollars, our most recent year of data. We also use MEPS survey weights to produce nationally representative estimates and adjust standard errors to account for the MEPS's cluster design.

METHODS

We restrict our sample to adults ages 18 to 64 with modified adjusted gross income (based on the health insurance unit) at or below 400 percent of FPL, excluding those who have any Supplemental Security Income or Medicare coverage and are therefore likely eligible for public coverage because of a disability. We then compare spending and utilization among those with full-year Marketplace coverage with (1) those with full-year Medicaid coverage and (2) those with full-year employer coverage.[21] We also compare spending and utilization between those with full-year Medicaid coverage and those with full-year employer coverage.

We first conduct a descriptive analysis that compares unadjusted outcomes between people with Marketplace coverage and people in the two comparison groups (Medicaid and private group coverage). We compare per capita expenditures by service type and payer and estimate the differences in three components of per capita expenditures—the fraction of the sample using specific services, the average number of utilization events per user of each service, and the average expenditure per event.

Next, we estimate regression models for several measures of spending and utilization by service type. We run two sets of these regression models: one with the combined full-year Marketplace coverage and Medicaid enrollee sample and one with the combined full-year Marketplace and private group coverage enrollee sample, using Marketplace enrollment as our main independent variable of interest. To adjust for underlying differences in the population composition, we control for age, race and ethnicity, sex, self-reported health status, family income, education level, work status, average firm size, marital status, region, presence of diagnosed chronic health conditions,[22] pregnancy, number of health conditions, limitations on instrumental activities of daily living and activities of daily living, functional and activity limitations, cognitive limitations, number of limitations, and survey year.

Outcome variables for the regression models include total health spending (overall and conditional on any spending), the probability of having any spending, and expenditures per unit consumed. These models are repeated for expenditures by service type.

We also estimate these regression models for total spending, limiting the sample to those with priority condition diagnoses[23] to examine the differences between Marketplace coverage, Medicaid, and private group coverage for those with chronic conditions.

Some seemingly large differences in expenditures between Marketplace and Medicaid enrollees and between Marketplace enrollees and those with private group coverage

are not statistically significant. This is largely due to the relatively small sample of nonelderly, nondisabled adults with full-year Marketplace coverage and incomes below 400 percent of FPL (n = 877) in the MEPS and the large variation in spending associated with this group. Marketplace sample sizes are even smaller among those with any utilization by service type and those with chronic conditions.[24]

RESULTS

Descriptive Findings

Compared with full-year Medicaid enrollees, full-year Marketplace enrollees are more likely to be male, older, highly educated, higher income, non-Hispanic white, employed full time, and married. Marketplace enrollees are more likely to live in the Midwest and less likely to live in the Northeast (Table 1).

Table 1. Descriptive Statistics, by Coverage Type of Nonelderly Adults Ages 18 to 64 with Incomes Below 400 Percent of FPL, 2014–16

	Marketplace Full year	Medicaid Full year	ESI/Private Group Full year
Unweighted sample size	**877**	**6,182**	**14,189**
Average nonelderly population (millions)	**8,437,807**	**38,328,833**	**145,228,935**
Sex			
Female	55.3%	63.0%***	51.4%*†††
Age			
18–24	9.4%	26.3%***	20.0%†††
25–29	9.4%	12.7%**	13.1%**
30–34	7.5%	14.0%***	11.1%**†††
35–39	8.5%	10.7%	10.6%
40–44	8.6%	9.0%	9.9%
45–49	11.9%	8.0%**	8.9%*
50–54	13.6%	8.0%***	9.8%**††
55–59	14.0%	6.2%***	8.7%***†††
60–64	17.1%	5.3%***	7.8%***†††
Race/ethnicity			
White, non-Hispanic	61.9%	42.6%***	61.9%†††
Black, non-Hispanic	11.1%	21.3%***	13.2%†††
Asian, non-Hispanic	11.6%	6.2%**	5.5%***
Hispanic	14.5%	26.7%***	16.4%†††
Other	1.0%	3.1%***	3.0%***
Education			
Less than high school	7.5%	31.1%***	9.8%**†††
High school graduate	31.3%	37.4%**	31.4%†††
Some college	30.6%	25.1%*	34.5%†††
Completed college or more education	30.7%	6.4%***	24.4%**†††

Table 1. Descriptive Statistics, by Coverage Type of Nonelderly Adults Ages 18 to 64 with Incomes Below 400 Percent of FPL, 2014–16

	Marketplace Full year	Medicaid Full year	ESI/Private Group Full year
Work status			
Employed full time, full year	43.3%	18.1%***	63.9%***†††
Employed less than full time, part year	38.6%	39.9%	22.4%***†††
Not employed, full year	18.2%	42.0%***	13.8%**†††
Average firm size	39.9	59.1***	135.9***†††
Martial status			
Married	50.7%	28.7%***	50.1%†††
Widowed/divorced/separated	17.9%	18.6%	12.3%***†††
Never married	31.4%	52.7%***	37.5%**†††
Income			
<50% FPL	7.3%	42.4%***	6.1%†††
50–99%	10.8%	21.7%***	5.2%***†††
100–149%	19.2%	16.4%	8.4%***†††
150–199%	19.5%	9.3%***	12.3%***†††
200–249%	14.2%	4.5%***	16.0%†††
250–299%	12.9%	2.8%***	17.2%**†††
300%+	16.1%	2.8%***	34.8%***†††
Region			
Northeast	9.3%	25.6%***	15.5%***†††
South	16.9%	19.5%	22.9%**†
Midwest	48.9%	22.1%***	39.1%***†††
West	25.0%	32.9%*	22.4%†††
% Self-reported fair or poor physical health	9.9%	19.8%***	7.6%†††
% Self-reported fair or poor mental health	4.8%	14.2%***	4.6%†††
Health conditions			
Hypertension	29.4%	26.2%	22.8%***†††
Heart disease	8.4%	9.9%	8.2%††
Stroke	2.4%	3.1%	1.4%†††
Emphysema	0.4%	1.9%***	0.6%†††
Chronic bronchitis	2.1%	4.4%**	1.6%†††
High cholesterol	30.2%	19.7%***	20.8%***
Cancer	7.3%	5.1%	5.0%
Diabetes	9.1%	7.5%	5.9%**†††
Joint pain	46.7%	42.2%*	39.5%***††
Arthritis	22.2%	20.0%	16.3%***†††
Asthma	8.2%	13.9%***	9.1%†††

Table 1. Descriptive Statistics, by Coverage Type of Nonelderly Adults Ages 18 to 64 with Incomes Below 400 Percent of FPL, 2014–16

	Marketplace Full year	Medicaid Full year	ESI/Private Group Full year
Pregnancy (out of women ages 18–44)	22.6%	47.4%***	33.3%***†††
Number of conditions			
Zero	31.6%	38.9%**	40.3%***
One	21.5%	22.5%	25.2%*†††
Two	19.1%	14.5%**	15.1%**
Three	14.2%	10.5%**	9.1%***†
Four	5.8%	5.5%	5.2%
Five+	7.7%	8.1%	5.1%*†††
IADL limitations	0.7%	3.2%***	0.6%†††
ADL limitations	1.6%	2.4%	0.8%†††
Functional and activity limitations			
Difficulty lifting 10 pounds	7.1%	11.9%***	3.7%***†††
Difficulty walking up 10 steps	5.6%	12.3%***	4.4%†††
Difficulty walking 3 blocks	8.0%	14.9%***	5.6%*†††
Difficulty walking a mile	8.8%	15.7%***	6.4%*†††
Difficulty standing 20 minutes	6.3%	13.4%***	4.9%†††
Difficulty bending or stooping	9.6%	14.7%***	5.8%***†††
Difficulty reaching over head	6.6%	10.9%***	3.7%**†††
Difficulty using fingers to grasp	3.7%	7.1%***	2.0%*†††
Cognitive limitations	4.2%	11.5%***	2.7%*†††
Number of limitations			
Zero	87.0%	78.2%***	90.7%**†††
One	2.0%	4.7%***	1.9%†††
Two	1.5%	1.1%	1.1%
Three+	9.5%	16.1%***	6.3%**†††

Source: 2014–16 Medical Expenditure Panel Survey Household Component.

Notes:
FPL = federal poverty level.
ESI = employer-sponsored insurance.
IADL = instrumental activity of daily living.
ADL = activity of daily living.
ESI/private group includes military coverage, unknown private coverage, coverage from someone outside the household, and other group coverage.
** p < 0.1; ** p < 0.05; *** p < 0.01 (compared with Marketplace group)*
† p < 0.1, †† p <0.05, ††† p <0.01 (compared with Medicaid group)

Table 1 also highlights some significant differences in health status between those with Medicaid and those with Marketplace coverage: Marketplace enrollees have fewer physical and cognitive limitations and are less likely to report being in fair/poor physical and mental health. Marketplace enrollees are also less likely to have ever been diagnosed with emphysema, chronic bronchitis, and asthma, but consistent with their older age profile, they are more likely to have been diagnosed with high cholesterol and joint pain.

Those with private group coverage are generally more similar to Marketplace enrollees than Medicaid enrollees, but the two groups of privately insured adults differ: generally, those with private group coverage are younger, are more likely to be pregnant, have lower education levels and higher incomes, are more likely to work full time, and are healthier than those with Marketplace coverage.

Table 2. Components of Per Capita Expenditures, by Service Category and Insurance Type, Nonelderly Adults Ages 18 to 64 with Incomes Below 400 Percent of FPL, 2014–16

Services	Marketplace Full year	Medicaid Full year	ESI/Private Group Full year
Total			
A. % users	83.9%	80.6%*	82.4%
B. Number of units per user	20.3	27.2***	16.1***†††
C. Expenditures per unit	$361	$271	$354
Per capita expenditures (AxBxC)	$6,139	$5,958	$4,710†††
Hospital outpatient + physician			
A. % users	72.1%	67.8%*	67.3%**
B. Number of visits per user	6.7	8.2***	6.1†††
C. Expenditures per visit	$522	$306**	$411†††
Per capita expenditures (AxBxC)	$2,519	$1,703	$1,679
Hospital inpatient[a]			
A. % users	3.8%	9.9%***	4.6%†††
B. Number of visits per user	3.4	6.9***	4.3†††
C. Expenditures per visit	$7,140	$2,854**	$7,091†††
Per capita expenditures (AxBxC)	$920	$1,970***	$1,378††
Emergency room hospital			
A. % users	10.3%	23.0%***	9.8%†††
B. Number of visits per user	1.4	1.6	1.4†††
C. Expenditures per visit	$2,445	$844***	$2,079†††
Per capita expenditures (AxBxC)	$359	$314	$285
Prescription drugs			
A. % users	63.5%	62.9%	59.5%*†††
B. Number of fills per user	16.3	21.3***	12.6***†††
C. Expenditures per fill	$181	$103	$111
Per capita expenditures (AxBxC)	$1,880	$1,389	$833†††

Table 2. Components of Per Capita Expenditures, by Service Category and Insurance Type, Nonelderly Adults Ages 18 to 64 with Incomes Below 400 Percent of FPL, 2014–16

Services	Marketplace Full year	Medicaid Full year	ESI/Private Group Full year
All other services[b]			
A. % users	46.6%	40.0%***	51.7%**†††
B. Number of units per user	3.4	5.3**	2.7†††
C. Expenditures per unit	$293	$274**	$378††
Per capita expenditures (AxBxC)	$461	$582	$535
Unweighted sample size	**877**	**6,182**	**14,189**

Source: 2014–16 Medical Expenditure Panel Survey Household Component.

Notes:
ESI = employer-sponsored insurance.
ESI/private group includes military coverage, unknown private coverage, coverage from someone outside the household, and other group coverage.
** p < 0.1; ** p < 0.05; *** p < 0.01 (compared with Marketplace group)*
† p < 0.1, †† p <0.05, ††† p <0.01 (compared with Medicaid group)
[a]Includes zero-night hospital stays.
[b]Other services = other providers + dentist + home health + medical equipment expenditures.

Table 2 compares per capita expenditures (for insurance and households) by service category and their components among those with full-year Marketplace, Medicaid, and private group coverage. Marketplace enrollees' spending levels were generally higher than those of Medicaid enrollees, but we find no significant differences in per capita expenditures overall and for hospital outpatient/physician services, ER visits, and prescription drugs between the two groups.

In contrast, per capita hospital inpatient expenditures for Medicaid enrollees ($1,970) are significantly higher than per capita expenditures for those with Marketplace coverage ($920). This difference is driven by Medicaid enrollees' greater likelihood of using any inpatient services (9.9 versus 3.8 percent) and higher average number of visits per user (6.9 versus 3.4). However, expenditures per inpatient stay are significantly lower for Medicaid enrollees ($2,854 versus $7,140), which is consistent with higher reimbursement per inpatient stay for Marketplace enrollees but may also reflect differences in treatment intensity.

These differences in the components of per capita expenditures are consistent across the other service categories. We find the following:

- Medicaid enrollees are significantly more likely to have any ER visit than those with Marketplace coverage (23.0 versus 10.3 percent) but are less likely to have any hospital outpatient/physician visit (67.8 versus 72.1 percent) or any use of other services (40.0 versus 46.6 percent).[25]
- Medicaid enrollees generally consume more units of care per user than those with Marketplace coverage (e.g., 8.2 versus 6.7 hospital outpatient/physician visits per user, 21.3 versus 16.3 prescription fills per user, and 5.3 versus 3.4 units of other services per user).
- Marketplace enrollees' expenditures per unit of care consumed are significantly higher than those of Medicaid enrollees for hospital outpatient/physician services ($522 versus $306) and ER visits ($2,445 versus $844).

In contrast, we find no significant differences in per capita expenditures (overall and by service type) and few differences in the components of expenditures between those with Marketplace coverage and those with private group coverage.

Per capita expenditures for Medicaid enrollees ($5,958) are 26 percent higher than per capita expenditures for those with private group coverage ($4,710). This difference is completely driven by Medicaid enrollees' greater number of units of care per user (27.2 versus 16.1), because Medicaid enrollees are slightly less likely to use any care and have lower expenditures per unit of care than those with private group coverage. This pattern is generally consistent across service type, except for prescription drugs.

Multivariate Results

The regression-adjusted results in Tables 4, 5, and 6 are generally consistent with these descriptive findings. The first data column (A) compares total spending for those with full-year Marketplace coverage with that for people with full-year Medicaid coverage (Table 3). After controlling for socioeconomic characteristics and an array of health status measures, we find that Marketplace enrollment, compared with Medicaid, is not associated with significantly higher total health expenditures ($1,450; p-value = 0.19) and prescription drug expenditures ($742; p-value = 0.30), despite the large estimated magnitudes. The significantly higher unadjusted per capita hospital inpatient spending among Medicaid enrollees is also not statistically significant after controlling for observable differences between the two groups. However, we find that full-year Marketplace enrollment, relative to full-year Medicaid coverage, is associated with significantly higher expenditures on physician/outpatient ($757) and ER services ($214), though the latter association is estimated with less precision.

Table 3. Regression-Adjusted Differences in Spending and Utilization Outcomes, Full-Year Marketplace Coverage Compared with Full-Year Medicaid Coverage

SAMPLE 1: Marketplace versus Medicaid Full-Year Marketplace Coverage Compared with Full-Year Medicaid Coverage					
Services	Outcome				
	Total spending	Probability of any spending	Total spending conditional on any spending	Number of units (utilization)	Expenditures per unit (of those with any utilization)
	A	B	C	D	E
Total expenditures	1450	0.009	1726	-2.588*	166
Physician/outpatient	757**	0.020	979*	-0.213	203*
Hospital inpatient	-103	-0.023**	8878	-0.046***	9971*
Emergency room	214*	-0.058***	2485***	-0.095***	1824***
Prescription drugs	742	-0.016	1133	-1.762	33
Other services	- 160	0.037	-416**	-0.597	-191*

Source: 2014–16 Medical Expenditure Panel Survey Household Component.

Notes:
ESI = employer-sponsored insurance.
ESI/private group includes military coverage, unknown private coverage, coverage from someone outside the household, and other group coverage.
** p < 0.1; ** p < 0.05; *** p < 0.01 (compared with Marketplace group)*

Table 4. Regression-Adjusted Differences in Spending and Utilization Outcomes, Full-Year Marketplace Coverage Compared with Full-Year ESI/Private Group Coverage

Services	Outcome				
	Total spending	Probability of any spending	Total spending conditional on any spending	Number of units (utilization)	Expenditures per unit (of those with any utilization)
	A	B	C	D	E
Total expenditures	156	-0.007	189	0.694	30
Physician/outpatient	366	0.014	334	-0.139	111
Hospital inpatient	-840**	-0.009	-5840	-0.014	-3945
Emergency room	79	0.009	371	0.016	312
Prescription drugs	689	-0.004	1090	0.807	37
Other services	-138**	-0.069***	-135	-0.014	-48

Source: 2014–16 Medical Expenditure Panel Survey Household Component.

Notes:
ESI = employer-sponsored insurance.
ESI/private group includes military coverage, unknown private coverage, coverage from someone outside the household, and other group coverage.
** p < 0.1; ** p < 0.05; *** p < 0.01 (compared with Marketplace group)*

Table 5. Regression-Adjusted Differences in Spending and Utilization Outcomes, Full-Year Medicaid Coverage Compared with Full-Year ESI/Private Group Coverage

Services	Outcome				
	Total spending	Probability of any spending	Total spending conditional on any spending	Number of units (utilization)	Expenditures per unit (of those with any utilization)
	A	B	C	D	E
Total expenditures	-804*	-0.009	-$968*	3.619***	31
Physician/outpatient	-595***	0.002	-$903***	0.289	-131***
Hospital inpatient	-374	0.024***	-$8,753***	0.031***	-8557***
Emergency room	-75**	0.089***	-$1,537***	0.142***	-1104***
Prescription drugs	283***	0.015	$488***	2.820***	8
Other services	-43	-0.076***	$76	0.283	87

Source: 2014–16 Medical Expenditure Panel Survey Household Component.

Notes:
ESI = employer-sponsored insurance.
ESI/private group includes military coverage, unknown private coverage, coverage from someone outside the household, and other group coverage.
** p < 0.1; ** p < 0.05; *** p < 0.01 (compared with Marketplace group)*

We observe similar patterns for expenditures (overall and by service type), conditional on having any utilization (Table 3, column C); Marketplace enrollment is associated with significantly higher physician/outpatient spending ($979) and ER spending ($2,485), conditional on any spending, but lower spending on other services ($416).

Consistent with the descriptive data, we also find that relative to Medicaid enrollment, Marketplace enrollment is associated with higher expenditures per physician/outpatient visit ($203), inpatient stay ($9,971),[26] and ER visit ($1,824; Table 3, column E). These findings suggest that greater Marketplace spending per unit is driven by higher reimbursement levels and higher treatment intensity, or higher reimbursement levels and similar or lower treatment intensity, which may vary across care settings. For instance, Medicaid enrollees may be more likely than Marketplace enrollees to visit the ER for low-intensity primary care services, but given their worse health status on average, they may also receive more complex care in other settings.

Finally, though Marketplace enrollment is associated with higher per unit spending, Marketplace enrollees consume less health care in hospital emergency and inpatient settings than Medicaid enrollees. We find that Marketplace enrollees are 2.3 percentage points less likely to have any hospital inpatient spending and 5.8 percentage points less likely to have any ER spending than those with Medicaid (Table 3, column B). Marketplace enrollees also consume fewer units of health care, on average, than those with Medicaid coverage (e.g., 2.59 fewer units overall, 0.05 fewer inpatient stays, and 0.10 fewer ER visits; Table 3, column D).

These findings differ slightly when we compare people with any Marketplace coverage with those with any Medicaid coverage during the year (data not shown). However, we still consistently find that Marketplace enrollees use less care but have higher expenditures per unit of care received than do Medicaid enrollees.

In contrast, we find fewer significant differences in expenditures and utilization between those with full-year Marketplace coverage and those with full-year private group coverage (Table 4). Relative to full-year private group coverage, full-year Marketplace enrollment is associated with significantly lower per capita expenditures for hospital inpatient stays (-$840) and other services (-$138). For utilization, the only significant difference between the two groups is that Marketplace enrollees are significantly less likely to have any spending on other services (Table 4).[27]

Regression-adjusted health expenditures for those enrolled in private group plans is around $800 higher (13.5 percent) than those for Medicaid enrollees (Table 5). After controlling for socioeconomic characteristics and an array of health status measures, we find that Medicaid, compared with private group coverage, is associated with significantly lower total expenditures overall (-$804) and for physician/outpatient (-$595) and emergency room services (-$75), even

though Medicaid enrollees typically utilize more care. This is because expenditures per visit are significantly lower for physician/outpatient (-$131), hospital inpatient (-$8,557), and emergency room services (-$1,104). In contrast, per capita expenditures for those with Medicaid are higher than those with private group coverage ($283) because Medicaid enrollees consume significantly more prescription drugs (2.8 fills) without significant differences in expenditures per fill.

Table 6. Regression-Adjusted Differences in Spending and Utilization Outcomes, by Service Type among Those with Any Priority Conditions

Full-Year Marketplace Coverage Compared with Full-Year Medicaid Coverage					
Conditions	Outcome				
	Total spending	Probability of any spending	Total spending conditional on any spending	Number of units (utilization)	Expenditures per unit (of those with any utilization)
	A	B	C	D	E
Total expenditures					
Any priority condition diagnosis	2122	-0.008	2414	-4.09**	109.05
High blood pressure	4912*	-0.029	5705*	-4.51	664.02
High cholesterol	5086**	-0.007	5398**	-6.86**	185.91**
Diabetes	7959*	0.014	7760*	3.44	149.82
Joint pain	3529*	-0.005	3861*	-5.85**	223.73**
Arthritis	7420**	0.013	7707**	-5.55	142.84

Full-Year Marketplace Coverage Compared with Full-Year ESI/Private Group Coverage					
Conditions	Outcome				
	Total spending	Probability of any spending	Total spending conditional on any spending	Number of units (utilization)	Expenditures per unit (of those with any utilization)
	A	B	C	D	E
Total expenditures					
Any priority condition diagnosis	6	-0.002	-30	0.566	-43.23
High blood pressure	6	0.010	94	-0.983	-48.80
High cholesterol	-70	-0.002	-117	-0.304	28.35
Diabetes	2563	0.017	2439	-0.335	81.46
Joint pain	886	-0.004	1004	-0.084	-49.92
Arthritis	156	0.011	-80	-0.167	-87.57

Table 6. Regression-Adjusted Differences in Spending and Utilization Outcomes, by Service Type among Those with Any Priority Conditions

Full-Year Medicaid Coverage Compared with Full-Year ESI/Private Group Coverage					
Conditions	Outcome				
	Total spending	Probability of any spending	Total spending conditional on any spending	Number of units (utilization)	Expenditures per unit (of those with any utilization)
	A	B	C	D	E
Total expenditures					
Any priority condition diagnosis	-1517**	0.002	-1780**	5.667***	46.97
High blood pressure	-2576	0.039***	-3031*	8.286***	393.19
High cholesterol	-2573	0.011	-2792*	9.634***	-99.15***
Diabetes	-2843	0.015	-2997	11.324**	-105.54**
Joint pain	-1914*	0.003	-2124*	6.805***	-120.34**
Arthritis	-2370	0.022	-2684	7.715***	-109.96**

Source: 2014–16 Medical Expenditure Panel Survey Household Component.

Notes:
ESI = employer-sponsored insurance.
ESI/private group includes military coverage, unknown private coverage, coverage from someone outside the household, and other group coverage.
** p < 0.1; ** p < 0.05; *** p < 0.01 (compared with Marketplace group)*

Table 4 shows differences in total expenditures and utilization among those with priority condition diagnoses. These differences are consistent with the main model findings—across each condition, Marketplace enrollment is generally associated with higher spending (overall and conditional on any spending), less utilization, and higher expenditures per unit consumed.

We observe no significant differences between people with chronic conditions and Marketplace coverage and those with private group coverage. The differences between Medicaid enrollees and private group enrollees with chronic conditions are consistent with the results shown in Table 5.

DISCUSSION

After controlling for differences in Marketplace and Medicaid enrollees' observable socioeconomic and health characteristics, we find that though average total per capita expenditures for Marketplace enrollees are higher than those for Medicaid enrollees, the difference in expenditures between the two groups is not statistically significant. This is likely because of the lack of precision in estimating expenditures among a relatively small sample of Marketplace enrollees. We also find that full-year Marketplace enrollees use significantly less care in hospital emergency room and inpatient settings than full-year Medicaid enrollees. However, Marketplace enrollees have higher total spending for physician/outpatient and emergency room services than Medicaid enrollees, a result of their higher expenditures per unit of care.

These findings have implications for the ongoing debate over approaches for expanding coverage, particularly within states seeking waivers to adopt partial Medicaid expansions to adults with incomes up to 100 percent of FPL, leaving most people with incomes between 100 and 138 percent of FPL eligible to receive subsidized coverage through the Marketplaces. Our findings suggest that higher treatment intensity (e.g., Medicaid enrollees using the emergency room for less intense treatments, such as primary care) or higher provider reimbursement rates drive higher average spending levels per Marketplace enrollee relative to Medicaid levels. Holding other factors constant, relying more on the Marketplace for coverage expansion could increase total expenditures, given Marketplace enrollees' higher per capita spending across some services. However, differences in provider reimbursement rates alone do

not determine differences in the costs of expanding Medicaid versus Marketplace coverage; differences in administrative costs and network quality also play a role. In addition, compared with a full Medicaid expansion, partial Medicaid expansion could increase overall federal costs because the federal government pays the full cost of subsidies in the Marketplace, and Medicaid costs are shared between states and the federal government.[11]

Other policy trade-offs should also be considered. Somewhat higher Marketplace per capita costs may be partially offset by lower take-up of coverage and use of care resulting from larger premium and cost-sharing requirements in the Marketplace than in Medicaid. One study of near-poor nonelderly adults with incomes of 100 to 138 percent of FPL found that living in a Medicaid expansion state was associated with a decreased probability of being uninsured and a large decline in average total out-of-pocket spending, most likely because of lower or no premiums and cost-sharing and less restrictive eligibility requirements in Medicaid, which allow enrollment even if someone has access to an affordable employer-based insurance plan.[28] Another consideration is that though Medicaid could be less costly per capita and would generally make coverage and care more affordable, patients may face limited access to providers willing to accept Medicaid.[16]

We also find that Medicaid enrollment is associated with significantly lower expenditures compared to private group coverage. This suggests that policies that would shift Medicaid enrollees into private plans would likely increase costs, though the exact amount would depend on several factors. For example, Medicaid enrollees might start to use more high-cost care if their provider networks expand with private insurance. In contrast, those who move from Medicaid to private coverage would likely consume less if they face significant cost-sharing requirements.

This analysis has several limitations. First, we cannot separate differences in expenditures per visit due to provider payment rates from differences due to variation in treatment intensity with MEPS data. Second, there may be measurement error in reported coverage type and expenditures among Medicaid and Marketplace populations. For example, Medicaid expenditures in administrative data could differ from the MEPS expenditures adjusted to the NHEA totals for several reasons: administrative data may include social services covered in Medicaid but not reported as health expenditures in MEPS, NHEA may undercount supplemental payments to hospitals and other providers, and NHEA may also not include full managed care and administrative costs. Finally, this analysis period only extends through 2016 and does not capture the most recent dynamics in the Marketplaces; Marketplace payments through 2019 may have declined as more Medicaid plans gained market share and commercial insurers scaled back their participation.

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23 These conditions, selected for their prevalence, expense, or relevance to policy, are: hypertension, heart disease, high cholesterol, emphysema, chronic bronchitis, diabetes, cancer, arthritis, asthma, attention deficit/hyperactivity disorder (ADHD or ADD), and stroke.

24 There are 690 Marketplace enrollees with any utilization, 596 with any physician/outpatient services, 32 with any hospital inpatient services, 99 with any emergency room visit, 513 with any prescription drugs, and 286 with any other services. There are also 565 Marketplace enrollees with any priority condition diagnosis, 244 with high blood pressure, 250 with high cholesterol, 88 with diabetes, 377 with joint pain, and 161 with arthritis.

25 Differences in any use of other services are driven by differences in use of dental services (31.1 percent versus 27.2 percent), other providers (11.7 percent versus 7.4 percent), and medical equipment (18.6 percent versus 15.9 percent).

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Communities of Color at Higher Risk for Health and Economic Challenges due to COVID-19

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Issue Brief

Summary

The COVID-19 outbreak presents potential health and financial challenges for families, which may disproportionately affect communities of color and compound underlying health and economic disparities. This brief analyzes data on underlying health conditions, health coverage and health care access, and social and economic factors by race and ethnicity to provide insight into how the health and financial impacts of COVID-19 may vary across racial/ethnic groups. It finds:

- Communities of color are at increased risk for experiencing serious illness if they become infected with coronavirus due to higher rates of certain underlying health conditions compared to Whites;
- Communities of color will likely face increased challenges accessing COVID-19-related testing and treatment since they are more likely to be uninsured and to face barriers to accessing care than Whites; and
- Communities of color face increased financial and health risks associated with COVID-19 due to economic and social circumstances.

Early data suggest COVID-19 is disproportionately affecting groups of color. For example, in the District of Columbia (https://mayor.dc.gov/release/coronavirus-data-april-6-2020), Blacks make up 45% of the total population (https://www.kff.org/other/state-indicator/distribution-by-raceethnicity/), but accounted for 29% of confirmed coronavirus cases and 59% of deaths as of April 6, 2020. In Louisiana (http://ldh.la.gov/Coronavirus/), Blacks make up 32% of the total state population (https://www.kff.org/other/state-

indicator/distribution-by-raceethnicity/), but accounted for over 70% of COVID-19 deaths as of April 6, 2020. Data from Illinois (https://www.dph.illinois.gov/covid19/covid19-statistics) show that groups of color accounted for 48% of confirmed cases and 56% of deaths as of April 6, 2020, while only making up 39% of the total state population (https://www.kff.org/other/state-indicator/distribution-by-raceethnicity/). In North Carolina (https://www.ncdhhs.gov/divisions/public-health/covid19/covid-19-nc-case-count#by-race/ethnicity), Blacks make up 21% total state population (https://www.kff.org/other/state-indicator/distribution-by-raceethnicity/), but accounted for 37% confirmed cases as of April 6, 2020. In Michigan (https://www.michigan.gov/coronavirus/0,9753,7-406-98163_98173---,00.html), where Blacks make up 14% of the total state population (https://www.kff.org/other/state-indicator/distribution-by-raceethnicity/), they accounted for 33% of confirmed cases and 41% of deaths as of April 6, 2020. Moreover, survey data (https://www.pewresearch.org/fact-tank/2020/03/24/hispanics-more-likely-than-americans-overall-to-see-coronavirus-as-a-major-threat-to-health-and-finances/) find that Latinos are more likely than Americans overall to see COVID-19 as a major threat to health and finances.

Comprehensive data by race and ethnicity will be key for understanding the impacts of COVID-19 across communities and on health and economic disparities going forward. Data by race and ethnicity will also be important for understanding the extent to which there are disparities in access to and receipt of health and economic relief. Together these data can help shape and target response and relief efforts. Although some states and localities are reporting data by race and ethnicity, as of early April, CDC was not reporting data by race and ethnicity and these data were not available widely across states. CDC requests racial and ethnic data on its case reporting form for coronavirus (https://www.cdc.gov/coronavirus/2019-ncov/downloads/pui-form.pdf), but had not indicated plans to expand reporting of these data as of early April.

Introduction

Communities of color face longstanding disparities in health and health care (https://www.kff.org/disparities-policy/report/key-facts-on-health-and-health-care-by-race-and-ethnicity/). The Affordable Care Act (ACA) helped narrow some disparities in health coverage, access, and utilization, but groups of color continue to fare worse compared to Whites across many of these measures as well as across measures of health status. The COVID-19 outbreak presents potential health and financial challenges for families that may disproportionately affect communities of color and compound their existing disparities in health and health care. This brief analyzes data on underlying health conditions, health coverage and health care

access, and social and economic factors by race and ethnicity to provide insight into how the health and financial impacts of COVID-19 may vary across racial/ethnic groups.

Health Risks

Communities of color are at increased risk for experiencing serious illness if they become infected with coronavirus due to higher rates of certain underlying health conditions compared to Whites. Older individuals; individuals with underlying health conditions, such as diabetes, heart disease, and asthma and lung disease; and immunocompromised people (e.g., those with poorly controlled HIV/AIDS or undergoing cancer treatment) have a greater risk (https://www.kff.org/global-health-policy/issue-brief/how-many-adults-are-at-risk-of-serious-illness-if-infected-with-coronavirus/) of becoming severely ill if infected with coronavirus.[1] Though groups of color generally are younger relative to Whites (https://www.kff.org/report-section/key-facts-on-health-and-health-care-by-race-and-ethnicity-demographics/), they are more likely to have certain underlying health conditions. Blacks and American Indians and Alaska Natives (AIANs) fare worse than Whites across many health status indicators (https://www.kff.org/disparities-policy/report/key-facts-on-health-and-health-care-by-race-and-ethnicity/); findings for Hispanics are mixed, but they face large disparities for certain measures. Overall, nonelderly Black, Hispanic, and AIAN adults are more likely than Whites are to report fair or poor health.[2] Among nonelderly adults, Blacks and AIANs have higher rates of asthma and diabetes compared to Whites (Figure 1). Asthma rates also are higher for Black and Hispanic children compared to White children. Further, nonelderly adult AIANs are nearly twice as likely as Whites are to report having had a heart attack or heart disease. Black, Hispanic, AIAN, and NHOPI nonelderly adults and Black and Hispanic children also are more likely to be obese compared to Whites.[3] Moreover, there are stark disparities in HIV/AIDS diagnosis and rates among teens and adults. Compared to Whites, Blacks have an over eight times higher HIV diagnosis rate and a nearly ten times higher AIDS diagnosis rate, and the HIV and AIDS diagnosis rates for Hispanics are more than three times the rates for Whites (Figure 2).

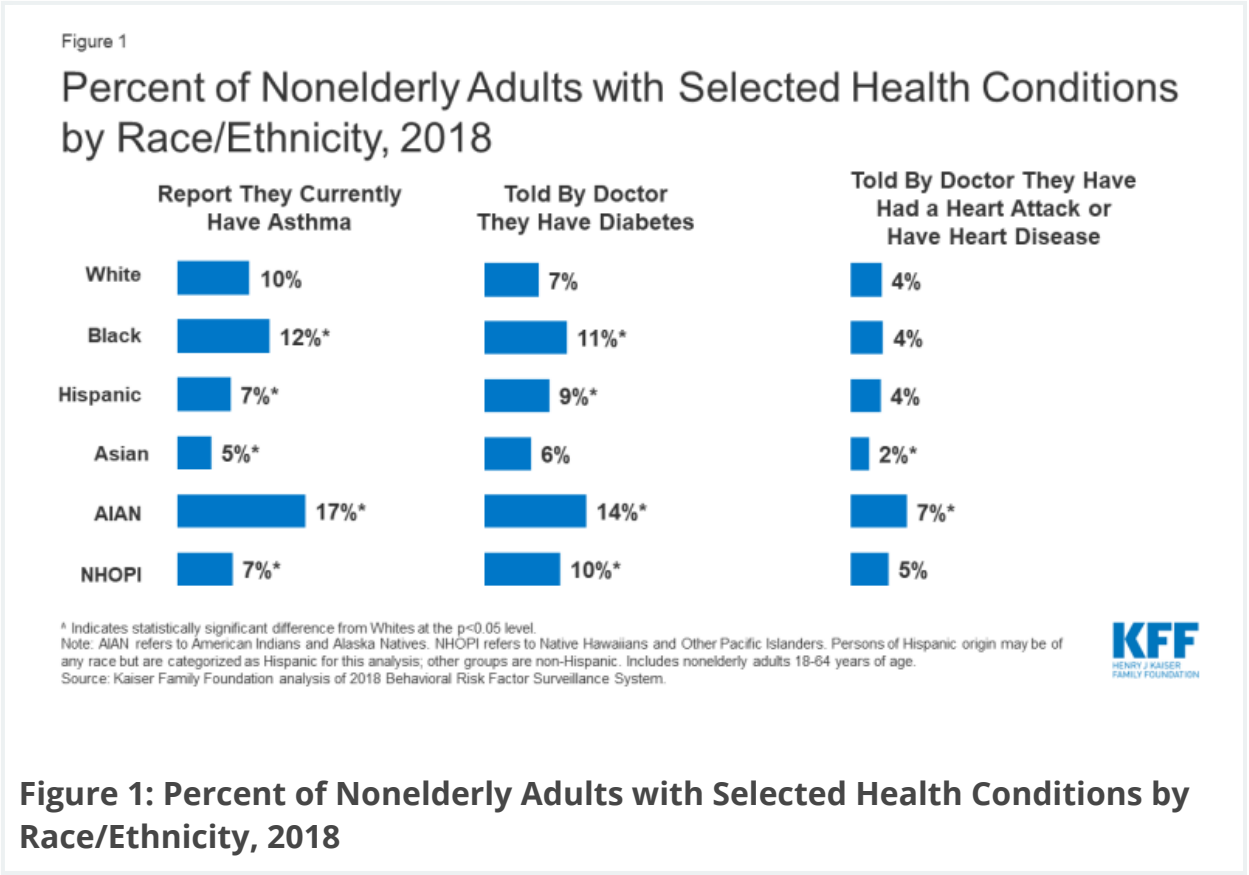

Figure 1: Percent of Nonelderly Adults with Selected Health Conditions by Race/Ethnicity, 2018

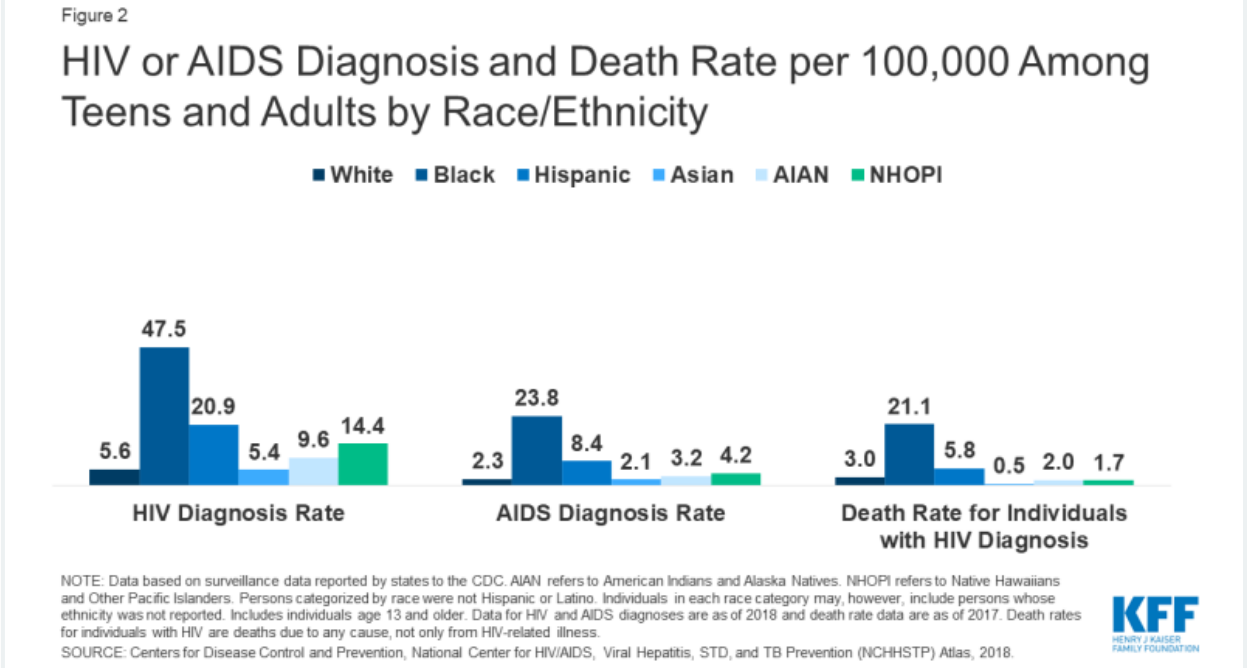

Figure 2: HIV or AIDS Diagnosis and Death Rate per 100,000 Among Teens and Adults by Race/Ethnicity

Access to Care

Communities of color will likely face increased challenges accessing COVID-19-related testing and treatment services since they are more likely to be uninsured compared to Whites. Congress has passed legislation to provide free testing for uninsured individuals (https://www.kff.org/uninsured/fact-sheet/what-issues-will-uninsured-people-face-with-testing-and-treatment-for-covid-19/), and the President has proposed (https://www.whitehouse.gov/briefings-statements/remarks-president-trump-vice-president-pence-members-coronavirus-task-force-press-briefing-18/) coverage for hospital treatment costs for uninsured individuals.[4] However, uninsured people may lack a usual source of care and not know where to go to obtain testing. They also may still forego testing or treatment out of fear of costs if they are not aware of the resources provided to help cover costs for uninsured individuals. Additionally, some may still face large out of pocket costs for care that these provisions might not cover, such as care received outside the hospital inpatient setting. While all racial and ethnic groups had large gains in health coverage (https://www.kff.org/disparities-policy/issue-brief/changes-in-health-coverage-by-race-and-ethnicity-since-the-aca-2010-2018/) under the ACA, Blacks, Hispanics, AIANs, and Native Hawaiians Other Pacific Islanders (NHOPIs) remain more likely to be uninsured compared to Whites. AIANs and Hispanics are at the highest risk of being uninsured, with 22% of AIANs and nearly one in five (19%) Hispanics lacking coverage compared to 8% of Whites (Figure 3). Higher uninsured rates among groups of color, in part, reflect their more limited access to affordable coverage options (https://www.kff.org/disparities-policy/issue-brief/changes-in-health-coverage-by-race-and-ethnicity-since-the-aca-2010-2018/). Uninsured Blacks are more likely than Whites to fall in a coverage gap (15% vs. 9%) because a greater share live in states that have not implemented the Medicaid expansion (Figure 4). Moreover, uninsured nonelderly Hispanics and Asians are less likely than Whites to be eligible for coverage, because they include larger shares of noncitizen immigrants who are subject to eligibility restrictions (https://www.kff.org/disparities-policy/fact-sheet/health-coverage-of-immigrants/) for Medicaid and Marketplace coverage.

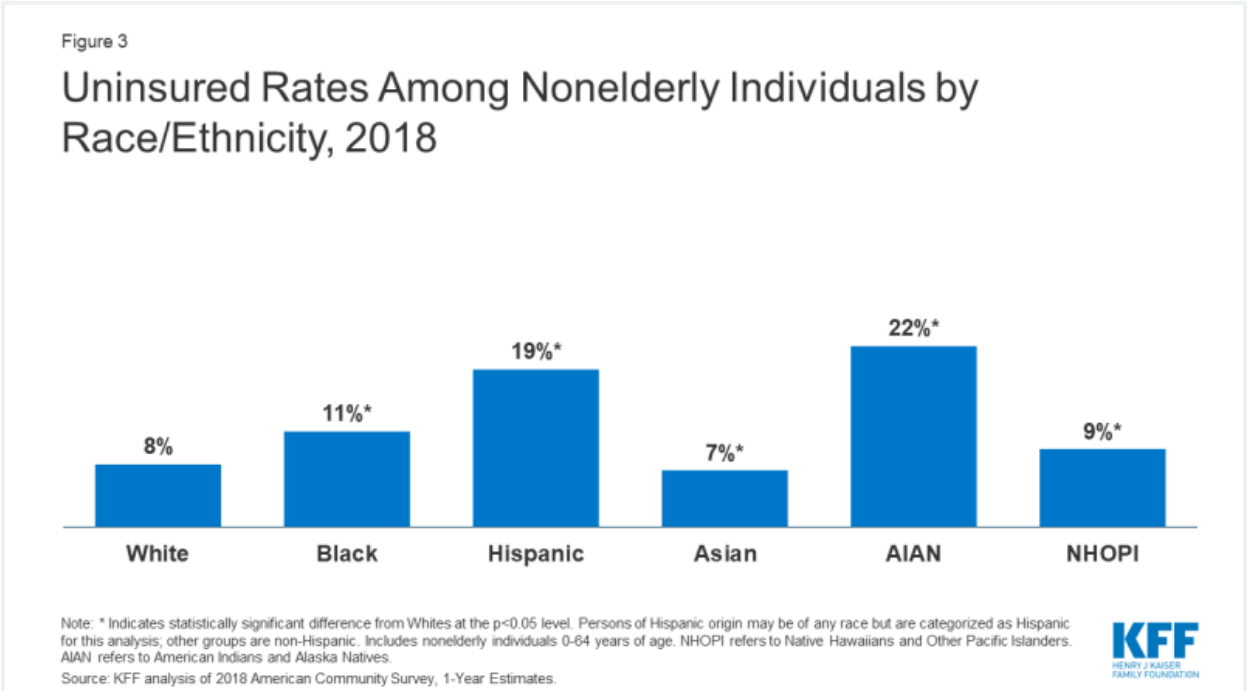

Figure 3: Uninsured Rates Among Nonelderly Individuals by Race/Ethnicity, 2018

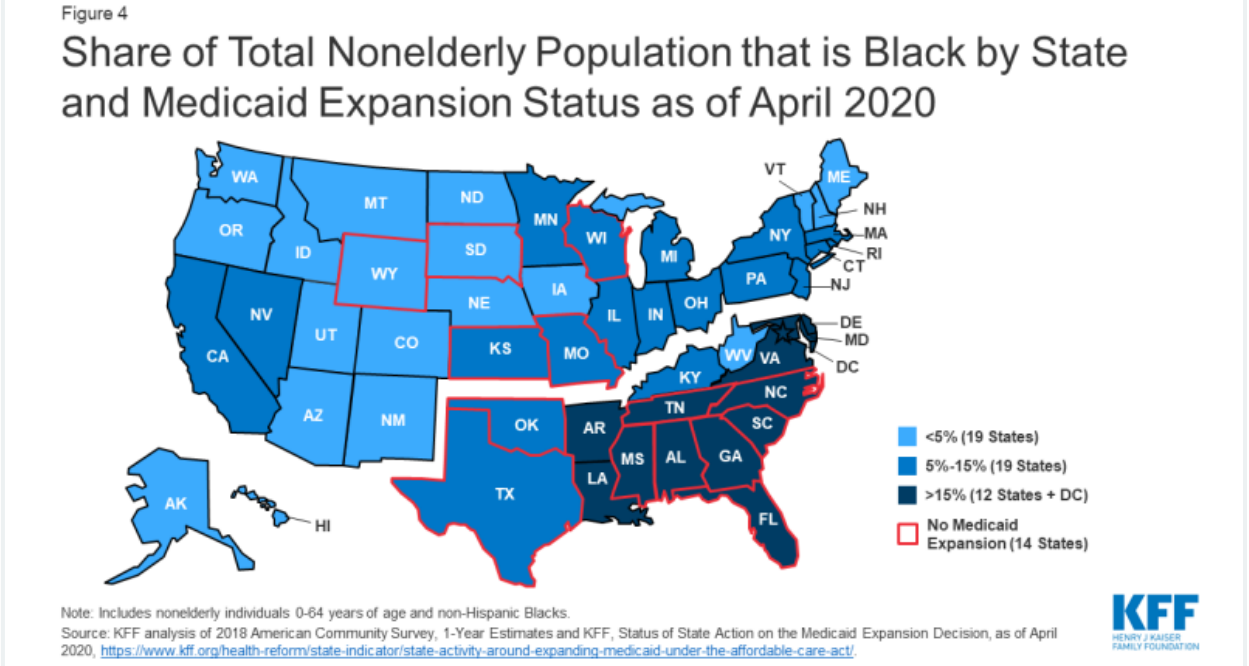

Figure 4: Share of Total Nonelderly Population that is Black by State and Medicaid Expansion Status as of April 2020

Groups of color also are more likely than Whites to report other health care access barriers. For example, among nonelderly adults, Blacks, Hispanics, AIANs, and NHOPIs are more likely than Whites to report going without needed care due to cost, and Blacks, Hispanics, and AIANs are more likely than Whites to report delaying care for reasons other than cost (Figure 5). Moreover, nonelderly Blacks and Hispanics are more likely than Whites to report no usual source of care when sick other than the emergency room (Figure 5). Although the Indian Health Services (IHS) is responsible for providing health services to AIANs (https://www.kff.org/medicaid/issue-brief/medicaid-and-american-indians-and-alaska-natives/) and is conducting testing for coronavirus (https://www.ihs.gov/coronavirus/), it has historically been underfunded to meet their health care needs, leaving them facing disproportionate access barriers. Thus, Medicaid and other health coverage remains important to facilitating AIAN access to services as well as providing revenues to support IHS and Tribal facilities.

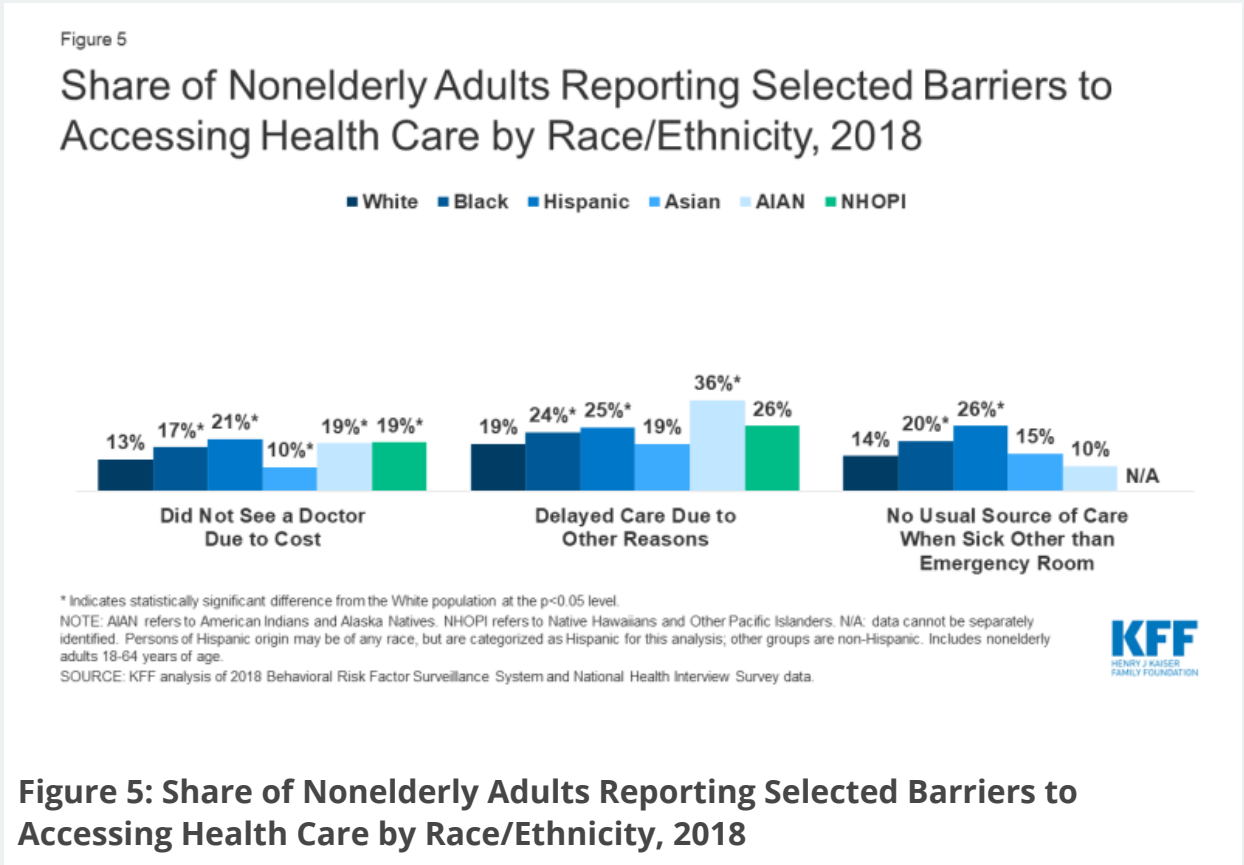

Figure 5: Share of Nonelderly Adults Reporting Selected Barriers to Accessing Health Care by Race/Ethnicity, 2018

Economic and Social Challenges

Communities of color face increased financial and health risks associated with COVID-19 due to economic and social circumstances. Social distancing policies required to address COVID-19 have led many businesses to cut hours, cease operations, or close altogether. People who work in certain industries, such

as restaurant, hospitality, retail, and other service industries, are particularly at risk for loss of income. Those who maintain jobs amid the COVID-19 outbreak, such as grocery store workers and delivery drivers, are at increased risk of contracting coronavirus since they remain exposed to other individuals. Nearly a quarter of Blacks and Hispanics (24%) are employed in service industries compared to 16% of Whites, putting them at increased risk for job loss or loss of income or for exposure if they maintain their jobs.[5] Groups of color also may have more limited ability to absorb income declines due to more limited incomes. Over a quarter of Blacks, Hispanics, and AIANs are low-wage workers, compared to less than 17% of Whites,[6] and groups of color are more likely to have income below poverty compared to Whites (Figure 6). Reflecting their more limited incomes, prior to COVID-19, groups of color were more likely than Whites to report a range of financial concerns including being very or moderately worried about paying monthly bills; rent, mortgage, or other housing costs; and minimum payments on credit cards (Figure 7). They also are more likely to experience food insecurity.[7]

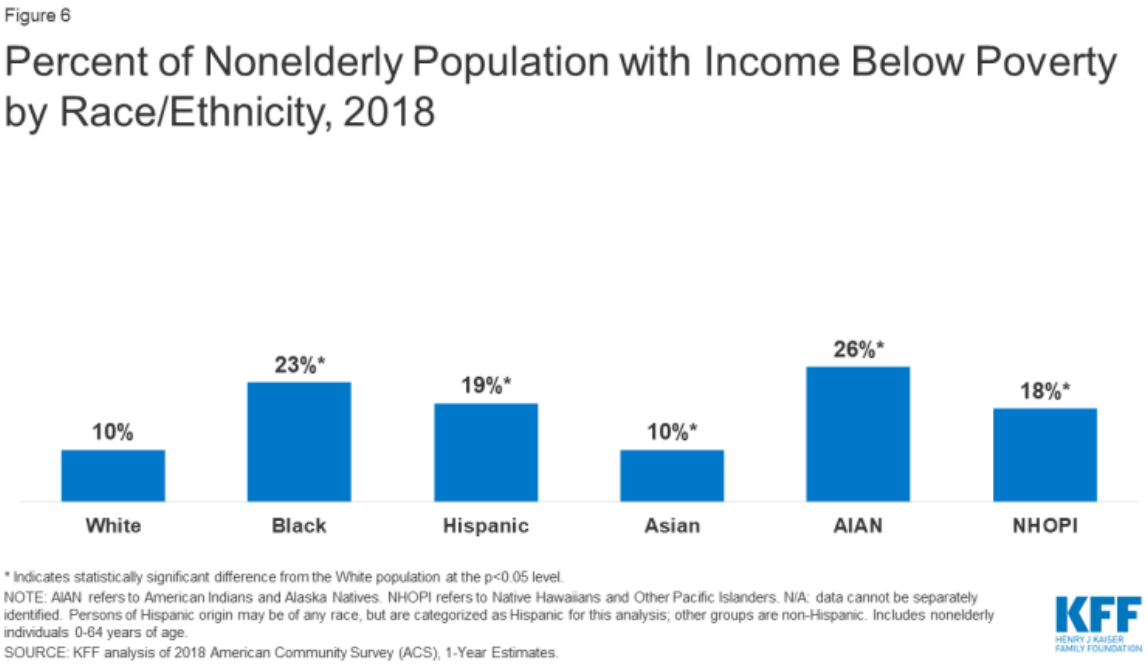

Figure 6: Percent of Nonelderly Population with Income Below Poverty by Race/Ethnicity, 2018

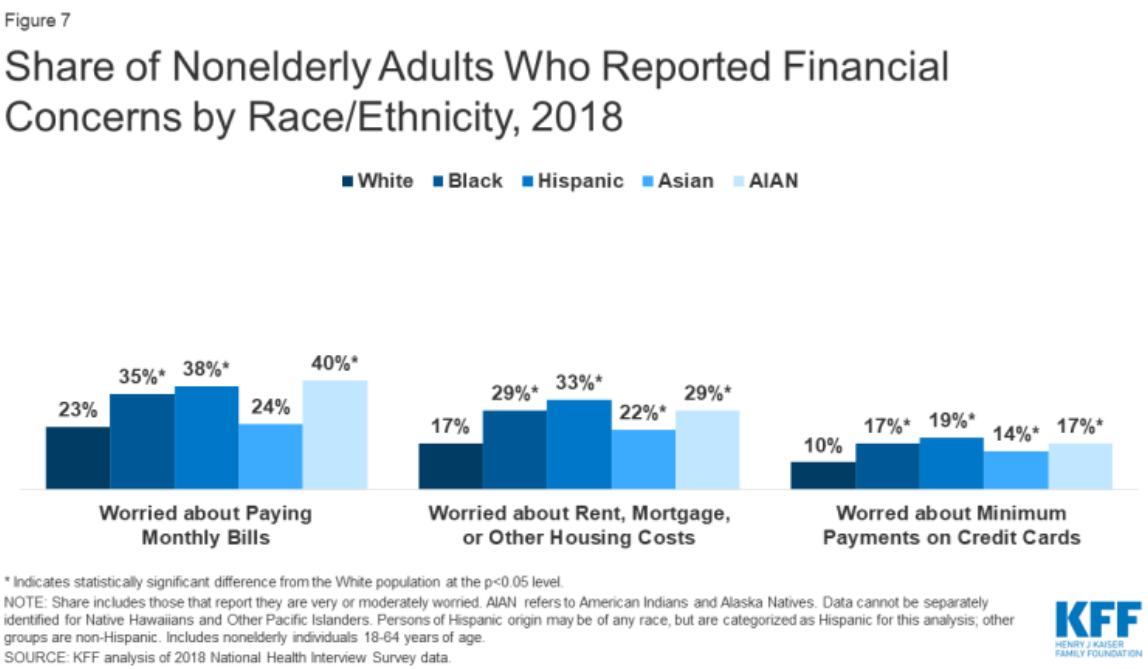

Figure 7: Share of Nonelderly Adults Who Reported Financial Concerns by Race/Ethnicity, 2018

People of color are more likely to live in locations and housing situations that put them at increased risk of infection from coronavirus. The virus can spread quickly in densely populated urban areas, as evidenced by the rapid outbreak in New York City. Individuals in crowded living arrangements and/or multi-family dwellings also are likely at higher risk for exposure to the disease. Data also show that people of color make up over half (56%) of the population in urban counties, while Whites account for the majority in suburban (68%) and rural (79%) counties.[8] Roughly four in ten Blacks (41%), Hispanics (38%), and Asians (38%) indicate that the area surrounding their residence includes multiunit residential buildings compared to 23% of Whites.[9] Although much of the initial outbreak has been concentrated in more urban areas, it is anticipated that the disease will affect all areas of the country. Variation in timing of implementation of social distancing policies such as stay-at home-orders (https://www.kff.org/coronavirus-policy-watch/stay-at-home-orders-to-fight-covid19/) may also impact risk of infection across areas.

Looking Ahead

Early data suggest COVID-19 is disproportionately affecting groups of color. For example, in the District of Columbia (https://mayor.dc.gov/release/coronavirus-data-april-6-2020), Blacks make up 45% of the total population (https://www.kff.org/other/state-indicator/distribution-by-raceethnicity/), but accounted for 29% of confirmed cases and

59% of deaths as of April 6, 2020. In Louisiana (http://ldh.la.gov/Coronavirus/), Blacks make up 32% of the total state population (https://www.kff.org/other/state-indicator/distribution-by-raceethnicity/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D), but accounted for over 70% of COVID-19 deaths as of April 6, 2020. Data from Illinois (https://www.dph.illinois.gov/covid19/covid19-statistics) show that groups of color accounted for 48% of confirmed cases and 56% of deaths as of April 6, 2020, while only making up 39% of the total state population (https://www.kff.org/other/state-indicator/distribution-by-raceethnicity/). In North Carolina (https://www.ncdhhs.gov/divisions/public-health/covid19/covid-19-nc-case-count#by-race/ethnicity), Blacks make up 21% total state population (https://www.kff.org/other/state-indicator/distribution-by-raceethnicity/), but accounted for 37% confirmed cases as of April 6, 2020. In Michigan (https://www.michigan.gov/coronavirus/0,9753,7-406-98163_98173---,00.html), where Blacks make up 14% of the total state population (https://www.kff.org/other/state-indicator/distribution-by-raceethnicity/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D), they accounted for 33% of confirmed cases and 41% of deaths as of April 6, 2020. Moreover, survey data (https://www.pewresearch.org/fact-tank/2020/03/24/hispanics-more-likely-than-americans-overall-to-see-coronavirus-as-a-major-threat-to-health-and-finances/) find that Latinos are more likely than Americans overall to see COVID-19 as a major threat to health and finances.

The federal government and states have taken steps to mitigate the health and financial challenges stemming from the COVID-19 outbreak, but access to relief varies and some individuals will continue to face health and financial difficulties. Congress has passed a series of legislation to respond to COVID-19 that provides new resources to support access to health care and economic relief. States also are taking action to enhance access to health coverage and services through Medicaid (https://www.kff.org/medicaid/issue-brief/medicaid-emergency-authority-tracker-approved-state-actions-to-address-covid-19/) and more broadly (https://www.kff.org/health-costs/issue-brief/state-data-and-policy-actions-to-address-coronavirus/#policyactions). However, individuals may not have equal access to relief and some individuals may continue to face health and economic challenges. For example, uninsured individuals may continue to face challenges accessing care or paying costs (https://www.kff.org/uninsured/fact-sheet/what-issues-will-uninsured-people-face-with-testing-and-treatment-for-covid-19/) associated with treatment services. Moreover, some individuals, including some immigrant and mixed immigration status families and lower-income individuals who do not file tax returns, may not qualify for or may face challenges accessing economic relief. Further, recent experiences suggest that immigrants (https://www.kff.org/disparities-policy/fact-sheet/health-coverage-of-

immigrants/) may be fearful of accessing health coverage and other assistance programs and/or health care due amid the current immigration policy environment and due to recent changes to public charge policy.

Comprehensive data by race and ethnicity will be key for understanding the impacts of COVID-19 across communities and on health and economic disparities going forward. Data by race and ethnicity will also be important for understanding the extent to which there are disparities in access to and receipt of health and economic relief. Together these data can help shape and target response and relief efforts. Although some states and localities are reporting data by race and ethnicity, as of early April, CDC was not reporting data by race and ethnicity and these data were not available widely across states. There are challenges to collecting and reporting these data, including determining standardized reporting categories and having to rely on self-reported and/or observational responses to collect these data. Self-reported data can provide for greater data accuracy, but may be subject to high non-response rates, while observational data may be prone to errors.[10] CDC requests racial and ethnic data on its case reporting form for coronavirus (https://www.cdc.gov/coronavirus/2019-ncov/downloads/pui-form.pdf), but had not indicated plans to expand reporting of these data as of early April.

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Newsroom

New report highlights lesser known factors that impact insurance rates after ACA

April 07, 2020

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A decade after the landmark Affordable Care Act (ACA) was enacted to expand health insurance coverage to the nation's most vulnerable uninsured, a new report by researchers at the UCLA Center for Health Policy Research and Claremont Graduate University addresses the question: How large of an impact has the ACA made over the past 10 years?

Read The Research Report

View: Ten Years of the Affordable Care Act: Major Gains and Ongoing Disparities (/publications/search/pages/detail.aspx?PubID=1930)

This study provides updates on national uninsured rates and looks at disparities across a spectrum of population groups, including several that haven't received attention in other studies. These include state Medicaid expansion status, education, housing, employment, citizenship, English proficiency, race/ethnicity, and age. Using annual data from the 2008 through 2018 American Community Surveys, conducted by the Census Bureau, the authors discuss uninsured rates related to these factors, as well as changes in type of coverage among the insured.

"Many studies have pointed to the ACA's investments in reducing cost, improving quality of health care, and increasing access for those who are insured, but we wanted to delve deeper into various social determinants to discover more links to insurance coverage," said Deborah Freund, co-lead author of the study and university professor at Claremont Graduate University.

Key findings include:

- All population groups had improved coverage from 2014 to 2016, but progress has eroded for some groups since 2017
- States that expanded Medicaid saw more reduced uninsured rates
- Higher education is related to lower uninsured rates at every income level
- People who had full housing basic amenities had lower uninsured rates than those who lacked at least one
- Both employed and non-employed individuals gained coverage under the ACA, but higher rates are seen among the employed
- One in three non-citizens remain uninsured
- Higher uninsured rates are seen among those with lower levels of English proficiency
- All racial/ethnic groups saw declines in uninsured rates, though disparities still exist, especially among Latino and American Indian/Alaska Native populations
- Individuals ages 19 to 25 had the largest gains in coverage, and all age groups experienced lower uninsured rates

"Research has shown that the ACA is a landmark law that increased insurance coverage across diverse groups throughout the nation," said Gerald Kominski (/about/staff/pages/detail.aspx?StaffID=144) , co-lead author of the report and senior fellow at the UCLA Center for Health Policy Research.

"We wanted to demonstrate that although coverage improved for all groups under the ACA, some groups have improved less than others.

We call on fellow researchers to look into these persistent disparities and to identify possible pathways to insure all individuals," he said.

This study was conducted jointly by the UCLA Center for Health Policy Research and the Claremont Graduate University with support from the A-Mark Foundation.

The UCLA Center for Health Policy Research is one of the nation's leading health policy research centers and the premier source of health policy information for California. The Center improves the public's health through high quality, objective, and evidence-based research and data that informs effective policy making. The Center is the home of the California Health Interview Survey (/chis/Pages/default.aspx) (CHIS) and is part of the UCLA Fielding School of Public Health (/chis/Pages/default.aspx) . For more information, visit www.healthpolicy.ucla.edu (/Pages/home.aspx) .

Publications

Ten Years of the Affordable Care Act: Major Gains and Ongoing Disparities

April 7, 2020

Research Report

Authors: Gerald F. Kominski, PhD (/about/staff/pages/detail.aspx?StaffID=144) , Petra Rasmussen, MPH (/about/staff/pages/detail.aspx?StaffID=1427) , Chengcheng Zhang, Safia Hassan, Deborah Freund, PhD

Study focus: The primary goals of this report are: (1) to update information on the impacts of the Patient Protection and Affordable Care Act (ACA) on rates of uninsurance using the latest data available (from 2018), and (2) to examine disparities from a broad perspective, including some measures that have not received attention in previous studies.

Participants: For most analyses, authors focused on respondents ages 0 to 64, with exceptions depending on nine population characteristics (shown below). Authors used 2008 through 2018 data from the American Community Survey (ACS), a federal annual survey of about 3 million respondents conducted by the U.S. Census Bureau.

Outcomes studied: Each report chapter provides analyses of trends in insurance coverage according to the following population characteristics: (1) State Medicaid expansion status; (2) Education; (3) Housing; (4) Employment; (5) Citizenship; (6) English proficiency; (7) Race/ethnicity; (8) Age; (9) Type of insurance.

Findings: Highlights are detailed at the beginning of each chapter heading and include:

- Medicaid expansion states had similar improvements in coverage, regardless of when expansion occurred
- Higher education is associated with substantially lower rates of uninsurance at every income level
- Individuals whose homes lacked a basic necessity always had higher rates of uninsurance than those with complete housing, regardless of income level or state expansion status
- Coverage has improved regardless of citizenship status, but 1 in 3 non-citizens remain uninsured
- Uninsured rates decreased for all racial/ethnic groups, but Hispanics/Latinos and American Indians/Alaska Natives still have the highest uninsured rates
- All age groups have lower rates of uninsurance under the ACA, but 19- to 25-year-olds have had the largest gains in coverage

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By Walter P. Wodchis, James Shaw, Samir Sinha, Onil Bhattacharyya, Simone Shahid, and Geoffrey Anderson

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HEALTH AFFAIRS 39,
NO. 4 (2020): 697–703

Innovative Policy Supports For Integrated Health And Social Care Programs In High-Income Countries

ABSTRACT **As high-income countries face the challenge of providing better and more efficient integrated health and social care to high-needs and high-cost populations, they may require innovative policy supports at both the national and local levels. We categorized policy supports into four areas: governance and partnerships; workforce and staffing; financing and payment; and data sharing and use. Our structured survey of thirty integrated health and social care programs in high-income countries in 2018 found that the majority of programs had policy supports in two or more areas, with supports for governance and partnerships and for workforce and staffing being the most common. Financing and payment and data sharing and use were less common. Local partnerships empowered integration across sectors, and new staff roles that spanned health and social care embedded this integration in care delivery. National policies—including bundled financing and investment in data—enabled integration and cross-sector accountability.**

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High-income countries face the daunting challenge of managing increasingly constrained health and social care budgets. A common driver of this challenge is the fact that a relatively small proportion of the population lives with complex health and social care needs and accounts for a substantial proportion of government and private-sector health and social care spending.[1,2] This concentration of spending suggests an opportunity for countries to better manage their budgets by focusing efforts on delivering more cost-effective integrated health and social care services for their high-cost populations. The extensive needs of these populations provide an opportunity to create real value through focusing on better outcomes and experiences for these patients and their caregivers.

A recent US National Academy of Medicine report recognized the policy challenge inherent in responding to this opportunity, stating that "improving the care management of high-need patients will require bold policy action and system and payment reform efforts by a broad range of stakeholders at multiple levels."[3] The value of shared learning related to these policies was highlighted in a recent report by an international expert panel.[4] This article focuses on understanding the innovative policies that national, regional, and local policy makers have used to support the development, spread, and scale of thirty integrated health and social care programs in eleven high-income countries.

The framework we used to describe these policy supports draws on the National Academy of Medicine report[3] as well as frameworks for integrated care developed by the European SELFIE project,[5] the World Health Organization's Framework on Integrated, People-Centred Health Services,[6] and a recent Canadian policy commentary.[7] We synthesized the core insights

across these frameworks into four broad categories of new or augmented policy support for integrated care: governance and partnerships; workforce and staffing; financing and payment; and data sharing and use. In the context of these four categories, our synthesized framework recognized that innovations in policies, regulation, and governance that support integrated health and social care can be viewed as coming from central governments (top down) or from more local or institutional levels (bottom up) and that in practice there is often a hybrid of both top down and bottom up playing a role.[8] The more top down the policy innovation is, the more its purpose is to enable—or least not to impede—integration. Such innovations are designed to ensure integration across sectors, such as municipal social services and state medical care, by setting guidelines, standards, or performance measures. The more bottom up the source of the policy innovation is, the more it is meant to embed the integration of services in the delivery of care, such as by using locally funded transportation services to facilitate access to state-funded coordinated care services.

We used this framework of four broad policy categories, each of which falls on a continuum from national to local, to provide the structure for describing and understanding the strategies used to support integrated health and social care programs. We used a survey based on this framework to collect information on thirty such programs that served one of three broad target populations—frail older people, adults with serious mental health conditions or addiction, and adults with multiple complex chronic medical conditions—in eleven high-income countries. The purpose of this article is to draw some insights about innovative policy supports for integrated health and social care programs that can guide future investments and help inform the development of effective care for the people who need it the most.

Study Data And Methods

SAMPLING STRATEGY The study used a purposive two-stage sampling strategy. In the first stage, the Commonwealth Fund provided a list of contacts in each of eleven high-income countries (Australia, Canada, France, Germany, New Zealand, Norway, Sweden, Switzerland, the Netherlands, the United Kingdom, and the United States). These contacts included people who were in university or other academic settings, delivery programs, or policy-making roles. In early 2018 we sent each contact a letter that outlined the purpose of the study and contained a structured nomination form, soliciting their input on innovative programs of which they were aware. The form asked for information on the program in terms of the population served, as well as on the program's activities, data collection and evaluation, and current status. It also asked for a statement about what made the program innovative in the contact's country in terms of policy supports and impact on client care.

In the second stage, in mid-2018 the completed nomination forms were reviewed by the authors and Commonwealth Fund staff. Through a consensus process, programs were selected for inclusion based on their being innovative, in the sense that they involved new ways to organize and deliver care in the relevant country. The survey was limited to programs that served one of the three broad target populations listed above (frail older people, adults with serious mental health conditions or addiction, and adults with multiple complex chronic medical conditions). The final sample was selected to provide examples of innovative programs across the eleven countries and the target populations. The names, countries, and target populations of the thirty programs in the study are in the online appendix.[9] The program components are described in greater detail in a related article in this issue of *Health Affairs*.[10]

DEVELOPMENT AND TESTING OF STRUCTURED SURVEY The primary purpose of the survey was to obtain structured information on policy supports for these programs that were innovative with respect to the relevant country's existing health and social care policy environment and were essential for program development. The survey tool used four broad categories of policy supports that we drew from previous work on policy support for integrated care.[3,5–7] The survey explicitly focused on policy innovations to support integrated health and social care that were different from policies that normally support other programs that serve that target population in the relevant country.

The survey tool began with brief descriptions of the four areas of innovative policy supports: "It involves a new way to finance health and social care by changing the way that funding for the program is provided or the way that the providers of care are paid"; "It creates a new staffing model for health and social care delivery or it redefines or creates new roles and responsibilities for staff"; "It creates a new governance structure or new collaborative partnerships between health and social care organizations"; and "It creates new ways for health and social care providers to collect or share data in a timely fashion."

These descriptions, which served as prompts to stimulate the further description of programs,

were used to categorize the basic features of the program supports. Programs could have more than one type of policy support. If the program had none of those four supports, the tool provided an option to include a description of the policy supports that were relevant. To obtain more detail on the four policy supports for each program, the tool included a set of specific follow-up questions related to each policy area that were used to create a structured narrative. The structured narrative provided details on the specific characteristics of the policy supports for each program.

The application of the tool produced a count of and a basic standardized categorization of the policy supports across programs as well as structured narrative descriptions specific to the policy supports for each program.

We piloted the data collection tool on two programs that were well known to the authors. Based on this test, some minor modifications were made before the survey was distributed to other participants. The final survey with the initial prompts and follow-up questions is in the appendix.[9]

DATA COLLECTION AND VALIDATION In the summer of 2018 we contracted with teams or individuals in different countries to collect the data. The data collectors were either the local contacts who had originally nominated the programs or members of organizations that had conducted studies of the programs. Among them were senior policy officials responsible for the oversight and sometimes the funding of the programs, researchers who had gathered deep information in creating case studies of the programs, and evaluators who collected information about the programs from program documents supplemented by telephone interviews with program leaders. Data collectors were asked to use key informants and existing written program descriptions to complete the survey. To ensure a standardized data collection process, the authors provided each contracted data collection team or individual with a standard training webcast as well as ongoing telephone and email support during the process. The initial data were collected in the late summer and fall of 2018. The materials were reviewed as they were submitted, and the authors followed up with the data collectors to make sure that the surveys were complete and the data collection methods were consistently followed.

To validate the reported policy innovations, the authors reviewed the text provided in the structured survey responses with the selected policy description. Where a mismatch was identified, the authors followed up with the data collectors and resolved the issue. The data collection was completed in the spring of 2019.

DATA ANALYSIS The first step in the analysis was to count the individual policy areas reported as supportive for each program. No statistical tests were performed on these count data. The second step in the analysis was to review the structured narrative responses to the follow-up questions on each selected new policy. Authors reviewed these responses individually, and key themes and ideas were developed in discussions. The lead author (Walter Wodchis) then developed a written summary that was shared and used as the foundation for this article.

LIMITATIONS Although we feel that our survey and analysis can inform high-level policy analysis, we recognize that such a small qualitative study has limitations. First, the sample was purposive, and the thirty programs selected do not present a comprehensive picture of the international state of innovation. However, informed people in the eleven countries felt that these programs were worth analyzing.

Second, our conceptual framework, like all such models, provided one approach to classifying policy options. We recognize that defining four broad categories of jurisdictional and organizational policy options simplified a very complex field, but we feel that it is supported by the international literature.[3,5–7]

Study Results

OVERVIEW OF REPORTED POLICY SUPPORTS We allowed respondents to report as many of the four policy support areas as they deemed relevant for a given program. Respondents reported that twenty-seven of the programs were supported by new policies related to staffing or work roles, twenty-three by new policies about governance and partnerships, eighteen by new forms of payment or finance, and fifteen by new ways to share data. Respondents reported that most programs had multiple categories of policy support: Eight programs had policy supports in two areas, ten programs had supports in three areas, and nine programs had supports in all four policy areas. Only three programs had policy supports in only one area.

Exhibit 1 summarizes the policies across programs within each participating country and indicates whether the policies represented top-down (that is, enabling) or bottom-up (embedding) approaches. Generally, there was cohesion within a country on the policy approach to implementing programs. For example, in England all three programs that we selected were part of the National Health Service Vanguard initiative that involved top-down requirements regarding governance, financing, and data for evaluation, while supporting local bottom-up focuses and

EXHIBIT 1

Policy supports for integrated care in eleven countries, by type of support

Type of policy support	Country										
	US	UK	SWIZ	GER	FR	NETH	NOR	SWE	AUS	NZ	CAN
GOVERNANCE AND PARTNERSHIPS											
Top down: strategic governance of program	N	Y	Y	Y	N	Y	Y	Y	Y	N	Y
Bottom up: local partnerships and front-line coordination	Y	Y	Y	Y	N	N	N	N	Y	Y	N
WORKFORCE AND STAFFING											
Top down: new roles[a]	N	N	Y	Y	Y	Y	Y	Y	N	N	N
Bottom up: new ways of working and close relationship to patient navigation	Y	Y	N	N	N	N	N	N	Y	Y	Y
FINANCING AND PAYMENT											
Top down: pooled budgets	Y	Y	N	Y	N	Y	N	N	N	N	N
Bottom up: flexible spending	Y	N	Y	N	Y	N	N	N	Y	Y	Y
DATA SHARING AND USE											
Top down: objective reporting of indicators and external evaluations	N	Y	Y	Y	L	N	N	N	Y	N	N
Bottom up: local sharing of clinical data and data for local program monitoring and quality improvement	L	N	L	Y	N	L	L	L	L	Y	L

SOURCE Authors' analysis of survey results. **NOTE** "Limited" (L) is used to describe the use of data in which providers have a one-way view of patient data in another provider's information system or indicators are produced for funding but their use is unspecified. [a]For example, centralized case manager.

approaches to implementation.[11] The area of greatest divergence within countries was data sharing and use. There was a wide array of local capabilities for sharing information and for using data in local reporting and quality improvement activities. We used the term *limited* to describe the use of data in which providers have a one-way view of patient data in another provider's information system or indicators are produced for funding but their use is unspecified. At the highest level of data use and sharing, German programs shared clinical data, and New Zealand programs had a considerable emphasis on frequent local monitoring of indicators and quality improvement. Details of the approaches taken within countries are summarized in supplementary tables in the appendix.[9] Below we highlight examples of the approaches taken in each of the policy areas of our framework.

ANALYSIS OF SPECIFIC POLICY SUPPORTS

▶ **GOVERNANCE AND PARTNERSHIPS:** Twenty-three of the thirty programs reported that they were supported by some new form of governance or new collaborative partnerships between health and social care organizations. These twenty-three programs reported substantive changes in the governance of local health care, the extent of local partnerships required to implement the program, or both.

Most of the governance models that were created were described as steering committees. For example, a Swiss program was overseen by a steering committee that consisted of local care providers, health insurance companies, and public authorities. This committee's purposes were to undertake strategic management and ensure that the necessary conditions and prerequisites for successful development and implementation of the model program were met. The frequency with which steering committees were reported to meet varied widely across countries, from monthly to twice yearly. Most committees reviewed data and ensured that the program was advancing as planned, creating a form of local accountability. Some programs included service users and caregivers on the oversight committees. Local operational committees were also used, and they emphasized a multidisciplinary approach to care with a focus on enabling access to a wide array of services for patients.

A few programs had a formal governance board. A Canadian program for homeless people was overseen by a board of directors made up of representatives of the partners that contributed to the program either financially or with personnel. Some programs were described as having very distributed models that emphasized partnerships over committees.

The New Zealand programs emphasized partnerships between general practices and nongovernmental organizations (NGOs) and across NGOs—particularly those led by Maori people. The organization and structure of committees varied practice by practice. These partnerships emphasized the connections between local providers with deep local knowledge of services that could address both the medical and social care needs of patients.

▶ **WORKFORCE AND STAFFING:** New approaches to staffing or work roles were reported

as a feature in twenty-seven of the thirty programs. Similar to the area of governance and partnerships, in this area policy supports ranged across the continuum from local to national. We found that staffing changes made in an effort to create more integrated health and social care could be categorized broadly as expanding the roles of particular providers, adding new roles, or finding new ways of working for existing providers.. Respondents reported that nearly all of the programs that had supportive workforce or staffing policies also had new local efforts to have health and social care providers work together, with or without adding staffing roles. The dominant approach to this was the creation of multidisciplinary team–based care. This form of care sometimes required new incentives to create both time and motivation for staff to engage in team-based meetings. At times staffing policies involved centralized or national efforts. For example, in France advanced practice nurses were given expanded roles so they could take on tasks previously performed by physicians (for example, screening and patient education). Creating a new role to provide care coordination, navigation, or case management was also common. One German program employed nurses who had taken a specialized two-year national-level training program in case management at a recognized institution, including lessons in social law, case management, and nursing. Many other programs initiated a specific role for care coordination with less extensive training requirements.

▶ **FINANCING AND PAYMENT:** Just over half of the programs we studied identified financing and payment policy changes as essential supports. There was a continuum of approaches to financing and payment in support of innovation and sustainability. The most centralized policy supports involved new budgets created to cover the full cost of all health and social care services for the target populations. Germany, the United States, and the Netherlands all had innovative programs that used such aggregated or bundled budgets. In these cases, insurance funds for all related health and social care services were pooled in a single fund. This pooled fund was then used to provide a wide range of health and social care services for all enrolled people. In one German program there was an accompanying sophisticated risk-sharing contract with savings shared between the delivery organization and the insurance companies. In contrast, none of the programs in the United Kingdom and only a few programs in Canada or Australia indicated novel forms of financing. Rather, they relied on new envelopes of funding for central program supports. A very common form of indirect financial support was in kind, through the allocation of staff to clinical practices supported by program-specific funding.

Other programs used an approach in which the extent of pooled funding was limited to specific additional payments for program participation, above and beyond existing budgets. In some cases, these were at-risk funds, payable only on the achievement of performance targets for activities such as receiving smoking cessation advice or immunizations. In these programs the models were developed locally and supported by incremental program budgets. For example, one program in New Zealand combined supplementary per enrollee capitation payments from the district health board and the primary health organization, with some of that payment at risk contingent upon achieving program-specific goals. Other programs—for example, in France—paid physicians incremental fee-for-service payments for specific new activities. This second approach to funding retained existing payment mechanisms but added supplementary payments for new services associated with the programs.

At the other end of the continuum, some programs were supported by highly flexible local financing and payment policies. For example, one respondent in New Zealand reported that their program created a local discretionary fund to cover costs such as patient copayments for pharmacy services and even passes to swimming pools to encourage patients to get more exercise. Another example of this flexible use of funds was a program in the United States that had national support and obtained agreement from the Centers for Medicare and Medicaid Services to use funding to pay for flexible nonmedical supports that insurers would traditionally not cover.

▶ **DATA SHARING AND USE:** Perhaps surprisingly, only half of the programs had data sharing as a key program feature that distinguished it from usual care within the relevant country. The majority of programs did not report new approaches to data or information technology as being a key policy support. The most common way to use information technology to share patient information among providers was to allow one clinical group (for example, a hospital or primary care practice) to have access to the clinical records of another group. Access tended to be limited to viewing data instead of inputting data in a shared longitudinal patient care record. Where shared viewing was not enabled, there was a reliance on specific people to share information about patients across providers. Secondary uses of data varied, with some programs creating standard reporting on program statistics (such as number of patients), which mirrored

existing approaches to data monitoring in each country.

A few of the programs used rigorous third-party external (often university-based) evaluators to manage data and report on the program outcomes. These evaluations were shared first with oversight steering committees and then with the programs. At the other extreme were programs that had little formal evaluation but a clear focus on rapid-cycle data from programs (for example, patient volume) and from clients (for example, patient experience). These data were tracked and reported to teams or participating primary care practices to enable quality improvement and adjustments to the programs.

Some practices had strong local engagement with their data and used them rigorously to improve the programs, while others took a hands-off approach to data and left the monitoring of program outcomes to external and steering committees.

Discussion

We found that a common theme across thirty integrated health and social care programs for high-needs patients in eleven high-income countries was that their development, implementation, and spread were supported by new policies. The two most common forms of policy supports were new partnerships or shared joint governance structures and new approaches to staffing or roles that spanned sectors. Both of these policy supports focused on coordinating health and social care.[3,4] A key finding was that respondents for nearly all programs reported that two or more novel policy supports were important to program development and spread. These policy supports spanned the continuum from national to local. This suggests that providing better-integrated care requires policy changes at many levels.[3] Furthermore, our findings were consistent with the notion that in terms of both program design and policy supports, one size does not fit all countries or all high-needs populations.[12]

We found a mix of national or central policy supports and local or institutional supports. For example, some programs were supported by quite formal top-down governance structures, including representation from national funders (for example, insurance companies or ministries of health). This structure provided strategic advice, and in many cases, steering committees were held accountable for performance. In other integrated programs, the governance was less formal and more local, with the essential activity being to support the program through interactive local partnerships.

There is a great deal of interest and investment in electronic medical records and in real-time data sharing as a panacea for health system inefficiencies, particularly in systems of care for high-needs and high-cost populations.[3] Our survey found that although some programs had a very sophisticated data structure that supported real-time information sharing across providers, most programs had less sophisticated data structures or none at all, and hence data sharing was not an essential feature in most programs. The extent to which the limited information sharing represented working within existing limitations as compared to the potential benefits of using direct provider interactions to exchange information deserves further investigation. For example, respondents reported that in some programs, face-to-face, nuanced human communication provided by a case manager or in multidisciplinary care team meetings was central to success for patients with complex health and social care needs and that these local efforts might not require substantial new data sharing supports and infrastructure.

Innovation in the financing of care and reimbursement of providers is a policy lever that is available in both central government funding and insurance models of care. Innovative programs of care for populations with complex needs often rely not on centrally driven policy changes, but rather on shared resources whose allocation is determined on a more local level. New financing was used more in countries that relied on the use of insurance models to finance care, while government-financed health care systems relied more on new partnerships and changes in local governance as well as changes in workforce roles and increased emphasis on team-based care. The programs considered in this study often included both health care and social services, and those were often financed and staffed very differently. It appears that integrating health and social care services is made possible by relationship building at the local organization level, combined with creating new roles related to integration and real commitment to cross-sector teamwork.

Our analysis suggests that a comprehensive approach to support innovation involves combining national or top-down approaches (in which public funders and insurers use the funding, workforce regulation, data infrastructure investment, and governance functions that enable and ensure integration) with local or bottom-up approaches (which are based on new partnerships to empower coordination and support productive, coordinated teamwork across sectors). For example, optimal programs could combine central budgets from health and social care and redistribute the combined pay-

ment per patient to a local group of providers who have the bottom-up flexibility to decide what staff roles are required and what services can be provided. Similarly, cross-sector provider groups can target care for a target population group by building local relationships between providers that are supported by central changes in interorganizational governance.

Of the countries included in this study, Germany appeared to have enabled the broadest use of both top-down and bottom-up strategies. Much of this is attributable to the well-known Gesundes Kinzigtal example. Overall, the bottom-up policies appeared to be most important for the effectiveness of programs to improve patient outcomes, while the top-down policies enabled local implementation and supported the sustainability of integrated care programs.

Conclusion

The development and spread of the integrated health and social care programs we studied often relied on multiple innovative policy supports that primarily focused on governance and partnerships and on workforce and staffing, and less so on financing or data sharing. National policies were sometimes used to enable new forms of financing or to change workforce scopes of practice. However, most often bottom-up initiatives were developed by empowering local organizations to work together and be creative in implementing novel solutions and embedding integrated health and social care in cross-sector care delivery teams. Policy makers should consider a hybrid top-down and bottom-up approach[8] to support integrated care. That approach could be particularly useful in dealing with the complexities of bringing together sectors that have traditionally have been siloed. ■

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Integrating Data To Advance Research, Operations, And Client-Centered Services In California

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ABSTRACT The value of using administrative records for operational and evaluation purposes has been well established in health and human services. However, these records typically reflect the reach of a single government agency or program and fail to capture the experiences of individuals as they engage with different agencies or programs over time. Thus, the potential for these data to improve everyday operations, coordinate services, develop targeted interventions, and advance the science behind broader social policies has yet to be fully realized. A first step toward realizing that potential is to transition from an agency-centered to a client- or person-centered organization of data. We systematically linked tens of millions of records across California's largest health and human services programs. Our results underscore how the integration of records can help shift discussions from the programs that administer services to the people who are served.

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Social and economic factors distinct from medical care are powerful predictors of health outcomes and disease burden throughout a person's life.[1,2] From a population health perspective, this means that evidence-based policies that affect the broader conditions in which people are born, grow, and live can exert a powerful influence on health and well-being.[2,3] From an operational perspective, data-driven efforts to better coordinate human and social supports with the medical and health care sectors provide opportunities to deliver services that are more client centered, efficient, effective, and tailored.[4]

For these reasons, there has been broad interest in ways to enhance government agencies' ability to systematically assemble, securely share, and responsibly use administrative client data.[4–6] Numerous initiatives have emerged from philanthropic organizations, with funding for activities that range from advancing the rigorous testing of interventions and policies via randomized trials[7] to improving the use of evidence through research-practice partnerships between universities and the public sector.[8] Other efforts have received federal funding to develop statewide longitudinal data systems focused on education and the workforce.[9] Still other efforts have received private and public funding to promote the use of social impact bonds or "pay-for-success" models.[10]

Unfortunately, the potential of integrated data remains largely unrealized, to the detriment of both clients and communities. While there are numerous reasons why this work has not progressed more quickly,[11] none are insurmountable. In this article we describe the process by which the California Health and Human Services Agency (CHHS) partnered with university-based researchers to carry out its first agencywide data integration effort, which resulted in the linkage of more than thirty million client records. Based on these linkages, we present examples of the cross-program, client-centered insights that can be produced, and we describe the next steps for sustaining and expanding this effort.

Background

CHHS is a public agency that consists of twelve statewide departments, five offices, and various boards and commissions.[12] Collectively, CHHS invests significant resources in the delivery of programs designed to address negative social determinants for the state's most vulnerable and at-risk residents through the delivery of both short- and long-term public benefits—including food assistance, child care, health care coverage, housing support, employment support, child support services, child welfare, and many more. California's 2019 budget act allocated $163 billion ($41.9 billion from the general fund and $121.1 billion from other funds) for all health and human services programs.[13] The agencies and departments that administer these programs collect rich data about the characteristics of their clients. Statistical information derived from these client records can be an important way to inform program planning and accountability, while also driving improvement initiatives.[14–16]

Nevertheless, isolated program data are a blunt instrument for policy development and service coordination.[16] While each program captures data concerning discrete client encounters, typically absent is information concerning concurrent services and benefits that the same individual or family may have received through other CHHS programs. Also missing are data organized to document the timing, sequencing, and outcomes of service and program encounters both within and across departments. The absence of records integrated at the client level across CHHS programs limits the understanding of the collective size and impact of investments in public benefits, and it prevents a full assessment of population needs so that available resources can be strategically coordinated to reduce inequality. Because records are not integrated across programs, insights about client outcomes can be understood only through the lens of a single program, even though the client might well have received services from multiple programs.

Given the complex nature of CHHS's operational, fiscal, and regulatory commitments, this "program-centric" design of data collection increasingly impedes administration and planning. Further complicating efforts, records are currently maintained across distinct data systems using unique client identification keys that are assigned program by program: There is no universal or common client identifier captured across CHHS programs. Fortunately, advances in machine learning and probabilistic matching techniques have facilitated increasingly rigorous, accurate, and efficient ways for government agencies to connect client records to support the design and administration of large-scale programs.[17–19]

In 2017 CHHS partnered with researchers at the Children's Data Network at the University of Southern California to pilot an agencywide effort to systematically integrate, organize, and analyze administrative client records. The effort was conceptualized as a "record reconciliation"; the goal was both to demonstrate the feasibility of linking tens of millions of records quickly, accurately, securely, and cost-effectively and to facilitate the cross-program and cross-departmental exchange of statistical information about common clients.[20] This initial pilot was based on records from 2016 and led to the creation of encrypted linkage keys that connected client-level records across eight of CHHS's largest health and human services programs, from food stamps and public reproductive health programs to child welfare services. In 2019 this pilot was extended to incorporate records from additional years (2015–18) and to include vital birth and death records. Agreements were also signed with the CHHS Office of Statewide Health Planning and Development to additionally integrate emergency department, ambulatory surgery, and hospitalization records with the other data.

Study Data And Methods

DATA AGREEMENTS Two key CHHS data sharing agreements govern data integration activities for research and operational purposes. First, an intra-agency data exchange agreement covers the exchange of data among departments within CHHS in compliance with all applicable federal, state, and local laws, regulations, and policies.[21] As the sole agreement for data exchange among CHHS departments, it eliminates the need for the departments to enter into "point-to-point" agreements except where an alternative agreement is required by the federal government or federal law. Second, to carry out record linkages and produce curated data sets, an interagency data sharing agreement was signed by CHHS, participating departments, and the Children's Data Network.

DATA For the pilot, we integrated the records of individuals eligible for services from a CHHS program in the period January 1, 2015–December 31, 2018. We additionally linked information concerning birth (children born and the legal parents associated with the birth) and death events, as recorded in California's vital records. Analysts from each CHHS program extracted a defined set of personally identifiable information concerning individuals who were eligible for services for at least one month in the period

2015–18. Records for developmental services were not available for 2015, and vital birth and death records were available only for 2015–17. *Personally identifiable information* was defined as any information maintained by CHHS or its departments that could be used on its own or with other information to identify an individual. Data elements used for linkage purposes included both unique (such as Social Security number) and nonunique (for example, first and last names) fields. Personally identifiable information was used solely for deduplicating client records within a given program data file and linking client records across program data files. Exhibit 1 provides a list of participating departments, along with program descriptions.

RECORD TRANSFER Records were extracted, encrypted, and then transmitted by individual programs within CHHS departments to the Children's Data Network. Some programs transferred a file already assembled to reflect a calendar year cohort (for example, all unique individuals eligible in a given year), while other programs transferred files that reflected monthly logs of eligible clients. In accordance with data security protocols, all program data sets were processed on a dedicated, non-networked server. Once the information was decrypted, a series of procedures were used to clean, standardize, and organize records into a Structured Query Language (SQL) database. Record-level identifiers were assigned as a way to inventory transferred information. A within-program client identifier—typically the program's internal alphanumeric client key—was documented and retained. Given that birth records could contain

EXHIBIT 1

Departments of the California Health and Human Services Agency and sources of data that were included in the record reconciliation pilot

Department	Program or other source	Description
California Department of Social Services	CalFresh	Known federally as the Supplemental Nutrition Assistance Program (SNAP), CalFresh provides monthly food benefits to low-income individuals and families and economic benefits to communities.
	CalWORKs	Known federally as Temporary Aid to Needy Families (TANF), CalWORKs is a welfare program that gives cash aid and services to eligible California families.
	Child Welfare Services	Child Welfare Services is California's program for child protection and associated foster care services and preventive interventions.
	IHSS	IHSS provides in-home assistance to eligible aged, blind, or disabled people as an alternative to out-of-home care and enables recipients to remain safely in their own homes.
California Department of Developmental Services	Developmental services	This department is the agency through which California provides services and supports to people with developmental disabilities, including intellectual disabilities, cerebral palsy, epilepsy, autism, and related conditions.
California Department of Health Care Services	Medi-Cal	Medi-Cal is California's Medicaid program. This public health insurance program provides needed health care services for low-income people, including families with children, seniors, people with disabilities, pregnant women, and low-income people with specific diseases.
	Family PACT	Family PACT provides comprehensive family planning education, assistance, and services to low-income Californians of childbearing age.
California Department of Public Health	WIC	WIC provides nutrition education and counseling; breast-feeding support; referrals to health care and other community resources; and vouchers for families to purchase specific foods that provide key nutrients needed by pregnant and breast-feeding women, infants, and young children.
California Department of Public Health, Center for Health Statistics and Informatics and State Registrar	Vital birth and death records	Vital birth and death events are recorded via the state's registration process. The center is responsible for compiling registered information. The Vital Statistics Advisory Committee ensures that all research using vital statistics is consistent with the guidelines provided by the center and satisfies state statutes governing the use of these data.
Office of Statewide Health Planning and Development	ED, patient discharge, ambulatory surgery records	The office manages the collection and provision of out- and inpatient encounters in California-licensed hospitals and clinics for approved research and program operations.

SOURCE Authors' analysis of documentation from the record reconciliation pilot. **NOTES** Data from the Office of Statewide Health Planning and Development were not reported in this study because those records had not yet been linked to other CHHS program data. CalWORKs is California Work Opportunity and Responsibility to Kids. IHHS is In-Home Supportive Services. Family PACT is Family Planning, Access, Care, and Treatment. WIC is Special Supplemental Nutrition Program for Women, Infants, and Children.

information for three people, every record was split into person-specific records: one each for the child who was born; the mother who gave birth; and the father or second legal parent, if named.

RECORD LINKAGE MODEL We used an open-source, machine-learning record linkage software program, ChoiceMaker (version 2.7.1), for both within-program matching (or deduplication) and between-program linkages (such as linking records from the Special Supplemental Nutrition Program for Women, Infants, and Children [WIC] to child welfare records). ChoiceMaker employs probabilistic matching and modeling techniques for record linkage.[22] To develop the record linkage model, data scientists at the Children's Data Network developed a set of logical instructions, or model features, to examine commonalities between fields originating in different records. Individual features were then combined into a single linkage model that was used to determine the degree to which two records contained similar or dissimilar information. Each coded feature emerges with a weight, which indicates its relative predictive significance in determining a match. Based on a machine learning mathematical model called Maximum Entropy,[23,24] an overall probability is generated to describe the likelihood that two records describe the same person (that is, a match likelihood).

To support an iterative model development process, samples of record pairs were systematically extracted for clerical review. For each record pair, a reviewer determined whether the records should be categorized as referring to the same person (they matched), two different people (they differed), or a hold (not enough information). Manually marked record pairs were then returned to ChoiceMaker Analyzer, a module of the software. The linkage model incorporates or "learns from" the human decisions that were made and subsequently updates feature weights to best reproduce those decisions. This process is called training a model. When a trained model was subsequently applied to new record pairs, we found that ChoiceMaker probabilities closely predicted how a human expert would mark those records.

LINKAGES The algorithm was first configured to identify within-program matches, or records from a single program file that were probabilistically determined to represent the same person—even though they were recorded under different source client keys. Records with at least an 80 percent probability of being a match were coded as duplicates. These within-program matches typically reflected records in which there was missingness on a key personal identifier used to search for and assign a client key in a source data system. Following efforts to identify duplicate records, the software then deployed the linkage model to document between-program matches in a pairwise fashion. Once again, a threshold of 80 percent probability was used to classify two records from different programs as containing information about the same person. Additional methodological details and linkage information are available from the authors upon request.

ANALYSES After record linkages were completed, the files were stripped of personally identifiable information, and analytic files were created. Alphanumeric linkage keys generated through the linkage process allowed an examination of a client's cross-program interactions within and across years. All individuals were classified based on demographic information (sex, race/ethnicity, and age) and geography (such as county of residence or legislative district), as recorded in the administrative records for a given program. Descriptive statistics were calculated based on the full, unduplicated census of individuals eligible for services in each CHHS program. All analyses were coded in Stata, version 16.

HUMAN SUBJECTS AND INSTITUTIONAL REVIEW BOARD APPROVALS Data security protocols, record linkages, and analytic plans were reviewed and approved by the University of Southern California's Institutional Review Board, the CHHS Committee for the Protection of Human Subjects, and California's Vital Statistics Advisory Committee.

Study Results

POPULATION On the health side of CHHS, there were 19.8 million unique individuals with certified Medi-Cal eligibility in 2015–18 and 3.7 million Californians who received reproductive health services through the Family Planning, Access, Care, and Treatment (Family PACT) program. On the human services side of CHHS, there were approximately 8.7 million people who received monthly food benefits from CalFresh; 2.7 million clients in the California Work Opportunity and Responsibility to Kids (CalWORKs) program, a welfare program that gives cash aid and services to eligible people in California; 3.9 million WIC enrollees; roughly 800,000 people who received benefits from the In-Home Supportive Services (IHSS) program; 627,500 children and parents associated with an open child welfare case; and half a million people with needs assessed for, or who were receiving, developmental services. During the study period, individuals who interacted with one or more CHHS programs were also associat-

ed with roughly 2.1 million registered birth events (either as a child born or as a parent) and approximately 300,000 deaths. The percentage of records determined to be duplicates within each program was relatively low, ranging from 0.02 percent for IHSS to 6.8 percent for Family PACT. For larger programs such as Medi-Cal, CalFresh, CalWORKs, and WIC, the share of duplicates was always less than 2 percent.

AGGREGATED MULTIPROGRAM DATA Examples of descriptive information that can be generated from integrated health and human services records are in the online appendix.[25] In appendix exhibit 1 we present information about the distribution of children versus adults who interacted with each CHHS program in 2017.[25] Notable variations emerged by program. In Medi-Cal, 36.0 percent of beneficiaries were younger than age eighteen. Meanwhile, the share of children among people who received CalWORKs benefits was 74.6 percent. In appendix exhibit 2 we show the numbers and percentages of children who were involved in multiple CHHS programs during the study period (2015–18).[25] We found that among the roughly 1.4 million young children enrolled in WIC in 2017, two-thirds were concurrently or sequentially enrolled in CalFresh during the study period, and 8.3 percent received developmental service supports. Appendix exhibit 3 illustrates the numbers of programs with which children interacted during the study period.[25] We found that among children with an open child welfare case in 2017, 30.8 percent interacted with five or more CHHS programs during the study period, but this was true of only 6.2 percent of children in CalWORKs. In appendix exhibit 4 we illustrate additional metrics that can be produced by presenting cross-program statistics stratified by demographic variables for a specific program (CalWORKs) in a given calendar year (2017).[25] We found that a larger percentage of white children in CalWORKs had open child welfare cases (5.6 percent), compared to black and Hispanic children (4.9 percent and 4.0 percent, respectively).

To promote transparency and encourage interest in integrated data, aggregated (deidentified) cross-program data from these linkages are available on the CHHS Open Data Portal.[26]

CLIENT-LEVEL LINKED RECORDS To facilitate the use of integrated data for operational and evaluation activities, individual program files were transferred back to the CHHS department with authority for the source records. Each file was returned with cross-program linkage keys and associated match probabilities. To ensure client confidentiality and careful governance during the pilot, files were returned with pairwise (program to program) encrypted linkage keys, rather than a single "master" client identification number. Additionally, returned files included linkage keys that reflected actual matches to records in other programs, as well as randomly generated linkage keys that, when used, would not return data. We adopted these approaches to ensure that a client's cross-program participation (and accompanying service information) could be determined only through a separately governed data exchange approval process within CHHS.[27]

Discussion

Health and human services agencies are charged with delivering defined services and managing discrete programs.[4,28] Using integrated data to conceptualize client-centered, cross-program outcomes or to align programmatic activities is a secondary operational objective, at best. Similarly, developing and sustaining an infrastructure that possesses both the necessary agency authority and the resources to link records and host integrated data sets is clearly a challenge—as evidenced by the lack of government agencies that have successfully done so.[29]

Yet findings from California's record linkage efforts document several important dynamics and reinforce the value of cross-program data. First, from the perspective of minors served by CHHS, more children than not had concurrent or sequential involvement with other programs within the agency (appendix exhibits 2–4).[25] Even in the largest program, Medi-Cal, three-quarters of the children interacted with at least one additional health or human services program. Linkages underscore the opportunities to develop targeted strategies that might be delivered through more coordinated services in California, with a focus on improving outcomes, preventing adversities, and advancing equity throughout the life course.

Second, data integration efforts need not take years or cost millions of dollars. To be clear, what has been created is not a system designed to produce "real time" cross-program data. Nonetheless, CHHS now has a well-documented and routinized process for inventorying, cleansing, standardizing, and linking client-level records across its health and human services programs. The frequency with which these linkages are conducted can be modified to meet evolving operational needs. The systematic and periodic creation of cross-program linkage keys enables CHHS and its departments to avoid inefficiencies that otherwise arise from ad hoc data integration efforts specific to individual use cases. It also ensures that the same rigorous record link-

age methodologies are used across programs. While client records concerning the administration of CHHS programs continue to originate in distinct administrative data systems, CHHS now has linkage keys that can be used to connect those records while still ensuring the proper governance.

Finally, and most importantly, this data integration effort supports CHHS's efforts to achieve better outcomes for all Californians through a richer evaluation of policy options, improved stewardship of taxpayer dollars, and more coordinated design and delivery of public services. Using individual-level program linkage keys, researchers and policy makers can begin to conduct person-centered research that examines the timing, sequencing, and outcomes of service and program encounters both within and across departments. Because California's population is so diverse, and because the state has a decentralized, county-level approach to delivering services, in principle there are many opportunities to evaluate and compare the effectiveness of different programs for individuals and their families. These opportunities are only rarely exploited. Variations across demographic groups and geographic regions can be used to help reveal important questions about service access, population need, and equity.[30]

To further an agency shift toward client-centered services and cross-departmental collaboration, CHHS is working with the Children's Data Network and other partners to develop a secure, cloud-based research enclave for hosting record-level research data sets and accompanying linkage keys. Once operational, this environment will provide carefully controlled, role-based access to analysts within CHHS. In the longer term, the goal is to develop protocols that, with necessary approvals, will give external university-based and other research partners access to curated data sets and statistical resources within this analytic environment. It is anticipated that this secure platform will advance rigorous evaluation, improve the reproducibility of research, create efficiencies in data management, and further the engagement of university-based researchers with government. Additionally, we believe that a research data hub will enhance record security and client confidentiality through data access and security protocols that can be more carefully audited.

Conclusion

The ambitious data linkage effort undertaken by CHHS provides a remarkable new source of integrated administrative data. The resulting population-based, cross-program data can be leveraged to better characterize the public service trajectories, experiences, and outcomes of Californians over time. With exceptionally broad coverage of the population, these data provide a unique opportunity to improve coordination among programs for the people CHHS serves and to document the impact of the programs implemented. ■

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Integrating Health And Human Services In California's Whole Person Care Medicaid 1115 Waiver Demonstration

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ABSTRACT **Policy makers are increasingly investing in programs focused on identifying and addressing the nonmedical needs of high-utilizing Medicaid beneficiaries, yet little is known about these programs' implementation. This study provides an overview of early progress in and strategies used to implement California's Whole Person Care (WPC) Pilot Program, a $3 billion Medicaid Section 1115(a) waiver demonstration project focused on improving the integrated delivery of health, behavioral health, and social services for Medicaid beneficiaries who use acute and costly services in multiple service sectors. WPC pilots reported significant progress in developing partnerships, data-sharing infrastructure, and services needed to coordinate care for identified patient populations. We also identified major barriers to WPC implementation, such as difficulty identifying and engaging eligible beneficiaries and the lack of affordable housing. Our findings offer insights to leaders and policy makers interested in testing new approaches for improving the health and well-being of medically and socially complex patients.**

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High-risk, high-utilizing patient populations often have complex medical, behavioral health, and social needs that necessitate an integrated approach to care.[1,2] Across the US, health care policy makers and payers are increasingly investing in programs that aim to reduce costly use of acute care and improve health outcomes by more effectively identifying and addressing patients' nonmedical needs.[3,4] Medicaid managed care programs in thirty states encourage screening and referral for social needs,[5] and a growing number are piloting care management interventions with medical, behavioral, and social components.[6] In many states policy makers are also using waivers, state plan amendments, and other creative strategies to fund social supports not typically covered under Medicaid.[7,8] However, approaches vary across states, and information on their implementation and impact remains limited.

Using a unique and ambitious demonstration program implemented through its latest Medicaid Section 1115(a) waiver, California is at the forefront of efforts to systematically address patients' social needs. The program, called Whole Person Care (WPC), promotes the integrated delivery of care for Medicaid beneficiaries who use acute and costly services in multiple service sectors. Under WPC, eligible beneficiaries receive care coordination and other services to address identified medical, behavioral health, and social needs with the aim of improving their health outcomes and overall well-being. Successful implementation requires significant investment in the development of infrastructure and processes needed to effectively integrate care, and challenges and lessons learned may inform similar efforts elsewhere in the US. In this study we provide a broad overview of the WPC program and describe data-sharing infrastructure and activities used to integrate health and human ser-

vices to enhance the well-being of eligible beneficiaries. We also describe major challenges—and strategies used to address them—during the first three years of the program.

California's Whole Person Care Pilot Program

WPC was designed to integrate all care of high-utilizing Medicaid beneficiaries.[9] In 2016 twenty-five pilot programs that represented the majority of the counties and one city in California (see below) began implementing WPC for a five-year period that ends in December 2020. The total budget was $3 billion, which included a $1.5 billion investment from participating pilots to implement WPC and $1.5 billion in matching funds from the Centers for Medicare and Medicaid Services (CMS).

Pilots consisted of partnerships of county health agencies, Medicaid managed care plans, community-based providers, and other public agencies, with each partnership having a lead entity that was responsible for program implementation and reporting. Pilots were required to include at least one Medicaid managed care plan, one health services agency, one specialty mental health agency, one other type of public agency, and two community partners. Pilots were also required to select one or more target populations identified by the state, which included people who were high users of health care, experiencing homelessness, or at risk of homelessness; those with severe mental illness, substance use disorder, or both; those recently released from jail or prison; and those with multiple chronic conditions.

Pilots had to provide care coordination services and demonstrate increased access to social services (for example, housing support, or benefits assistance), but otherwise they had the flexibility to tailor their programs to reflect local needs and available resources. Pilots were also encouraged to develop infrastructure needed to facilitate effective cross-sector care coordination and to report progress on selected health outcomes. The demonstration was subject to an independent evaluation that was required under Section 1115(a) waiver rules.[9]

Study Data And Methods

DATA AND SAMPLE We used data that came from multiple sources and had been gathered as part of the statewide evaluation of WPC to characterize pilot programs' activities and identify early challenges and lessons learned. These sources included applications, narrative and enrollment reports, and invoices submitted by pilots to the California Department of Health Care Services in the period July 2016–December 2018; organizational surveys of lead entities and their key WPC partners conducted in 2018; and key-informant interviews conducted in 2018 and 2019.

We used applications and biannual narrative reports to summarize pilots' goals and activities. Application budgets and invoices were used to track WPC expenditures, which were organized into the following categories: funds allocated for the development of administrative and delivery system infrastructure needed to implement WPC; reimbursement on a fee-for-service basis or per member per month for bundled services; and performance incentives used to incentivize the achievement of WPC goals. Quarterly enrollment reports were used to identify the number of unique individuals enrolled in WPC in the period January 2017–December 2018, as well as the average length of enrollment in the program. Pilots focused on infrastructure development in 2016 and began enrolling beneficiaries in 2017.

We administered organizational surveys to all lead entities (with a 100 percent response rate) and 227 partners (with a 47 percent response rate) in the period July–September 2018. Survey questions addressed pilots' motivation for participating in WPC, pre-post changes in infrastructure developed to support care coordination activities, and strategies used by pilots to identify and engage eligible beneficiaries.

We followed the surveys with interviews of 221 key informants across all pilots in September 2018–May 2019. Key informants included organizational leaders, managers, and frontline staff involved in implementing WPC. Interviews took place either in person during in-depth site visits or by telephone, and they were conducted using a semistructured interview guide. Interview questions were tailored based on key informants' roles in the program. On average, interviews lasted eighty minutes. Interview questions provided additional insights into the infrastructure that was developed, implementation processes, and challenges and lessons learned during the first three years of WPC implementation. With key informants' consent, all except one interview were recorded and professionally transcribed. We used written notes for the remaining interview. All qualitative data were uploaded into QSR NVivo to facilitate analysis.

ANALYSES Quantitative data (for example, from surveys) were tabulated and descriptively analyzed. Narrative reports, interviews, and other qualitative documents were coded using a collaborative and iterative process. A preliminary codebook was developed based on the logic model that informed the overall evaluation as well as independent open coding of multiple documents

(such as narrative reports and interview transcripts) by three of the authors. Initial codes were applied to a subset of interviews, and the codebook was revised to clarify construct definitions and incorporate newly emerging themes in the data. All qualitative data were reviewed and coded by at least two of the authors. Discrepancies in coding were discussed until consensus was reached. Analyses in this article build on prior WPC evaluation findings,[10,11] but they include additional data from invoices, organizational surveys, key-informant interviews, and more recently submitted narrative reports—as well as new analyses that focus specifically on health and human services integration. Selected quotes from frontline staff interviews are used to illustrate key concepts.

LIMITATIONS Our study had several limitations. First, the data were self-reported and subject to recall bias, reflect only interim findings from the WPC Pilot Program, and do not include data regarding the program's impact on health care outcomes because of our focus on implementation. Second, we did not directly interview WPC enrollees, although we interviewed staff members, who provided information on enrollees' experiences.

Study Results

PILOT CHARACTERISTICS Exhibit 1 identifies the pilot programs' lead entities and provides information about the number of partners involved in each program and the size of county populations and populations served.

Pilots had inherent commonalities but differed in program structure, populations targeted, enrollment size, and funds expended (exhibit 2). Online appendix exhibit A1 illustrates major WPC program activities and provides examples of how they were implemented by different pilots.[12] To facilitate the integration of health and human services, many lead entities reported partnering with the county housing authority

EXHIBIT 1

Lead entities, numbers of partners, area populations, and populations served for Whole Person Care pilot programs in California

Lead entities	No. of partners (2018)	Population in millions (2018)	Population served (2017–18)
Alameda County Health Care Services Agency	34	1.66	8,916
City of Sacramento	24	0.50	1,690
Contra Costa Health Services	11	1.15	30,840
County of Marin Department of Health and Human Services	29	0.26	1,038
County of Orange Health Care Agency	24	3.21	7,337
County of San Diego Health and Human Services Agency	19	3.33	536
County of Santa Cruz Health Services Agency	18	0.28	448
County of Sonoma Department of Health Services Behavioral Health Division	13	0.50	744
Kern Medical Center	15	0.91	6,119
Kings County Human Services Agency	8	0.15	889
Los Angeles County Department of Health Services	50	10.25	32,167
Mendocino County Health and Human Services Agency	8	0.09	260
Monterey County Health Department	16	0.44	1,560
Napa County	11	0.14	276
Placer County Health and Human Services Department	20	0.39	269
Riverside University Health System Behavioral Health	15	2.41	4,659
San Bernardino County Arrowhead Regional Medical Center	9	2.17	2,471
San Francisco Department of Public Health	9	0.88	12,996
San Joaquin County Health Care Services Agency	14	0.76	823
San Mateo County Health System	6	0.77	3,092
Santa Clara Valley Health and Hospital System	35	1.95	3,391
Shasta County Health and Human Services Agency	10	0.18	236
Small County Whole Person Care Collaborative (in Mariposa and San Benito Counties)	21	0.79	231
Solano County Health and Social Services	12	0.44	155
Ventura County Health Care Agency	37	0.86	1,995

SOURCE Authors' analysis of applications, invoices, and enrollment and utilization reports submitted by lead entities to the state Medicaid agency between January 2015 and December 2018, and 2018 State of California Department of Finance population estimates.

EXHIBIT 2

Characteristics of Whole Person Care (WPC) pilot programs in California

	Mean or %	Minimum	Maximum
STRUCTURE			
Led by county health agency	52%	0%	100%
Mean number of partners	18	6	50
Partners actively involved in WPC	47%	0%	100%
Care coordination services subcontracted to WPC partners	76%	0%	100%
TARGET POPULATION			
High utilizers	63%	0%	100%
Homeless people	59%	0%	100%
People with SMI, SUD, or both	48%	0%	100%
Justice-involved people	15%	0%	100%
ENROLLMENT			
Mean per pilot	4,357	74	30,840
Mean length, months (SD)	11.5 (6.9)	1	24
WHOLE PERSON CARE FUNDS			
Mean per pilot (millions)	$56.27	$2.67	$543.22
Spent on infrastructure	26%	3%	78%
Spent on services	46%	11%	83%
Spent on incentives	28%	2%	76%
Mean per WPC service recipient	$17,503	$2,602	$49,499
Mean FFS and PMPM service expenditures per enrollee	$6,147	$382	$26,489

SOURCE Authors' analysis of applications, invoices, enrollment reports, and narrative reports submitted by lead entities to the state Medicaid agency in July 2016–December 2018. **NOTES** Pilots could select more than one target population. SMI is serious mental illness. SUD is substance use disorder. SD is standard deviation. FFS is fee-for-service. PMPM is per member per month.

($n = 15$), other agencies that provided housing or housing support services ($n = 19$), local probation departments ($n = 19$), county human services agencies ($n = 16$), or other community-based human services organizations ($n = 23$) (data not shown). Multiple pilots identified the active involvement of county human services agencies as critical for designing work flows and services that could effectively meet enrollees' nonmedical needs.

During the first two years of service provision (January 2017–December 2018), pilots enrolled a cumulative total of 108,913 unique beneficiaries (data not shown), averaging 4,357 unique enrollees per pilot (exhibit 2). Pilots also provided services such as outreach or sobering center stays to an additional 14,225 Medicaid beneficiaries not yet enrolled in WPC (data not shown).

To fund WPC, pilots received a total of $1.41 billion between January 2016 and December 2018. As shown in exhibit 2, on average, 26 percent of these funds were allocated for infrastructure development, 46 percent for services delivered, and 28 percent for performance incentives. Additional analyses revealed that the proportion of funds spent on infrastructure was significantly higher among pilots with limited interagency collaboration, data-sharing infrastructure, or both in place before WPC (data not shown). Variation in average service expenditures per enrollee typically reflected differences in target populations and in the scope and intensity of services provided.

DATA SHARING INFRASTRUCTURE AND IMPLEMENTATION WPC pilots varied in their extant data-sharing infrastructure and in approaches toward data sharing, as shown in appendix exhibit A1.[12] Pilots also varied in how shared data were used—for example, in collaborative program planning, the identification of target populations, outcome reporting, performance improvement, and to support frontline care coordination activities. However, all pilots reported significant increases in data-sharing capacity over time. For example, eight pilots (32 percent) reported having no formal data-sharing agreements with any partners before WPC (data not shown), but by December 2018 all had developed data-sharing agreements with at least some partners, and fifteen had developed agreements with all of their partners.

The majority of pilots developed electronic platforms for tracking care coordination activities (for example, care plans, encounter notes, and service referrals) (exhibit 3), although duplicative data entry and managing multiple disparate systems remained a challenge for most pilots. Thirteen of the pilots also reported participating in a health information exchange, most of which were developed as part of WPC. However, additional analyses revealed that only five of these exchanges included information on enrollees' social services encounters or social determinants of health (such as income and housing), and only two included local probation departments and community-based organizations as active participants (data not shown). In terms of health information exchange functionality, most pilots reported using an exchange to support aggregate data reporting, but only six pilots reported using an exchange to track enrollees across multiple service systems. Moving forward, most pilots planned to make additional investments in infrastructure to improve the integration of human services data and the access to and usability of shared data by frontline staff.

SERVICES AND IMPLEMENTATION All pilots were required to provide care coordination services under WPC. However, pilots also offered a broad array of other health and human services (for example, housing support, benefits assistance, and medical respite) selected to reflect local needs (exhibit 3). Most services were reimbursed using per member per month payments for predefined bundles of services. Pilots

had considerable discretion in defining service bundles and in the requested reimbursement per bundle, and eleven pilots chose to tailor per member per month bundles based on their target population, enrollee risk level, or both. Appendix exhibit A2 provides additional information regarding services that were reimbursed per member per month or by fee-for-service and offered by each pilot as part of WPC.[12]

Most pilots used field-based outreach to identify, engage with, or assess the eligibility of prospective enrollees for WPC. To help fund these efforts, fourteen pilots chose to separate outreach and engagement into distinct fee-for-service or per member per month bundles instead of including them as part of a care coordination per member per month bundle.

The scope and intensity of care coordination services varied considerably within and across pilots, but at a minimum the services included comprehensive assessment of enrollees' medical and nonmedical needs, development of patient-centered care plans, linkages to needed services, and tracking of enrollees' goals over time. Care coordination services were typically provided by multidisciplinary teams, with a single care coordinator serving as the primary point of contact. In thirteen pilots (52 percent), this contact varied based on clients' needs, point of entry into WPC (for example, a hospital or a shelter), or both. Given the complexity of care needs in WPC target populations, all teams included at least some staff with clinical expertise (such as a nurse, social worker, and physician)—though sometimes only in a supervisory role.

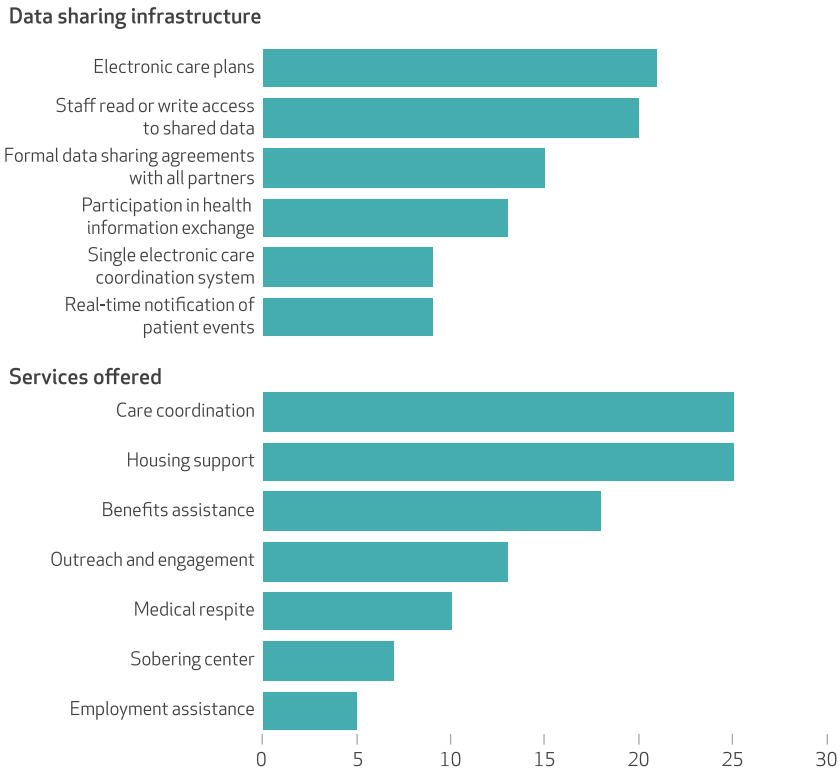
Care coordination caseloads also varied considerably across pilots, depending on the projected acuity of the target population, planned intensity of contact with enrollees, and nature of the care coordination services provided. For example, three pilots reported assigning fifteen or fewer enrollees to each care coordinator to allow for the provision of highly intensive case management services. By contrast, three pilots reported caseloads of a hundred or more per care coordinator, with services focused primarily on referrals to needed care. More detailed information regarding WPC care coordination staffing and activities within each pilot is available elsewhere.[13]

All pilots chose to provide housing support services, primarily via per member per month service bundles (exhibit 3), and 67 percent of WPC enrollees received these services (data not shown). Housing support services were generally described as time intensive, with one staff member estimating that face-to-face case management took an average of thirty-six hours per enrollee per year. The majority of pilots provided assistance in applying for, obtaining, or maintaining public benefits (for example, Medicaid, the Supplemental Nutrition Assistance Program, and either Supplemental Security Income or Social Security Disability Insurance) (exhibit 3), and 69 percent of enrollees received WPC services that included benefits assistance (data not shown). Only five pilots offered employment assistance (exhibit 3), though 45 percent of enrollees received WPC per member per month bundles that included employment assistance (data not shown).

Fewer than half of pilots offered sobering center stays or medical respite (exhibit 3). However, the pilots that provided these services described them as addressing important gaps in existing systems of care. By December 2018 approximately 24 percent of WPC enrollees with serious mental illness or substance use disorder had received services that included sobering center stays, and 5 percent of homeless enrollees had received medical respite (data not shown). The length of medical respite varied across pilots, with one pilot providing one to three days and several others permitting up to three months.

EXHIBIT 3

Numbers of Whole Person Care pilots in California that had types of data-sharing infrastructure and offered selected services, January 2016–December 2018



SOURCE Authors' analysis of information from organizational surveys conducted in the period July 2018–September 2018 and key-informant interviews conducted in September 2018–March 2019.

CHALLENGES AND STRATEGIES USED Pilots identified multiple challenges to WPC implementation and described strategies used to address these challenges (exhibit 4).

▶ **PARTNER ENGAGEMENT:** Pilots generally perceived WPC as improving integration of care within previously siloed systems and reported stronger collaboration with WPC partners over time. However, the majority of lead entities identified at least some difficulty with partner engagement, and eight lead entities described low partner engagement as one of the biggest barriers to WPC. Most lead entities reported high buy-in from Medicaid managed care plans, hospitals, and social service agencies, whereas thirteen of the nineteen pilots (68 percent) that included justice system partners reported low buy-in from this sector. Commonly cited reasons for low partner engagement included competing priorities, lack of trust or knowledge, differing organizational incentives, and fear of violating patient privacy and confidentiality regulations. Strategies used by pilots to strengthen partner engagement included proactive and consistent communication over time, clarifying mutual goals for shared clients, and developing formalized contracts that clearly defined partners' roles and accountability for WPC activities. Pilots also provided partners with financial incentives for achieving WPC goals.

▶ **DATA SHARING:** Twenty pilots (80 percent) reported difficulty implementing planned data-sharing systems or integrating health and human services data, and twelve pilots (48 percent) identified data sharing as one of the biggest barriers to implementing WPC. Sixteen pilots (64 percent) identified patient privacy and confidentiality regulations as a major root cause of these barriers, and nine pilots explicitly referred to Title 42 of the Code of Federal Regulations, Part 2, as complicating efforts to share data on substance abuse treatment. Other pilots noted that even when legal barriers were removed, fear and risk aversion negatively affected partners' buy-in and willingness to share information.

Several pilots described regulatory barriers to data sharing as having a negative impact on planned strategies for identifying and enrolling eligible beneficiaries in WPC. For example, several pilots reported that Medicaid managed care plan partners would not share lists of high-utilizing patients who were eligible for WPC without prior patient consent, which created a "chicken and egg" problem for frontline staff: "If I have a client in the hospital, I can't contact the hospital to discuss outreach.... But [then] how do you get the signed release...?"

Strategies most commonly used by pilots to address data-sharing concerns included developing universal consent forms that provide authorization for the release of information to all WPC partners, segmented consent forms that allow patients to select the types of data they are willing to have shared (for example, consent to share

EXHIBIT 4

Major challenges in Whole Person Care implementation in California and strategies to address them

Challenges	Pilots affected	Strategies
Partner engagement	19 (76%)	Proactive and consistent communication, clarifying mutual goals for shared clients, formal contracts, and financial incentives
Data sharing	20 (80%)	Universal consent forms, segmented consent forms that allow patients to select which types of data they are willing to have shared, and temporary solutions (for example, Box and SharePoint) to facilitate data sharing until more permanent solutions can be implemented
Identifying eligible beneficiaries	20 (80%)	Cluster calling, entailing multiple contact attempts within a short period of time; integrating different administrative data sources to identify good contact information; use of referrals to identify beneficiaries ready to engage in care; use of field- or clinic-based outreach to find homeless beneficiaries with outdated contact information; clear referral criteria; marketing to partners; and incentivizing referrals
Engaging beneficiaries in care	24 (96%)	Field-based outreach, rapid response to referrals, managing Medicaid churn, use of staff with lived experience, developing patient-centered care plans, meeting patients where they live or congregate, having sufficient time and continuity of staff for relationship building, identifying patients amenable to change, and tracking Medicaid renewal dates to prevent lapses in coverage
Access to affordable housing	24 (96%)	Flexible housing pool subsidies, housing vouchers, landlord agreements, capital investment in housing, continued involvement of staff with landlords to maintain housing placements, and advocacy
Access to other services, given high patient complexity	10 (40%)	Investment in services that address gaps in care (for example, medical respite or recuperative care)

SOURCE Authors' analysis of narrative reports submitted by lead entities to the state Medicaid agency in January 2016–December 2018 and of information from key-informant interviews conducted in September 2018–May 2019.

We found increases in the data sharing and delivery-system infrastructure needed for cross-sector coordination of care.

medical history and social service data but not substance abuse treatment records), or both. When appropriate, pilots also implemented temporary electronic solutions such as Box and SharePoint to facilitate data sharing until more efficient and permanent systems could be procured or implemented.

▶ **IDENTIFYING ELIGIBLE BENEFICIARIES:** Twenty pilots (80 percent) also reported difficulty identifying eligible beneficiaries. Initially, ten pilots (40 percent) planned to identify eligible beneficiaries by using only lists provided by managed care plans and other data-driven approaches. However, by 2018 twenty-one pilots (84 percent) reported relying on referrals from WPC partners or a combination of data, referrals, and outreach to identify prospective WPC enrollees. Pilots cited several reasons for shifting away from a solely data-driven approach, which included missing or inaccurate information (such as phone numbers and housing status) within available administrative data, difficulty obtaining data from managed care plans without prior patient consent, or both. Multiple pilots also noted that only a small percentage of contact efforts made using administrative data were successful and that even when contact was made, it was difficult for staff to enroll these beneficiaries: "It's difficult cold-calling people and saying 'Guess what, you're eligible for X!'" Pilots that chose to maintain an entirely data-driven approach described using strategies such as cluster calling (that is, making multiple contact attempts within a short period of time) to reach eligible beneficiaries.

Most pilots perceived referrals as more effective at identifying eligible beneficiaries who would be receptive to enrolling in WPC. However, pilots identified challenges with this approach as well, such as insufficient referrals or high volumes of inappropriate referrals. Strategies used by pilots to generate referrals included revising eligibility criteria to include a wider range of target populations, direct marketing of the program to partners, and providing partners with financial incentives to refer people to the program (for example, paying $75 per successful referral). Strategies used to minimize inappropriate referrals included accepting referrals only from WPC partners and developing materials that clearly outlined WPC eligibility criteria and program scope.

Finally, several pilots described field-based outreach teams, particularly street- or shelter-based outreach, as useful for identifying "hidden populations"—that is, people eligible for but not currently enrolled in Medicaid. For pilots led by county health agencies, this type of outreach (coupled with benefits assistance) was perceived as important for proactively identifying, enrolling, and offering services to medically and socially complex people before they became catastrophically ill.

▶ **ENGAGING BENEFICIARIES IN CARE:** Almost all of the pilots (96 percent) identified low beneficiary engagement—that is, willingness to enroll and participate in services—as a barrier. Several respondents described prospective enrollees as more medically and socially complex than the typical Medicaid enrollee, as well as more resistant to seeking and accepting care as a result of mistrust of "the system," fear of stigma associated with certain conditions and services, cognitive impairment associated with mental health or substance use disorders, and negative experiences with past care.

Key informants within all pilots emphasized the importance of a relationship-based approach for engaging prospective enrollees. Rapid response to referrals (for example, within forty-eight hours or less) was described as important for building trust early on. However, even after enrollment, multiple staff members noted that it could take months before enrollees were willing to address more serious medical or behavioral health needs. Hiring staff capable of "meeting clients where they are at" and setting patient-centered goals was described as important to successful engagement over time: "You can't just impose WPC medical goals…if you want to make a longer-term impact."

Pilots used a wide range of strategies to engage eligible beneficiaries in WPC. Most pilots included staff with lived experience similar to that of WPC enrollees to help build rapport. Several pilots used street medicine teams or mobile clinics to maintain contact with eligible beneficiaries who were experiencing homelessness and provide basic care until they were ready to engage more fully with WPC.

Multiple pilots emphasized the importance of connecting homeless beneficiaries with immedi-

ate concrete benefits (such as food, shelter, and showers) to build trust before trying to address their health-related needs. Because timely access to housing or behavioral health treatment could not be guaranteed, several pilots described focusing on providing services that could demonstrate immediate benefit (for example, enrollment in the Supplemental Nutrition Assistance Program). Partnering with county social services agency staff was identified as useful for connecting enrollees to benefits and limiting Medicaid churn resulting from lapses in coverage.

▶ **ACCESS TO AFFORDABLE HOUSING:** Pilots could not use WPC funds to pay for housing directly. Almost all of the pilots (96 percent) reported difficulties obtaining housing for WPC enrollees, and thirteen pilots (52 percent) identified the lack of affordable housing as one of the biggest barriers to WPC. The only pilot that did not report housing difficulties partnered with the local housing authority to reserve a number of project-based housing vouchers for WPC enrollees' use—that is, rental subsidies linked to specific housing units rather than to individuals. Staff described the inability to house enrollees as problematic because homeless enrollees were typically unprepared to address medical or behavioral health needs until their housing needs were met: "Most people don't care about going to the doctor if they don't have anywhere to [live]." Even when housing became available, WPC enrollees were often not perceived by landlords as "ideal" tenants and frequently lost out to other applicants in a competitive market.

Given these challenges, pilots emphasized the importance of managing enrollees' and partners' expectations around housing timelines. Pilots also reported leveraging other funding sources to cover housing-related costs. For example, many pilots reported providing enrollees with rental assistance or subsidies for supportive housing, assisting with landlord engagement, or convincing developers to make new housing units available for homeless clients. Advocacy at the state level also proved important, resulting in a one-time investment of $100 million from the state's general fund to directly cover housing and housing-related costs (for example, housing vouchers and rent subsidies) for eligible Medicaid beneficiaries during the 2019–20 fiscal year.

WPC staff indicated that once housed, enrollees often required considerable ongoing support to maintain their placements: "Especially [for] the chronically homeless, their ability to…budget and think about their finances is a very different conversation." Several pilots described continuing to engage landlords even after enrollees were housed, to help address issues needed to keep enrollees stably housed, as well as to ensure that these landlords were receptive to future WPC tenants.

Early results from WPC suggest that systemwide changes needed to facilitate cross-sector integration of care are possible and can be initiated under Medicaid.

▶ **ACCESS TO OTHER SERVICES:** Multiple pilots reported being unprepared for the high complexity of medical and social needs of certain WPC enrollees, which could affect their ability to successfully connect enrollees to needed care. For example, pilots identified challenges with providing transportation for enrollees whose needs were too complex for public transportation, such as those who were physically unable to travel on a bus for an hour or be legally transported in available pilot-operated vehicles. Similarly, providers in several pilots emphasized the limitations of existing systems of care for managing highly complex enrollees, who could be shuffled around without receiving needed care.

Several pilots described efforts to provide services that would help address identified gaps, such as medical respite—which was identified by several pilots as an important "step-down" solution for homeless patients who were no longer ill enough to remain in the hospital or a skilled nursing facility but still too ill to be placed in a shelter (for example, they still required support from medical equipment).

Discussion

Our study highlighted the early progress of California's Whole Person Care pilots in achieving program goals during the first three years. In particular, we found increases in the data sharing and delivery-system infrastructure needed for cross-sector coordination of care. We also found evidence of successful identification of high-utilizing Medicaid beneficiaries and their enrollment and engagement in services, though

specific approaches varied based on local need. WPC funds were identified as instrumental in facilitating the development of organizational partnerships, infrastructure, and services needed to improve the integration of care for targeted populations.

Our study findings also highlighted the strategies used by pilots to address challenges experienced in sharing data among WPC partners, identifying eligible Medicaid beneficiaries and engaging them in WPC services, and overcoming gaps in existing systems of care for medically and socially complex patients. Addressing data privacy concerns proved important for facilitating the sharing of medical, behavioral health, and social services data but was frequently described as a time-consuming process. Our data indicated that additional infrastructure investments were needed to improve the meaningful use of shared data by providers and staff. However, pilots' willingness to make these investments varied based on their perceived sustainability in the absence of waiver funds. Several pilots used WPC to support broader transformation efforts and enhance existing programs to promote the sustainability of infrastructure investments.

Prior research has described Medicaid beneficiaries as difficult to engage in services.[14] Our data showed that WPC pilots encountered this challenge, and they highlighted the importance of in-person, relationship-based approaches, field-based outreach, and benefits assistance for increasing the uptake, reach, and potential community impact of WPC programs. Finally, we found that leveraging WPC and other funding sources to directly provide eligible beneficiaries with housing subsidies, medical respite, sobering center stays, and other needed services helped pilots bridge identified gaps in the systems of care for medically and socially complex Medicaid beneficiaries in their communities.

Overall, early results from WPC suggest that given adequate financial incentives, systemwide changes needed to facilitate cross-sector integration of care are possible and can be initiated under Medicaid. In WPC, pilots were typically led by county agencies with financial incentives to proactively enroll people in Medicaid and manage Medicaid churn. However, strategies identified by pilots could also be used by other organizations to inform efforts to identify and address beneficiaries' medical and nonmedical needs.

The state Medicaid agency in California has proposed that future efforts to address social determinants of health in Medi-Cal, the state's Medicaid program, be led by managed care plans rather than counties. This approach takes advantage of the plans' extant data-sharing infrastructure and experience with medical care management. However, significant additional investment may be required for the plans to integrate human services data and gain expertise in addressing beneficiaries' housing and other nonmedical needs. The plans may also require additional incentives to seek out and enroll people in Medicaid. Several other states have also proposed or begun implementing Medicaid waiver demonstrations that focus on improving the coordination of health and social services, though few are of the same scope as WPC. Findings from the current study illustrate how such programs could be organized and how prospective challenges could be addressed.

Conclusion

California's experience with Whole Person Care provides insights into the strategies used to improve the integration of health, behavioral health, and social services for high-utilizing beneficiaries. Interim findings highlight how WPC was implemented and identify early challenges and strategies used to develop cross-sector partnerships, data-sharing infrastructure, and services needed to effectively coordinate care for medically and socially complex Medicaid beneficiaries. Lessons learned from this study may inform efforts by other states, counties, and community partnerships to redesign local systems of care to better meet the needs of high-risk, high-cost patient populations. ■

Funding for this study was provided by the California Department of Health Care Services (DHCS). Earlier versions of selected information about pilot characteristics (for example, services provided and numbers of enrollees and service recipients) were presented in an evaluation report submitted to the DHCS in September 2019, which is cited in this article's notes. An additional policy brief on care coordination in WPC and an analysis of narrative report data regarding early challenges and lessons learned are also cited. However, the article contains significant data and analyses—particularly related to the integration of health and human services—that have not previously been published. The views expressed in the article are solely the opinions of the authors and do not necessarily reflect the official policies or endorsement of the DHCS.

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The ACA At The Supreme Court And Beyond

The Supreme Court considers new Affordable Care Act cases, other lawsuits continue, and the Trump administration issues new rules and guidance.

BY KATIE KEITH

Winter 2020 brought a flurry of action on the Affordable Care Act (ACA). The Supreme Court will decide two ACA-related cases during its current term and will hear an appeal in *Texas v. United States* (now refashioned as *California v. Texas*) during its next term. Other ACA litigation continues, and the Department of Health and Human Services (HHS) issued new proposed rules and guidance on plan standards for 2021, the Basic Health Program, and more.

Supreme Court To Rule On ACA's Fate In 2021

Regular readers are familiar with ongoing litigation in *Texas v. United States*. *Texas* was filed by twenty Republican state attorneys general and governors and two individuals after Congress zeroed out the individual mandate penalty in 2017. The plaintiffs argue that the penalty-less mandate is no longer enforceable as a tax and thus no longer constitutional. Because they believe that the mandate is essential to the rest of the ACA, the plaintiffs ask that the entire law be struck down. The administration of President Donald Trump sided with the plaintiffs, first in part and later in whole.

In December 2018 a federal district court in Texas agreed with the plaintiffs and declared the entire ACA invalid. The case was appealed to the Fifth Circuit. In a 2–1 decision in December 2019, the Fifth Circuit partially affirmed the district court. The majority found the mandate to be unconstitutional but remanded the case back to the district court for a more thorough analysis of which parts of the ACA are inseverable from the mandate.

A coalition of twenty-one Democratic attorneys general, led by California, and the US House of Representatives quickly appealed the Fifth Circuit's decision to the Supreme Court. They asked the Court to hear and decide *Texas* this term, arguing that swift resolution is necessary to address the uncertainty that *Texas* creates and the potential for severe consequences if the district court decision is upheld. Accepting the appeal now, they argued, would stave off an unnecessary multiyear delay that would occur if the case is remanded back to the district court.

These concerns were echoed in amicus briefs from a wide array of stakeholders. Health insurer associations, five national hospital associations, thirty-three state hospital associations (including those in nine plaintiff states), AARP, patient advocates, small business leaders, and a bipartisan group of economists and scholars all urged the Court to hear and quickly resolve the appeal. These stakeholders affirmed that invalidation of the ACA would have devastating consequences, noted that health insurance markets remain stable, and raised concerns about prolonged uncertainty if *Texas* is remanded.

The plaintiffs and Department of Justice oppose the appeals and urged the Court to delay review until after the case has been remanded. They believe that Supreme Court review is premature and there is no urgency to resolve the appeal. However, if the Court accepts the appeal, the plaintiffs ask the Court to affirm the district court's ruling in its entirety and declare the ACA to be invalid.

In late January the Court denied the request for expedited review of *Texas*, and briefing continued under a standard (non-expedited) time frame. Then, in early March, the Court agreed to hear the appeal from California and the request from the plaintiffs. The Court will thus consider *Texas* during its next term, which begins in October 2020. Briefing will continue throughout the summer, with oral argument expected this fall and a decision to come in 2021.

Supreme Court Agrees To Hear New Contraceptive Mandate Challenge

In the meantime, the Supreme Court will decide two other ACA-related appeals during its 2019 term. The first appeal is over whether insurers are entitled to more than $12 billion in unpaid risk-corridor payments. Oral arguments were held in December 2019, and a decision could be issued at any time. The second appeal—a consolidation of two cases known as *Trump v. Pennsylvania* and *Little Sisters of the Poor v. Pennsylvania*—is over the validity of Trump-era rules to expand exemptions to the contraceptive mandate. The Court granted the appeals in mid-January and scheduled oral argument for April 29. A decision will be issued by the end of the term in June 2020.

The contraceptive mandate is among the ACA's most litigated provisions. The Supreme Court has already considered two cases on the scope of this requirement in *Burwell v. Hobby Lobby Stores* in 2014 and *Zubik v. Burwell* in 2016.

In *Pennsylvania*, the Court will review a unanimous decision from the Third Circuit Court of Appeals. The Third Circuit affirmed a district court decision to block, nationwide, Trump-era rules to expand exemptions to the contraceptive mandate based on religious or moral objections. Among other changes, the rules would have allowed employers to opt out of an accommodations process

put in place by the Obama administration, leaving the employees and students of those employers without contraceptive coverage. The Trump administration and Little Sisters ask the Court to overturn the Third Circuit's decision and decide whether the contraceptive mandate violates the Religious Freedom Restoration Act.

The Ninth Circuit Court of Appeals also upheld an injunction over the same rules in thirteen states and the District of Columbia; this decision was separately appealed to the Supreme Court. Other lawsuits over the contraceptive mandate have been stayed pending a decision in *Pennsylvania*.

Other ACA Litigation Continues

More ACA cases are pending, with many of the most-watched cases before appellate courts. The Court of Appeals for the District of Columbia Circuit will soon rule on the validity of a rule to expand access to association health plans and hear oral argument over a rule to expand access to short-term plans. The Court of Appeals for the Federal Circuit recently heard oral argument over whether insurers are entitled to unpaid cost-sharing reduction payments; the Trump administration stopped making the payments in October 2017. Other appellate cases involve the application of the ACA's health insurance tax to Medicaid managed care organizations and ACA nondiscrimination protections (both pending before the Fifth Circuit) and a recently finalized provider conscience regulation (pending before the Second and Ninth Circuits).

In the meantime, new lawsuits are being filed. In January eight Democratic attorneys general, led by California, challenged parts of a recent final rule requiring insurers to separately bill consumers for the premium attributable to the coverage of certain abortion services. The states argue that the new rule unlawfully reinterprets the ACA, imposes unnecessary restrictions that create barriers to abortion coverage, and tries to coerce states into changing their laws and policies.

A separate lawsuit would pave the way for a new health insurance arrangement that avoids many of the ACA's consumer protections. In October 2019 a data-sharing partnership sued the Department of Labor seeking to be classified as a single-employer self-insured group health plan under the Employee Retirement Income Security Act (ERISA). If granted this status under ERISA, the partnership would be largely exempt from state law and many of the ACA's protections that apply in the individual and small-group markets. The Department of Labor issued an advisory opinion on this question in late January 2020 denying the partnership's request. This led the plaintiffs to request a temporary restraining order and preliminary injunction from Judge Reed O'Connor, a federal judge in Texas, to prevent the Department of Labor and state regulators from taking enforcement action against their new arrangement. Briefing in the litigation will continue through late April, with a hearing and decision to follow.

HHS Issues New 2021 Payment Rule And More

In January HHS released its latest-ever proposed notice of benefit and payment parameters rule and related guidance. The annual "payment notice" included largely technical changes for the 2021 plan year in areas such as the Marketplaces and the risk-adjustment program. Some of the most significant proposed changes relate to the automatic reenrollment process, essential health benefits standards, and medical loss ratio (MLR) calculations. HHS also proposed changes to recalibration in the risk-adjustment program and would incorporate *International Statistical Classification of Diseases and Related Health Problems,* Tenth Revision (ICD-10), diagnosis codes.

First, HHS proposes that an enrollee who is eligible for Marketplace subsidies and a zero-dollar premium plan would be automatically reenrolled without all or some of their tax credits. This change, HHS believes, would encourage those consumers to return to HealthCare.gov and actively enroll in coverage, but critics argue that such a change could result in confusion and coverage losses. HHS would also require each state to identify, on an annual basis, all state-mandated benefits and note whether each mandate exceeds the essential health benefits. HHS proposes this policy out of concern that states are adopting new benefit mandates without defraying the cost of those mandates as required by the ACA. Finally, HHS would require insurers to deduct prescription drug rebates from the numerator of the MLR, with the goal of more accurately reflecting insurers' spending on prescription drugs. Insurers in the individual market could also count certain wellness costs toward quality improvement expenses for purposes of the MLR.

Beyond the payment rule, HHS issued a new proposed funding methodology for the Basic Health Program for 2021, guidance to states on new excepted-benefit health reimbursement arrangements, and a qualified health plan compliance report that identified areas of improvement for insurers.

HHS also informed Georgia that the first phase of its waiver under Section 1332—a state-based reinsurance program—had been deemed complete. However, review of the second phase of the waiver, which would broadly reshape Georgia's insurance market, has been put on hold. Georgia asked HHS to delay its review to give the state the opportunity to provide supplemental data and information requested by HHS. Even if Georgia submits these data, approval of the second phase of the waiver by HHS is likely to face legal challenges. ■

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The Commonwealth Fund

Evidence from a Decade of Innovation: The Impact of the Payment and Delivery System Reforms of the Affordable Care Act

April 1, 2020

Corinne Lewis, Melinda Abrams, Shanoor Seervai, and David Blumenthal

The U.S. health care system has long been marked by high spending, comparatively poor health outcomes, and waste and inefficiency. To address these issues, the Affordable Care Act (ACA) includes several provisions to reform how the nation organizes, structures, and pays for its health care. The law instituted several mandatory national payment reforms through the Medicare program and created the Center for Medicare and Medicaid Innovation, which was funded with $10 billion over 10 years to develop, test, and promote innovative payment and delivery models. Below is a summary of evidence from some of the major innovations tested over the past decade.

Overall, these initiatives transformed health care delivery and payment across the United States, and many have reduced costs and improved quality of care. The results were often mixed, however, and the magnitude of impact was modest in many instances. To achieve meaningful, sustainable gains, future models of payment and delivery system reform will need to be redesigned based on the lessons learned from the past 10 years of innovation.

Mandatory National Payment Reform Initiatives

Accountable Care Organizations (ACOs)

Episode-Based Payment Initiatives +

Primary Care Transformation +

Innovation in Medicaid and the Children's Health Insurance Program (CHIP) +

Improving Care for Dually Eligible Beneficiaries +

Accelerating the Development, Testing, and Adoption of New Payment and Delivery Models +

Download a pdf of the interactive here.

Citation
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The Commonwealth Fund

March 2020

Medicaid and CHIP Eligibility, Enrollment, and Cost Sharing Policies as of January 2020: Findings from a 50-State Survey

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Executive Summary

As the COVID-19 pandemic expands, needs for health insurance coverage through Medicaid and CHIP will increase for people who get sick and who lose private coverage due to the declining economy. Increasing enrollment for the 6.7 million uninsured individuals who are eligible for Medicaid and facilitating enrollment for the growing numbers of individuals who will become eligible for Medicaid as they lose jobs and incomes decrease will help expand access to care for COVID-19-related needs and health care needs and more broadly. States can adopt a range of options under current rules to increase Medicaid eligibility, facilitate enrollment and continuity of coverage, and eliminate out-of-pocket costs. States can seek additional flexibility through waivers. The Families First Coronavirus Response Act provides states additional options and enhanced federal funding to support state response.

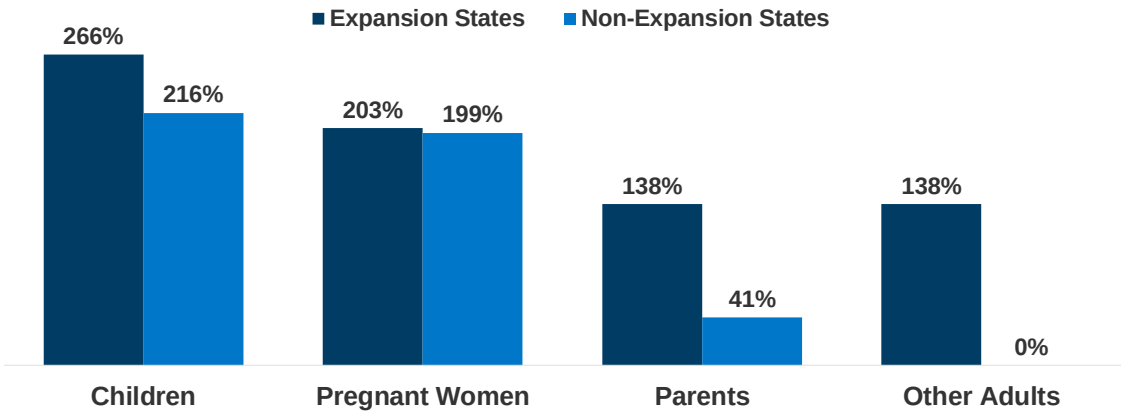
This 18th annual survey of the 50 states and the District of Columbia (DC) provides data on Medicaid and the Children's Health Insurance Program (CHIP) eligibility, enrollment, renewal, and cost sharing policies as of January 2020. The survey findings highlight state variation in policies that affect individuals' ability to access coverage and care amid the COVID-19 public health crisis. They also provide examples of actions states can take to expand eligibility and simplify enrollment to respond to the COVID-19 epidemic. Further, the survey findings highlight how changes under the ACA to expand Medicaid eligibility and streamline enrollment and renewal processes have better positioned the Medicaid program to respond to a public health crisis such as COVID-19.

Key Findings

More individuals can access Medicaid coverage in states that have implemented the ACA Medicaid expansion to low-income adults than states that have not expanded. Across eligibility groups, eligibility levels are higher in expansion states compared to non-expansion states (Figure 1). In 2019, two additional states (Idaho and Utah) implemented the ACA Medicaid expansion, bringing the total to 36 states that extend eligibility to low-income adults with incomes up to at least 138% federal poverty level (FPL, $29,974 for a family of three) as of January 2020. Eligibility for children and pregnant women held steady in 2019, with median income levels of 255% FPL and 205% FPL across all states, respectively, as of January 2020. Eligibility for parents and other adults remains very limited in the 15 states that have not implemented the ACA Medicaid expansion. In non-expansion states, the median eligibility level for parents is just 41% of the FPL ($8,905 for a family of three), and, with the exception of Wisconsin, other adults are not eligible regardless of their income level.

Figure 1

Median Medicaid Income Eligibility Limits based on Implementation of Medicaid Expansion as of January 2020



NOTES: Eligibility levels are based on a family of three for parents and an individual for childless adults. In 2020, the FPL was $21,720 for a family of three and $12,760 for an individual. Thresholds include the standard five percentage point of FPL disregard. UT provided more limited coverage to somechildless adults under Section 1115 waiver authority prior to adopting expansion. OK provides more limited coverage to some childless adults under Section 1115 waiverauthority.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

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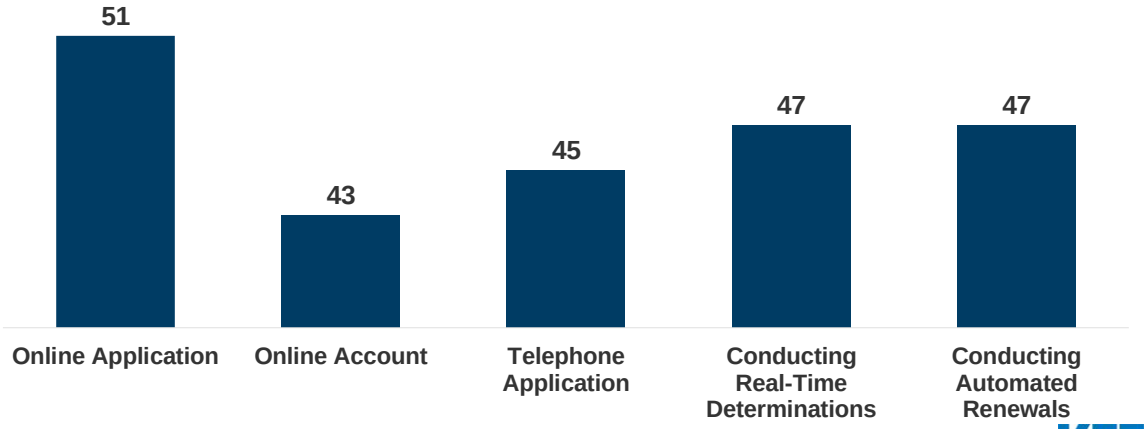
Largely because of the ACA, individuals can apply for Medicaid and CHIP online or via phone, and states can connect individuals to coverage quickly through real-time eligibility determinations and renewals using electronic data matches. In addition to expanding coverage to low-income adults, the ACA established streamlined, electronic data-driven enrollment and renewal processes across states and made enhanced federal funding available to states for system upgrades to implement these processes. As of January 2020, online and phone applications and renewals have become largely standard across states, and most states (43) provide online accounts that enable enrollees to manage their coverage (Figure 2). In contrast, prior to the ACA, individuals could only apply online in two-thirds of states and by phone in one-third of states. Further, as of January 2020, nearly all states are able to make real-time determinations (defined as within 24 hours) and to conduct automated renewals through electronic data matches, with some states achieving high rates of real-time determinations and automated renewals. These advancements mean that individuals may be able to access Medicaid and CHIP coverage more quickly with less administrative burden as coverage needs increase in response to COVID-19.

Figure 2

Number of States with Selected Modernized Enrollment and Renewal Processes, January 2020



NOTES: South Carolina not reported for telephone application, conducting real-time determinations, or conducting automated renewals.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

Eligible individuals may face barriers to maintaining coverage at renewal or when states conduct periodic data matches between renewals. States must renew coverage every 12 months and try to complete renewals using available data before requesting information from an enrollee. When a state requires additional information to complete a renewal, it must provide the enrollee at least 30 days to verify eligibility before terminating coverage. Between annual renewals, enrollees generally must report changes that may affect eligibility, such as fluctuations in income, which are more common among the low-income population. States also may conduct periodic data checks to identify potential changes between renewals, which 30 states reported doing as of January 2020. When states identify a potential change, they must request information to confirm continued eligibility. In contrast to the minimum 30 days provided at renewal, a number of states provide only 10 days from the date of notice for enrollees to respond to information requests for potential changes in circumstances. Eligible individuals may lose coverage at renewal or when these periodic data checks occur if they do not respond to information requests in required timeframes. Enrollees may face a range of challenges to these requests, particularly when given limited time to respond. States can delay or suspend renewals and periodic data checks as one strategy to promote stable coverage as part of COVID-19 response efforts. To access enhanced federal funding under Families First Coronavirus Response Act, states must provide continuous eligibility for enrollees through the end of the month of the emergency period unless an individual asks to be disenrolled or ceases to be a state resident.

Some states have adopted policy options to facilitate enrollment in coverage and promote continuity of coverage. For example, 31 states use presumptive eligibility for one or more groups to expedite enrollment in Medicaid or CHIP coverage by providing temporary coverage to individuals who

appear likely eligible while the state processes their full application. In addition, 32 states provide 12-month continuous eligibility to children in Medicaid or CHIP, enabling them to maintain coverage even if their households have small fluctuations in income. Further, 35 states take into account reasonably predictable changes in income when determining eligibility for Medicaid and 12 states take into account projected annual income for the remainder of the calendar year when determining ongoing eligibility at renewal or when an individual has a potential change in circumstances. Some states also have adopted processes to improve communications with enrollees. For example, 10 states reported taking proactive steps to update enrollee address information, and 24 states report routinely following up on returned mail by calling and/or sending email or text notifications. Additional states could take up these policy and processes as part of COVID-19 response efforts.

Premiums and cost sharing are limited consistent with federal rules that reflect enrollees' limited ability to pay out-of-pocket health care costs. Under federal rules, states may not charge premiums in Medicaid for enrollees with incomes less than 150% FPL and cost-sharing amounts are limited. Only five states charge premiums or cost sharing for children within Medicaid, while most separate CHIP programs (32 of 35 states) charge premiums, enrollment fees, and/or copayments. Similarly, few states charge premiums, enrollment fees, or other monthly contributions for parents or other adults in Medicaid. However, several states have obtained waivers to impose premiums or other charges in Medicaid for parents or other adults that federal rules do not otherwise allow, and two-thirds of states (35 states) charge copayments for parents and other adults. States can waive or eliminate out-of-pocket costs in response to COVID-19.

Responding to COVID-19

Prior to the COVID-19 outbreak, the federal government and some states were taking actions to add eligibility requirements and increase eligibility verification for Medicaid coverage. The administration approved waivers in several states to allow work requirements and other eligibility restrictions and released guidance for new "Healthy Adult Opportunity" demonstrations that would allow for such requirements and other changes. Recent court decisions set aside or struck down work requirements and suggested that similar approvals are likely to be successfully challenged in litigation. The administration also indicated plans to increase eligibility verification requirements as part of program integrity efforts. Outside of Medicaid, other policy changes were contributing to downward trends in coverage, including decreased federal funding for outreach and enrollment and shifting immigration policies. However, given increasing health care needs stemming from COVID-19, states and Congress are taking action to expand eligibility, expedite enrollment, promote continuity of coverage, and facilitate access to care.

States can take a range of actions under existing rules to facilitate access to coverage and care in response to COVID-19. They can take some of these actions quickly without federal approval. For example, they can allow self-attestation of eligibility criteria other than citizenship and immigration status and verify income post enrollment. They can also provide greater flexibility to enroll individuals who have small differences between self-reported income and income available through data matches. Further,

they can suspend or delay renewals and periodic data checks between renewals. States can take other actions allowed under existing rules by submitting a state plan amendment (SPA, which is retroactive to the first day of the quarter submitted). Changes states can implement through a SPA include expanding eligibility, adopting presumptive eligibility, providing 12-month continuous eligibility for children, and modifying benefit and cost sharing requirements, among others. Beyond these options, states can seek additional flexibility through Section 1135 and Section 1115 waivers.

The Families First Coronavirus Response Act provides additional options for states and increases federal funding for Medicaid, subject to states meeting certain eligibility and enrollment requirements. Specifically, it provides coverage for COVID-19 testing with no cost sharing under Medicaid and CHIP (as well as other insurers) and provides 100% federal funding through Medicaid for testing provided to uninsured individuals for the duration of the emergency period associated with COVID-19. The law also provides states and territories a temporary 6.2 percentage point increase in the federal matching rate for Medicaid for the emergency period. To receive this increase, states must meet certain requirements including: not implementing more restrictive eligibility standards or higher premiums than those in place as of January 1, 2020; providing continuous eligibility for enrollees through the end of the month of the emergency period unless an individual asks to be disenrolled or ceases to be a state resident; and not charging any cost sharing for any testing services or treatments for COVID-19, including vaccines, specialized equipment or therapies.

Introduction

This 18th annual survey of the 50 states and DC provides data on Medicaid and CHIP eligibility, enrollment, renewal, and cost-sharing policies as of January 2020 and highlights changes in 2019 and over the past decade, under the ACA. The report is based on a telephone survey of state Medicaid and CHIP program officials conducted by the Kaiser Family Foundation and the Georgetown University Center for Children and Families during January 2020. It includes findings in three key areas: Medicaid and CHIP eligibility, enrollment and renewal processes, and premiums and cost-sharing. State-specific information is available in Appendix Tables 1-19. The report includes policies for children, pregnant women, parents, and other adults under age 65 who are determined eligible based on Modified Adjusted Gross Income (MAGI) financial eligibility rules; it does not include policies for groups eligible through Medicaid pathways for seniors and individual eligible based on a disability (non-MAGI groups).

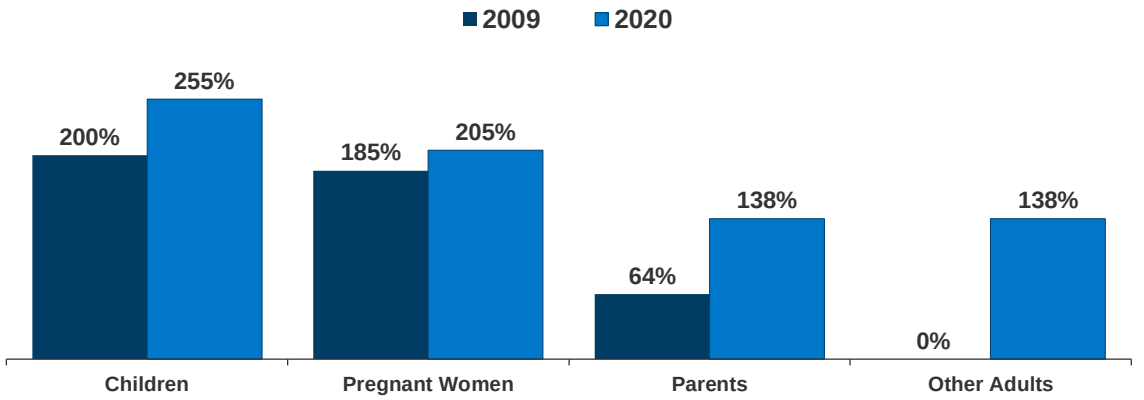
Medicaid/CHIP Eligibility

Medicaid and CHIP eligibility has evolved over time to provide a comprehensive base of coverage for low-income children, pregnant women, parents, and adults. Leading up to and following the creation of the CHIP in 1997, coverage for children and pregnant women expanded through federal eligibility expansions and state take-up of options to increase coverage for these groups. However, Medicaid eligibility for parents lagged behind. In 2009, the year before passage of the ACA, the median Medicaid eligibility level for working parents was below the poverty level (64% FPL). Moreover, prior to the ACA, states could not use federal Medicaid funds to cover adults without dependent children who did not qualify through a disability- or age-based pathway. As such, adults without dependent children were largely ineligible except in a handful of states with waivers that offered limited benefits and often capped enrollment. The CHIP Reauthorization Act of 2009 (CHIPRA) provided states additional options to expand coverage for children and pregnant women. Then, the enactment of the ACA in 2010 newly allowed states to receive federal Medicaid funds to cover adults without dependent children without a waiver and, as of 2014, provided enhanced federal matching funds for this coverage. As enacted, the ACA expanded Medicaid to nearly all adults with incomes at or below 138% FPL across states effective 2014. However, the 2012 Supreme Court ruling on the ACA effectively made the expansion a state option. Beyond the ACA Medicaid expansion to low-income adults, states have options available under federal rules to increase Medicaid eligibility above the federal minimum income limit of 138% FPL, at regular state match.

Over the past decade, median income eligibility levels significantly increased for parents and other adults, reflecting adoption of the ACA expansion. Median eligibility levels for children and pregnant women also rose over the period as states continued to take up of options to expand coverage for these groups. Specifically, the median Medicaid eligibility level for parents rose from 64% FPL in December 2009 to 138% FPL as of January 2020, while the median eligibility level for other adults increased from 0% FPL to 138% FPL. The median Medicaid/CHIP eligibility levels for children and pregnant women rose from 200% FPL to 255% FPL and from 185% FPL to 205% FPL, respectively, over the period. Despite the increases in eligibility for parents and other adults, eligibility levels for children and pregnant women remain higher than levels for parents and other adults (Figure 3).

Figure 3

Median Medicaid Eligibility Levels as a Percent of the Federal Poverty Level, 2009 and 2020

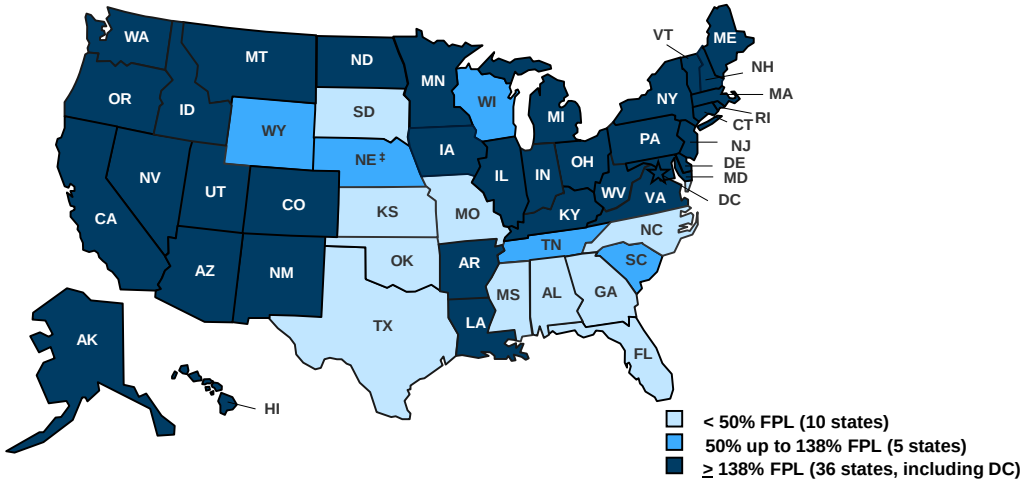


SOURCE: Based on results of a national survey conducted by KFF and the Georgetown Center for Children and Families, 2009 and 2020.

In 2019, two additional states (Idaho and Utah) implemented the ACA Medicaid expansion, bringing the total to 36 states that extend eligibility to low-income adults with incomes up to at least 138% federal poverty level (FPL, $29,974 for a family of three) as of January 2020 (Figures 4 and 5). In 2019, Connecticut raised Medicaid eligibility for parents to 160% FPL. DC also covers parents and other adults above the minimum threshold, at 221% FPL and 215% FPL, respectively.

Figure 4

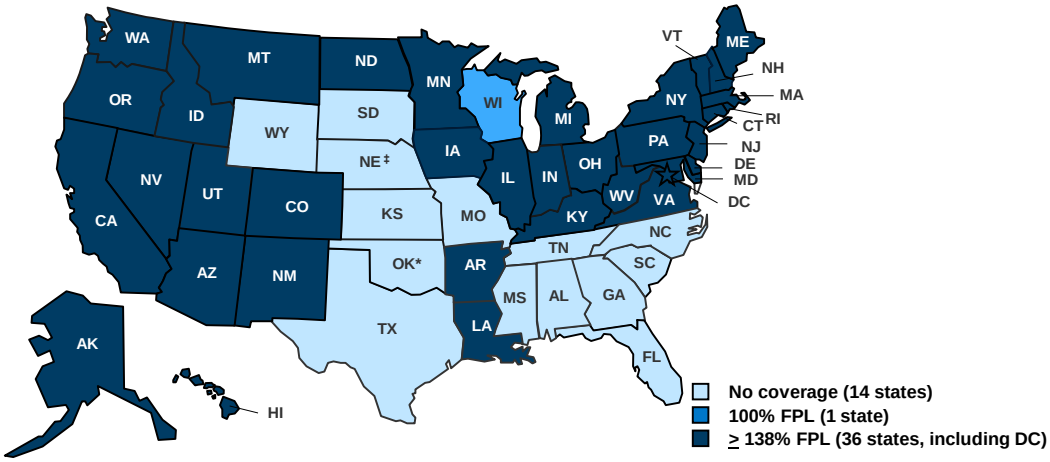
Medicaid Income Eligibility Levels for Parents, January 2020



NOTE: Eligibility levels are based on 2020 federal poverty levels (FPLs) for a family of three. In 2020, the FPL was $21,720 for a family of three. Thresholds include the standard five percentage point of the FPL disregard. ‡NE passed a ballot initiative requiring the state to implement the ACA Medicaid expansion, but it was not implemented as of January 2020.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

Figure 5

Medicaid Income Eligibility Levels for Other Adults, January 2020



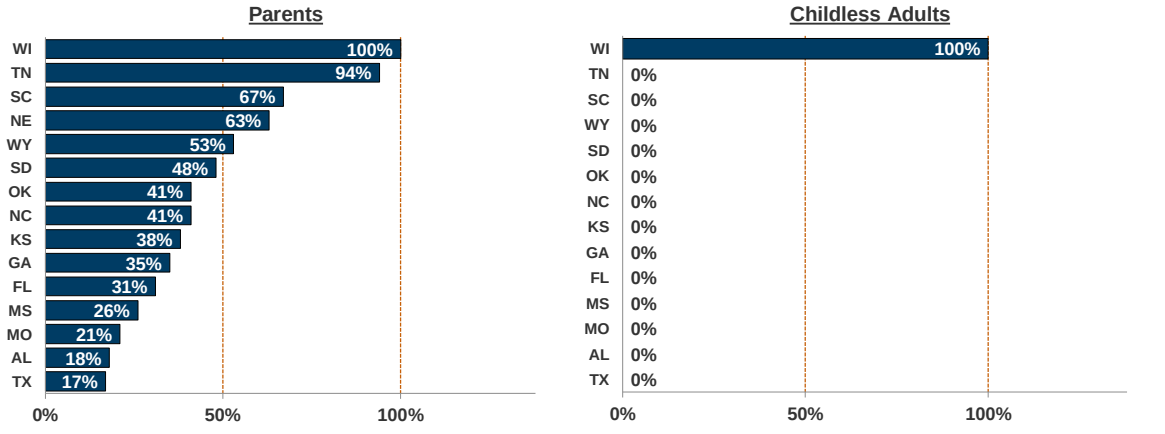
NOTE: Eligibility levels are based on 2020 federal poverty levels (FPLs) for a family of three. In 2020, the FPL was $21,720 for a family of three. Thresholds include the standard five percentage point of the FPL disregard. *OK provides more limited coverage to some childless adults under Section 1115 waiver authority. ‡ NE passed a ballot initiative requiring the state to implement the ACA Medicaid expansion, but it was not implemented as of January 2020.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

Eligibility for parents and other adults remains very limited in the 15 states that have not implemented the ACA Medicaid expansion. In non-expansion states, the median eligibility level for parents is just 41% of the FPL ($8,905 for a family of three as of January 2020), and, with the exception of Wisconsin, other adults are not eligible regardless of their income level (Figure 6). Moreover, the

median eligibility level for parents in non-expansion states declined from 49% FPL to 41% FPL between 2019 and 2020. This erosion largely reflects the fact that ten non-expansion states base parent eligibility on a fixed dollar amount that states do not update on routine basis. As a result, the FPL equivalency declines over time as federal poverty levels adjust annually to account for inflation.

Figure 6

Medicaid Income Eligibility Limits for Adults in States that Have Not Implemented the Medicaid Expansion, January 2020



SOURCE: Based on results of a national survey conducted by KFF and the Georgetown Center for Children and Families, 2020.

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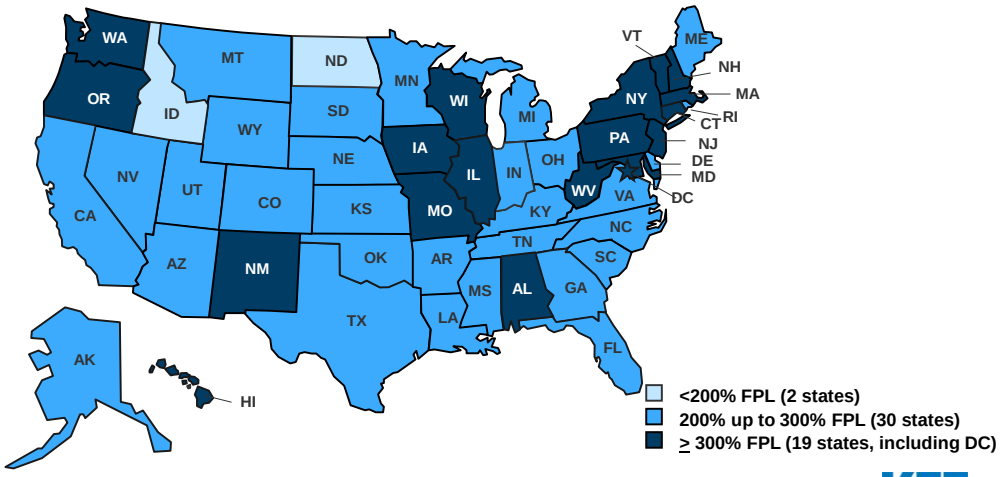
As of January 2020, nearly all states (49) cover children with family incomes up to at least 200% FPL through Medicaid and CHIP (Figure 7). Nineteen states cover children with family incomes at or above 300% FPL. However, eligibility levels vary widely across states, ranging from 175% FPL in North Dakota to 405% in New York.

Figure 7

Income Eligibility Levels for Children in Medicaid/CHIP, January 2020



NOTE: Eligibility levels are based on 2020 federal poverty levels (FPLs) for a family of three. In 2020, the FPL was $21,720 for a family of three. Thresholds include the standard five percentage point of the FPL disregard.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

Over time, states have increasingly integrated their Medicaid and CHIP programs. States can operate their CHIP program as a Medicaid expansion program, as a separate CHIP program, or use a combination of both approaches. In 2019, North Dakota eliminated its separate CHIP program and moved all children covered by CHIP into a Medicaid expansion program. With this change, 16 states administer their CHIP programs solely as extensions of Medicaid. CHIP coverage provided through Medicaid covers full Medicaid benefits, including EPSDT, and is subject to all Medicaid rules and protections. Operating CHIP as a Medicaid expansion makes the coverage between the two programs seamless for families and may be more administratively efficient for states since it eliminates the need to operate two distinct programs. Over the past decade, three other states (CA, MI, and NH) transitioned their separate CHIP programs into Medicaid.

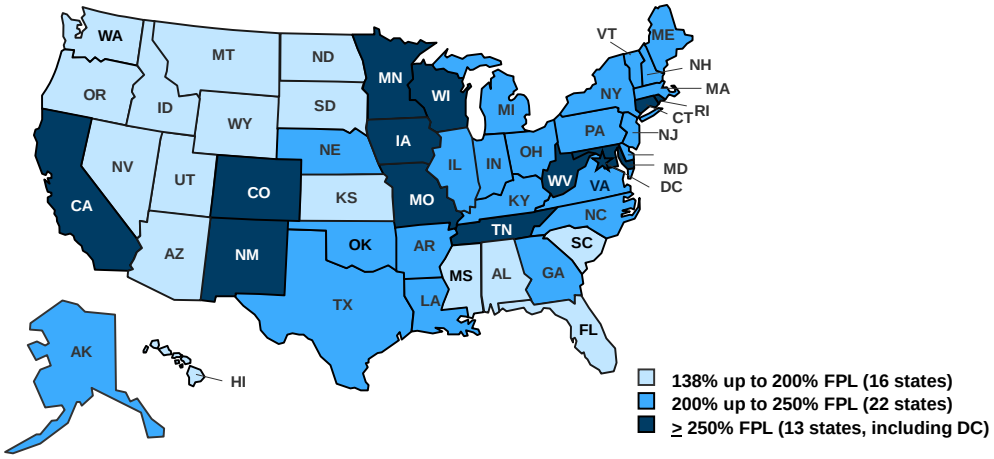
As of January 2020, 35 states operate a separate CHIP program (alone or in combination with a CHIP Medicaid expansion). States have some flexibility over how they operate separate CHIP programs that is not available in Medicaid. For example, they can require children to be uninsured for a certain period before they can enroll in CHIP. As of January 2020, 13 of the 35 separate CHIP programs had a waiting period for children, which the ACA limited to no more than 90 days. Two states (ND and KS) eliminated CHIP waiting periods as of January 2020, continuing a trend of states removing waiting periods over the past decade. In December 2009, 35 of the 39 states with separate CHIP programs had waiting periods, 13 of which were 6 months or longer.[1]

In 2019, two states increased Medicaid/CHIP eligibility for pregnant women, and the median eligibility level for pregnant women remained stable at 205% FPL. North Dakota raised its eligibility Medicaid eligibility limit for pregnant women to 162% FPL, while West Virginia expanded eligibility to

305% FPL through CHIP. As of January 2020, nearly all states (49 states) extend eligibility for pregnant women beyond the federal minimum of 138% FPL. A total of 35 states extend eligibility to at least 200% FPL, including 12 states that cover pregnant women above 250% FPL (Figure 8). However, eligibility varies from a low of 138% FPL in Idaho and South Dakota to a high of 380% FPL in Iowa.

Figure 8

Income Eligibility Levels for Pregnant Women in Medicaid/CHIP, January 2020



NOTE: Eligibility levels are based on 2020 federal poverty levels (FPLs) for a family of three. In 2020, the FPL was $21,720 for a family of three. Thresholds include the standard five percentage point of the FPL disregard.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

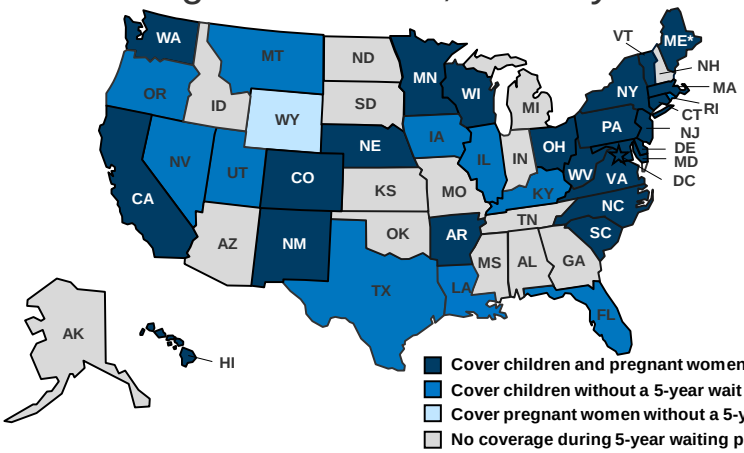
Nine states reported plans to extend the postpartum eligibility period for pregnant women. In response to increasing rates of maternal mortality and severe morbidity, some states and federal legislative proposals are seeking to extend the length of the postpartum Medicaid eligibility period.[2] Under current Medicaid rules, pregnancy-related coverage extends through 60 days postpartum. Because Medicaid/CHIP eligibility levels for pregnant women are higher than eligibility levels for parents in most states, women may lose Medicaid coverage at the end of the 60-day postpartum period. This risk of coverage loss is particularly high in states that have not implemented the ACA Medicaid expansion, where eligibility for parents remains very low. As of January 2020, nine states reported plans to extend the Medicaid postpartum eligibility period. Additional states may have pending legislative activity. Most of the nine states that reported activity were in the early planning stages. However, Illinois, Missouri, and New Jersey have developed Section 1115 waiver proposals to extend postpartum coverage, which vary in the length of extension and scope of pregnant women who would receive extended coverage. South Carolina received waiver approval in 2019 to extend postpartum coverage for a limited number of women with substance use disorder (SUD) and/or serious mental illness (SMI). California plans to use state-only funds to implement 12-month postpartum coverage for women with a documented mental health condition during pregnancy beginning July 1, 2020.

As of January 2020, New Jersey became the 29th states to offer family planning services using federal funds. The median eligibility level for family planning services is 205% FPL, but eligibility levels range from 138% in Louisiana and Oklahoma to a high of 306% FPL in Wisconsin. Two states limit eligibility for family planning services to individuals who have lost Medicaid coverage through another eligibility pathway.

A total of 35 states have eliminated the five-year waiting period for Medicaid/CHIP coverage for lawfully residing immigrant children and/or pregnant women (Figure 9). Lawfully residing immigrants may qualify for Medicaid and CHIP but are subject to eligibility restrictions that require many to wait five years before they may enroll even when they meet all other eligibility requirements. CHIPRA provided states an option to eliminate the five-year wait for lawfully residing immigrant children and pregnant women. Nearly half (24) of states apply the option to both children and pregnant women, while 11 states use it for children only, and one state (WY) uses it only for pregnant women. This count reflects Louisiana's adoption of the option for children in Medicaid and CHIP in 2019 and West Virginia's expansion of the option to pregnant women covered under CHIP up to 305% FPL. Since 2002, states also have had the option to provide prenatal care to women regardless of immigration status by extending CHIP coverage to the unborn child, which 17 states provided as of January 2020. Some states have state-funded programs that cover certain groups of immigrants that do not qualify for Medicaid or CHIP.

Figure 9

Medicaid/CHIP Coverage for Lawfully Residing Immigrant Children and Pregnant Women, January 2020



NOTE: *In Maine, the coverage does not extend to pregnant women covered through CHIP.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families,2020.

Enrollment and Renewal Processes

Changes under the ACA

Prior to the ACA, the enrollment and renewal process for Medicaid typically was a lengthy, paper-based process that could take weeks or, in some cases, months to complete. In many states, individuals could only apply via mail or in-person. Some states still required face-to-face interviews and/or imposed asset tests as part of the eligibility determination process and individuals generally had to provide paper documentation to verify eligibility criteria, such as income. Moreover, individuals often would have to repeat these steps at renewal, which could occur more frequently than once a year. These processes reflected the program's historic ties to cash assistance and most states' reliance on decades-old, mainframe-based eligibility systems that were difficult to reprogram and upgrade and generally had limited online functions or capabilities to conduct electronic data matches.

After the passage of CHIP, many states began streamlining enrollment and renewal processes to promote enrollment and retention of eligible children. For example, some states eliminated in-person interviews, worked to coordinate rules between Medicaid and CHIP, expanded availability of online and phone applications, reduced documentation requirements, and reduced the frequency of renewal for children.[3] State experience showed that these actions contributed to increased enrollment and retention.[4] State experience also showed that reinstatement of enrollment barriers led to significant enrollment declines. For example, in 2003, Texas experienced a nearly 30% enrollment decline after it increased premiums, established a waiting period, and moved from a 12- to 6-month renewal period for children in CHIP.[5] When Washington State increased documentation requirements, moved from a 12- to 6-month renewal period, and ended continuous eligibility for children in Medicaid and CHIP in 2003, there was a sharp drop off in enrollment.[6] Enrollment quickly rebounded when it reinstated the 12-month renewal period and continuous eligibility.[7]

In addition to expanding coverage to low-income adults, the ACA established streamlined enrollment and renewal rules that drew on previous state experience. These changes included removing face-to-face interviews and asset tests and establishing a 12-month renewal period, which became effective across all states as of January 2014. Prior to the ACA, most states had already removed face-to-face interview requirements and asset tests for children. However, as of December 2009, ten states still required in person interviews for parents and 25 states imposed an asset test for parents. Additionally, while most states had already adopted a 12-month renewal period for children (47 states) and parents (41 states), the remaining states still required renewals more frequently (e.g., every six months). The ACA required states to create a single streamlined application for Medicaid, CHIP, and Marketplace coverage and to provide options for individuals to apply for and renew coverage through multiple modes, including online and phone. The ACA also sought to modernize and improve the efficiency of eligibility determinations and renewals by requiring states to seek to use electronic data matches with reliable data sources to verify eligibility criteria before requesting information or documentation from individuals. To support states in upgrading and modernizing outdated eligibility systems to implement these processes, the Centers for Medicare and Medicaid Services (CMS) provided

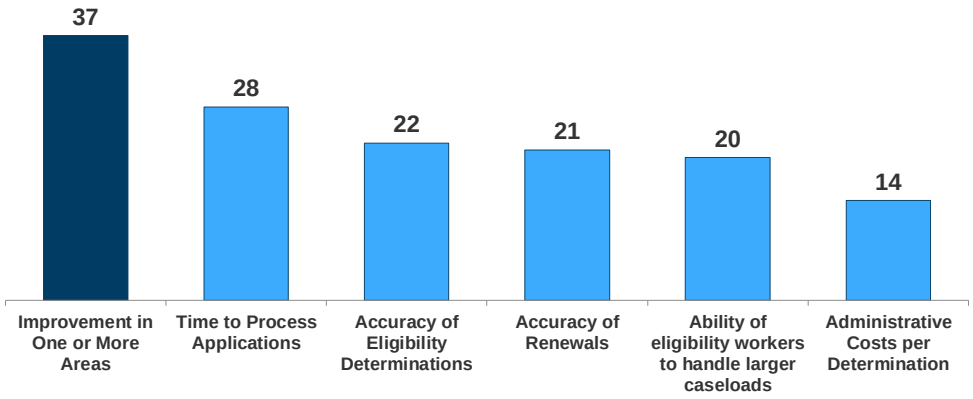
states 90 percent federal funding for system development and 75 percent funding for ongoing operations. This influx of federal funding was key to enabling states to upgrade and replace systems, particularly at a time when many state budgets had not recovered from the Great Recession.

Eligibility System Upgrades and Integration

Most states report that system upgrades and modernized processes have contributed to improvements in eligibility and enrollment operations compared to before the ACA. Nearly all states have worked to upgrade or replace their eligibility systems to implement the new processes established under the ACA. However, system statuses and capabilities vary across states, reflecting differences in when they implemented system updates and whether they replaced or upgraded existing systems. The majority (37 of 46 reporting) states report improvement in at least one area of eligibility operations (Figure 10) compared to before the ACA, with 20 states indicating that operations had improved in three or more areas. Only five states report that one or more of these aspects of operations were worse, but several of those states continue to grapple with system implementation challenges, which are resolved as systems are tested and refined. Some states reported that these aspects of operations have not changed since the ACA.

Figure 10

Number of States Reporting Improvement in Operations Compared to Prior to the ACA, as of January 2020



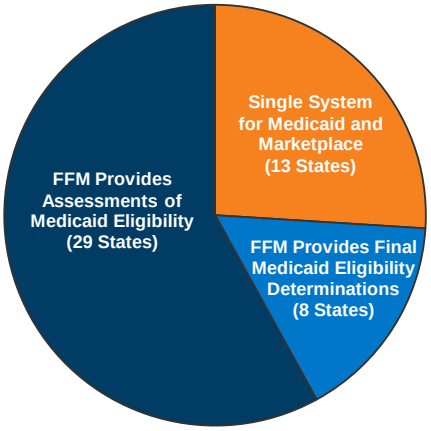
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families,2020.

All state systems coordinate enrollment in Medicaid, CHIP, and the Marketplace coverage, but how this coordination occurs varies based on a state's Marketplace structure. In 2019, Nevada transitioned from using the federal marketplace, Healthcare.gov, for eligibility and enrollment functions (SBM-FP) to become a State-Based Marketplace (SBM). With this transition, 13 states operate a SBM as of January 2020 (Figure 11). An additional 4 states (Maine, New Jersey, New Mexico and Pennsylvania)

indicated plans to transition to an SBM in the future. SBM states typically have a single integrated system through which individuals can apply for and renew Medicaid, CHIP and Marketplace subsidies. The 38 states utilizing the FFM as of January 2020 electronically exchange data with the FFM to coordinate Medicaid and Marketplace coverage. While these transfers got off to a rocky start in 2014, states report that they are generally running smoothly with the occasional glitch that may occur when system updates are incorporated and/or amid large volume increases during the open enrollment period for Marketplace coverage. Eight states authorize the FFM to make final Medicaid eligibility determinations for MAGI groups and automatically enroll individuals the FFM deems eligible. The remaining states conduct full eligibility determinations for individuals after the FFM assesses them as eligible for Medicaid.

Figure 11

Relationship of Marketplace and Medicaid Eligibility Systems, January 2020



NOTES: South Carolina not reported.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

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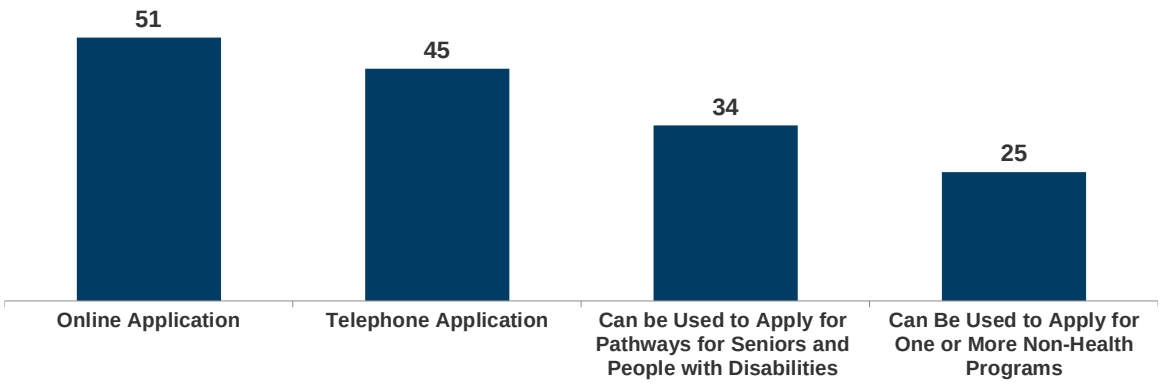
States continue to integrate non-MAGI Medicaid and non-health programs into their upgraded MAGI Medicaid systems. Prior to the ACA, all states determined eligibility for MAGI groups as well as seniors and individuals with disabilities (non-MAGI groups) through a single system. In addition, 44 state eligibility systems incorporated eligibility determinations for Medicaid and at least one non-health program, including the Supplemental Nutrition Assistance Program (SNAP), Temporary Aid to Needy Families with Dependent Children (TANF), and/or childcare subsidies. When states upgraded their MAGI Medicaid systems, a number separated them from non-MAGI groups and/or non-health programs. As new systems have matured, states have reintegrated determinations for non-MAGI groups and/or non-health programs into MAGI systems. As of January 2020, 31 states have an integrated system for MAGI and non-MAGI determinations and, in 24 states, the MAGI system is integrated with one or more non-health programs. A number of states reported plans to integrate non-MAGI Medicaid and/or non-health programs into their systems during or after 2020.

Applications, Online Accounts, and Mobile Access

As of January 2020, online and phone applications have become standard options across the states. Just prior to the ACA in 2009, 32 states had an online application, some of which were fillable PDFs that did not connect to the eligibility system, and 16 states accepted telephone applications. Moreover, about half of states (24) had separate applications for children and parents. Today, all states offer a single application for parents and children that can be submitted online, and most states (45) process applications by phone (Figure 12). In 34 states, the application can also be used by individuals applying for non-MAGI eligibility pathways for seniors and people with disabilities and, in half of states (25), the application can also be used for at least one non-health program. Online applications have become the predominant mode of submission in nearly half the states (22), although the share of applications submitted online varies significantly across states and other modes of application, including in-person and mail, remain a primary method in some states.

Figure 12

Features and Functions of Medicaid Applications for MAGI Groups, January 2020

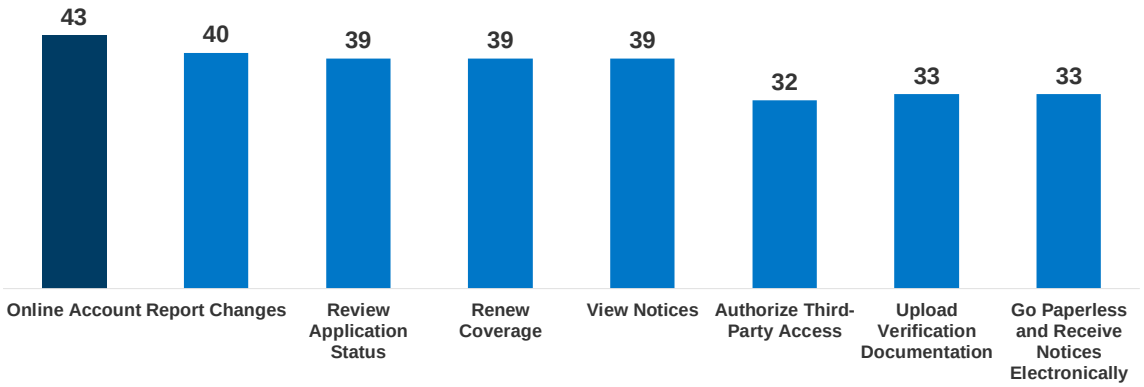


NOTES: South Carolina not reported for telephone application and use for seniors and people with disabilities or for non-health programs.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

Most states (43) offer online accounts that provide options for enrollees to report changes, submit documentation, or renew coverage as of January 2020 (Figure 13). By providing individuals an avenue to self-report changes, these accounts can help states maintain up-to-date information on enrollees and may reduce administrative tasks for eligibility workers. They also provide an avenue for enrollees to elect to receive communications from the state through text or email. Only a couple of states with advanced systems had online accounts before the ACA.

Figure 13

Number of States with Selected Features and Functions for Online Medicaid Accounts, January 2020

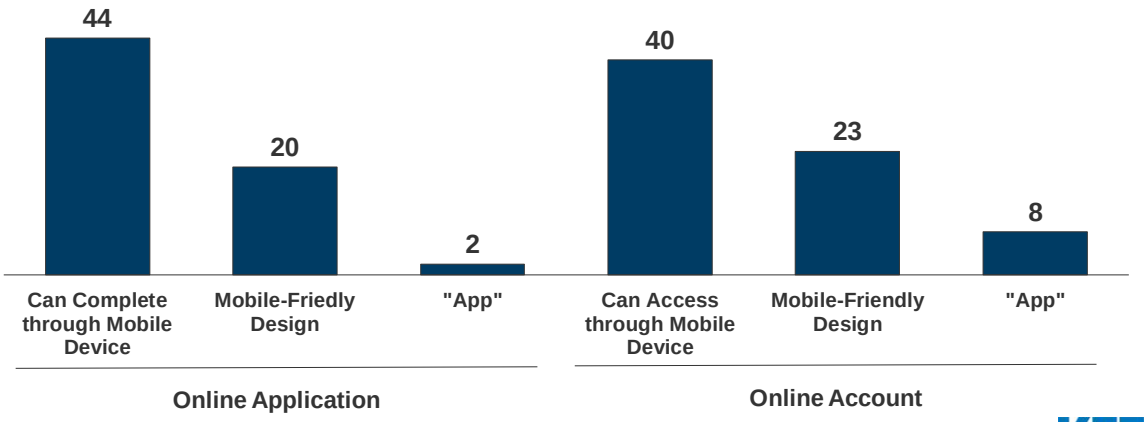


NOTES: South Carolina online account functions were not reported.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

A growing number of states offer mobile access to applications and online accounts. As of January 2020, individuals can submit online applications through a mobile device in 44 states, up from 28 states in 2017, when this survey first collected these data. Enrollees can access online accounts via mobile devices in 40 states, up from 27 states in 2017 (Figure 14). Close to half of these states have taken steps to provide mobile-friendly designs for their application (20 states) and online accounts (23 states). Two states have also taken the next step to create a smart device 'app' for their application, while eight states offer an 'app' for their online account.

Figure 14

Number of States with Mobile Access to Online Medicaid Applications and Accounts, January 2020



NOTES: South Carolina not reported.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

Eligibility Verification Policies

Under the ACA, states must seek to use data available through electronic data matches with reliable data sources to verify eligibility before requesting information from the individual. This process was designed to reduce paperwork burdens on states and enrollees and to allow for faster determinations. Under the ACA, all states must verify citizenship or qualified immigration status, as well as income, to determine eligibility for Medicaid and CHIP. States can electronically verify citizenship or immigration status directly with the Social Security Administration (SSA) or Department of Homeland Security (DHS), or through the federal data services hub that consolidates access to these and other data sources. States must verify citizenship status prior to determining eligibility, however, individuals who attest to a qualified status must be given a reasonable amount of time to provide documentation if eligibility cannot be confirmed electronically. States must also verify income and can do so through the SSA; the federal data hub; state databases, including unemployment, wage, and tax databases; and/or commercial databases. States can verify income prior to enrollment or enroll based on the applicant's reported income and verify post-enrollment. For other eligibility criteria, including age/date of birth, state residency, and household size, states can verify this information before or after enrollment or accept an individual's self-attestation unless there is discrepant information in the agency's records. To expedite enrollment as part of response to COVID-19, under existing rules, states can allow for self-attestation for all eligibility criteria, excluding citizenship and immigration status, on a case-by-case for individuals subject to a disaster when documentation is not available.

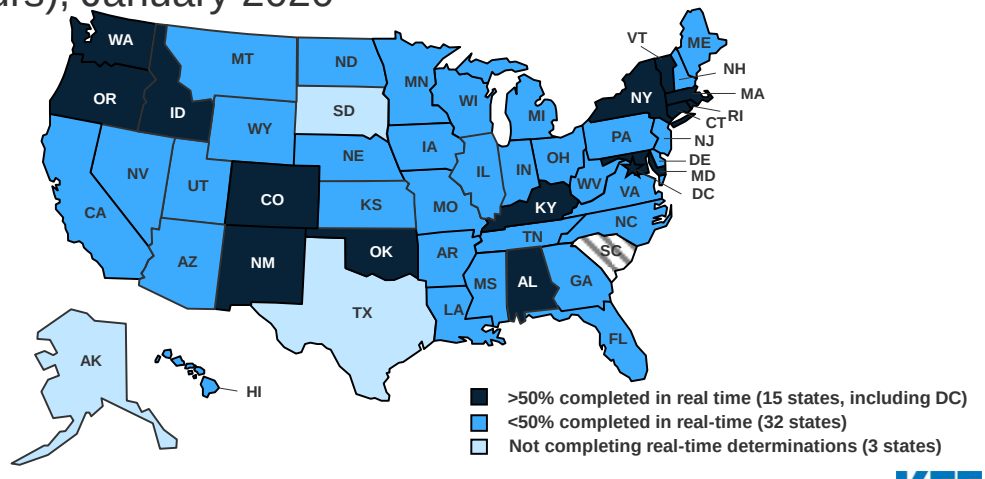
Today, all states use electronic data matches with one or more data sources to verify income, and most states (45) verify income prior to enrollment. Prior to the ACA, most states relied on paper

documentation to verify eligibility criteria, with less than a third of states (12) using other data sources to verify financial eligibility for children at application. As of January 2020, two-thirds of the states (34) use at least four electronic data sources to verify financial eligibility. A total of 46 states use state wage databases and 46 use state unemployment databases, while 41 states utilize the federal data services hub. Additionally, two-thirds of states (33) use commercial wage databases while just under half (23) access SNAP income data. Nearly two-thirds of states (31) indicate that most income data checks are conducted automatically by the system while another third (16 states) indicate that they conduct these data matches through a mix of automatic matches and manual lookups by eligibility workers. Only three states rely mostly on manual lookups. Most states (33) utilize a reasonable compatibility standard, typically 10%, under which they will determine an individual eligible even if there is a small difference between the amount of reported income and the amount identified through electronic data matches that would otherwise affect eligibility.

Reflecting use of electronic data matches, as of January 2020, 47 states are able to make real-time eligibility determinations (defined as within 24 hours). Nearly one third of these states (15) report that they make more than half of MAGI-based determinations in real time, including 10 that report making over three-quarters of determinations in less than 24 hours (Figure 15). States processing the majority of their applications in real-time are more likely to report that their eligibility system conducts most income verifications automatically without caseworker action. Most states (42) indicate they do not have delays or backlogs in processing applications; the 8 states reporting delays or backlogs generally cite ongoing system challenges or increased application volume due to open enrollment or implementation of the Medicaid expansion.

Figure 15

Share of Medicaid Determinations Conducted in Real-Time (<24 Hours), January 2020



NOTE: Real-time defined as <24 hours. Share of total applications for non-disabled children, pregnant women, parents, and expansion adults. South Carolina not reported.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

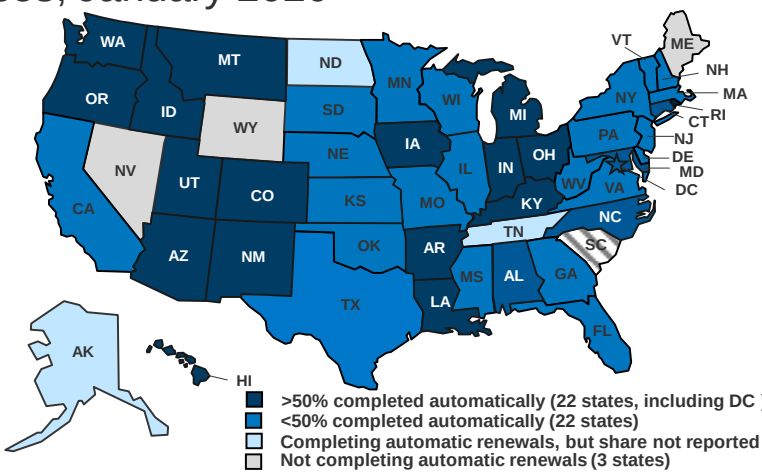
Renewal Processes

Under the ACA, states must seek to complete automated or ex parte renewals by verifying ongoing eligibility through available data sources before requesting a form or documentation from an enrollee. If a state cannot determine that an individual remains eligible based on available information, it must provide the enrollee with a pre-populated form containing the information relevant to renewal and a reasonable period, at least 30 days, for the individual to provide the necessary information and correct any inaccuracies online, in person, by telephone or by mail.

As of January 2020, 47 states are conducting automated or ex parte renewals. This count reflects two states (Alaska and Tennessee), that implemented automated renewals in 2019. In contrast, just 16 states were completing automated or ex parte renewals in 2009, prior to the ACA. In 22 states, at least half of renewals are completed automatically, including 9 states where least three-quarters of renewals are automated and do not require enrollee action (Figure 16). Nearly two-thirds of states (31) report that their system conducts most automated or ex parte renewals without any manual caseworker action, while seven states report that these transactions include a mix of automated actions by the system and manual actions by caseworkers. Nine states report that most ex parte renewals require manual caseworker action. The majority of states (41) allow enrollees to renew by phone without a paper form or signature if the state cannot complete an automated renewal and the enrollee must submit information. However, the large majority of states only contact enrollees 1-2 times to request additional information before terminating coverage, and in a number of cases, enrollees only receive a second contact if they have elected to receive electronic notices through an online account.

Figure 16

Share of Medicaid Renewals Completed Using Automated Processes, January 2020



NOTE: Share of renewals for non-disabled children, pregnant women, parents and expansion adults. South Carolina not reported.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

Ten states report delays or backlogs in processing renewals in Medicaid or CHIP. These largely are states in the midst of new system builds or major system upgrades that also have delays in processing applications. Three states report that some renewals have been temporarily suspended or delayed, a mitigation strategy that CMS has allowed when states are dealing with system issues or increased volume that inhibit timely processing of applications and renewals. Additional states may delay or suspend renewals as part of their response to COVID-19. Moreover, under the Families First Coronavirus Response Act, to receive the enhanced federal match rate provided under the law, states must provide continuous eligibility for enrollees through the end of the month of the emergency period unless an individual asks to be disenrolled or ceases to be a state resident

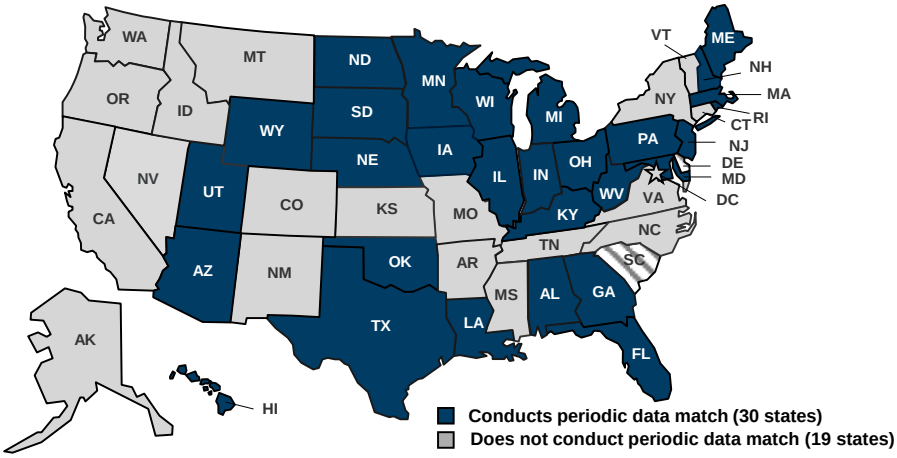
Identifying Changes in Circumstances

Although the ACA established a 12-month renewal period, states disenroll individuals within that 12-month period if they have a change in circumstances that affects eligibility, such as an increase in income. Enrollees are required to report changes in circumstances that may affect eligibility. States may also conduct periodic electronic data matches to identify potential changes in circumstances between annual renewal periods. If a state receives information from the enrollee or through another data source about a change that may affect eligibility, it will review the information to determine ongoing eligibility and may request additional information or documentation from the individual to continue coverage. If the individual does not respond to a request within the required timeframe, the state will disenroll the individual from coverage. The Trump administration has promoted use of periodic data matches between renewals as a program integrity strategy.[8] However, as noted above, to access enhanced federal funding under the Families First Response Act, states generally must provide continuous eligibility for enrollees through the end of the emergency period.

As of January 2020, 30 states reported that they conduct data matches on a periodic basis to identify potential changes that may affect financial or other eligibility criteria between annual renewal periods (Figure 17). The frequency of these checks varies across states and the data sources used for the review. For example, since 2014, Texas has checked income for households with children on Medicaid in the fifth, sixth, seventh, and eighth month of enrollment. These checks are timed to the child's start date, so households with multiple children who enrolled in coverage at different times face checks even more frequently. In contrast to the minimum 30 days provided at renewal, a number of states that conduct data matches provide only 10 days from the date of notice for enrollees to respond to information requests. Similar to the processes used at renewal, most states only contact enrollees 1-2 times to request this information before terminating coverage with the second notice often sent only to individuals opting for electronic notices through their online accounts.

Figure 17

Number of States Conducting Periodic Data Matches, January 2020



NOTES: South Carolina and Delaware not reported.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

Adoption of Options to Promote Enrollment and Retention

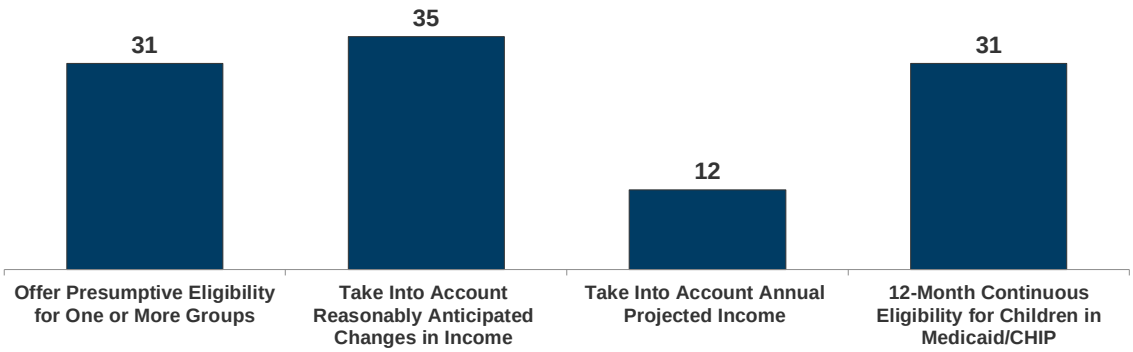
States can adopt policy options and processes to promote continuity of coverage and minimize coverage gaps or churn—that is, people moving on and off of coverage over relatively short periods of time. These include policy options that can expedite enrollment and prevent coverage gaps due to small fluctuations in income. Income volatility is common among the low-income population, for example, due to seasonal work or fluctuating hours due to employment in industries such as food service and construction.[9,10] States can also implement processes that enhance communications with enrollees to help prevent individuals from losing coverage because they are not receiving or responding to notices from the state. Enrollees may not receive mailed notices if they move frequently, which also is more common among the low-income population.[11] Stable coverage and reduction of churn promotes more continuous access to care, enhances the state's ability to measure the quality of care, and can reduce administrative costs and burden associated with moving people on and off of coverage.

As of January 2020, 31 states are using presumptive eligibility for one or more groups to expedite enrollment in Medicaid or CHIP coverage (Figure 18). Presumptive eligibility is a longstanding option that allows states to authorize certain qualified entities, like community health centers or schools, to enroll children or pregnant women who appear likely eligible for coverage while the state processes the full application. Presumptive eligibility can be particularly helpful when individuals may need extra time to collect documents needed to complete a full eligibility determination. Under the ACA, states were required to allow hospitals to conduct presumptive eligibility determinations regardless of whether the state had otherwise adopted the policy. The ACA also allowed states that use presumptive eligibility for pregnant women or children to extend the policy for other groups, including parents and other adults. As of January

2020, most states use presumptive eligibility for pregnant women (30 states) and children (19 states) while fewer have implemented the option for parents (9 states), other adults (8 states), family planning coverage (6 states) and former foster youth (8 states).

Figure 18

Number of States Adopting Facilitated Enrollment and Renewal Options, January 2020



NOTES: South Carolina not reported.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

A total of 35 states take into account reasonably predictable changes in income when determining eligibility for Medicaid as of January 2020. This option enables states to account for anticipated income changes, such as recurring seasonable employment or a job change, when determining eligibility at application or renewal. For example, under this option, if a teacher receives a salary under a 10-month contract, the state would divide that income over 12 months to determine current monthly income for assessing eligibility. In addition, 12 states have adopted a similar option to take into account projected annual income for the remainder of the calendar year when determining ongoing eligibility at renewal or when an individual has a potential change in circumstances between renewal periods. This enables individuals to maintain coverage if their projected annual income is below the Medicaid threshold, even if their current monthly income is above the threshold when eligibility is assessed.[12] In most cases, the individual or an eligibility caseworker must request or take action to have anticipated income changes or projected annual considered rather than the system accounting for these options automatically.

As of January 2020, 31 states provide 12-month continuous eligibility to children in either Medicaid or CHIP. Under this option, states allow a child to remain enrolled for a full year unless the child ages out of coverage, moves out of state, voluntarily withdraws, or does not make premium payments. As such, 12-month continuous eligibility eliminates coverage gaps due to fluctuations in income over the course of the year. Additionally, two states (Montana and New York) have extended 12-month continuous eligibility to adults under waiver authority.

Some states have implemented processes to facilitate communication with enrollees. For example, ten states reported taking proactive steps to update address information for enrollees. These include regular data matches with the U.S. Postal Service National Change of Address Database and working with managed care plans and providers to update address information. In addition, just under half of states reported routinely taking additional action such as calling enrollees or sending email or text notifications when they receive returned mail from a notice sent to an enrollee.

Premiums and Cost Sharing

Federal rules limit premiums and cost sharing in Medicaid and CHIP given enrollees' limited ability to pay out of pocket costs. Under these rules, states may not charge premiums in Medicaid for enrollees with incomes less than 150% FPL. However, some states have obtained waivers to impose charges in Medicaid that federal rules do not otherwise allow. Maximum allowable cost sharing varies by type of service and income in Medicaid (Table 1). CHIP programs have more flexibility to charge premiums and cost sharing, but both Medicaid and CHIP limit total family out-of-pocket costs to no more than 5% of family income, and states are required to maintain tracking systems to cease cost-sharing once a family meets the cap. Under the Families First Coronavirus Response Act, states must provide COVID-19 testing with no cost sharing under Medicaid and CHIP. Moreover, to access the increased federal match rate for Medicaid provided under the law, states may not charge any cost sharing for any testing or treatments for COVID-19, including vaccines, specialized equipment, or therapies.

Table 1: Allowable Cost Sharing Amounts for Adults in Medicaid by Income

	<100% FPL	100% – 150% FPL	>150% FPL
Outpatient Services	up to $4	up to 10% of state cost	up to 20% of state cost
Non-Emergency use of ER	up to $8	up to $8	No limit
Prescription Drugs	Preferred: up to $4 Non-Preferred: up to $8	Preferred: up to $4 Non-Preferred: up to $8	Preferred: up to $4 Non-Preferred: up to 20% of state cost
Inpatient Services	up to $75 per stay	up to 10% of state cost	up to 20% of state cost

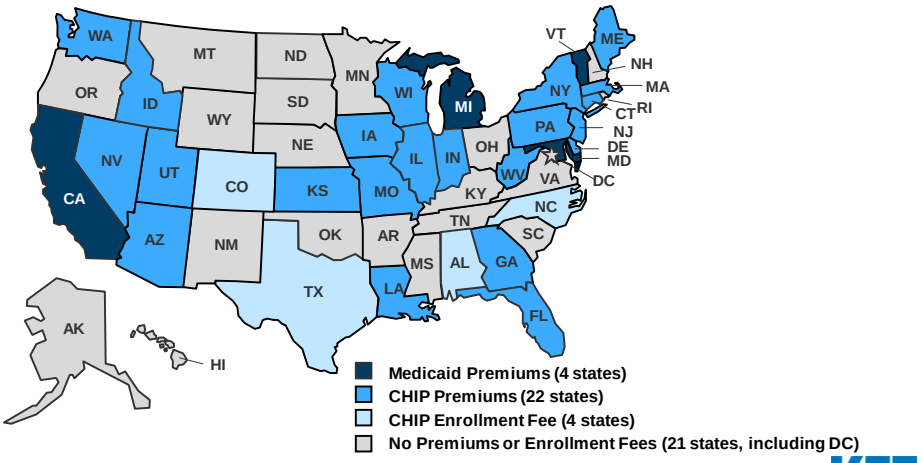
Premiums and Cost Sharing for Children

The number of states (30) charging premiums or enrollment fees for children remained steady in 2019 (Figure 19). The total number of states charging premiums or enrollment fees for children has decreased from 34 in 2009, just prior to the ACA. This decrease, in part, reflects some states transitioning their separate CHIP programs to Medicaid expansions. The stability of premiums since then reflects that extensions in CHIP funding have included a maintenance of effort provision, under which states may not implement new premiums or increase premiums outside of routine increases that were approved in the state's plan as of 2010. As of January 2020, four states without separate CHIP programs charge premiums to children in Medicaid starting at 160% FPL, and 26 of the 35 separate CHIP programs charge

either annual enrollment fees (4 states) or impose monthly or quarterly premiums for children starting at 133% FPL. In 11 states, premiums are family-based, while 15 states have a family cap that limits premiums to no more than three times the individual child rate. Premiums range from $10 for families with income at 151% FPL to a high of $154 per child at 301% FPL.

Figure 19

Premiums or Enrollment Fees for Children in Medicaid and CHIP, January 2020



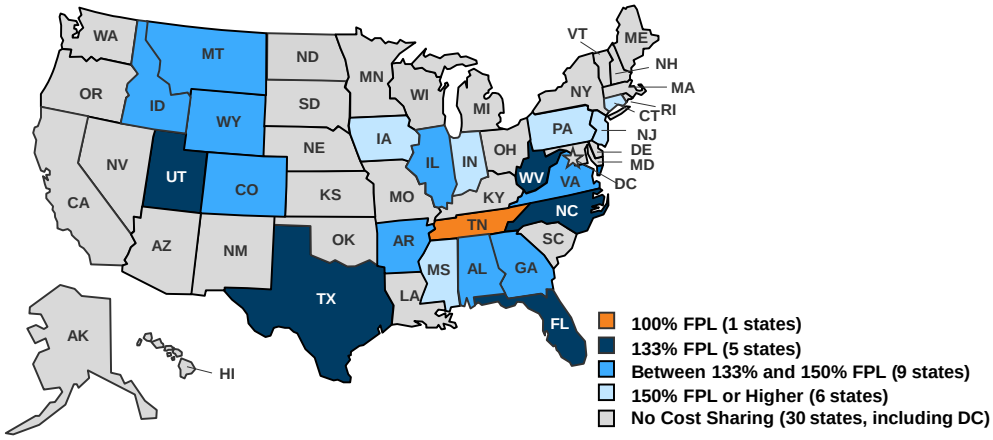
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

States vary in disenrollment policies related to non-payment of premiums. Under federal rules, the minimum grace period before canceling coverage for non-payment of premiums is 60 days in Medicaid and 30 days in CHIP. However, 15 of the 22 states charging monthly or quarterly premiums in CHIP provide at least a 60-day grace period. In Medicaid, children who are disenrolled for non-payment of premiums cannot be locked-out of coverage as a penalty for non-payment, while separate CHIP programs may establish a lockout period of up to 90 days. Among the 22 states charging monthly or quarterly premiums in CHIP, eight states do not impose lockout periods. As of January 2020, 14 states have lockout periods in CHIP, with 12 of those states imposing the maximum 90 days.

As of January 2020, the majority of states (29) do not charge copayments to children in Medicaid or CHIP. In 2019, North Dakota eliminated copayments for children in Medicaid and Wisconsin stopped charging copayments in both Medicaid and CHIP. With these changes, as of January 2020, 21 of the 35 states with separate CHIP programs charge copayments (Figure 20). Tennessee is the only state that charges copayments for children in Medicaid, and, under a longstanding waiver, it charges copayments for families with incomes below the federal minimum of 133% FPL. Cost sharing varies by state and service. At 151% FPL, 16 states charge cost sharing for non-preventive physician visits, 11 states charge for an inpatient hospital visit, and 12 charge for generic drugs.

Figure 20

Income at Which Cost Sharing for Children in Medicaid and/or CHIP Begins, January 2020



SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

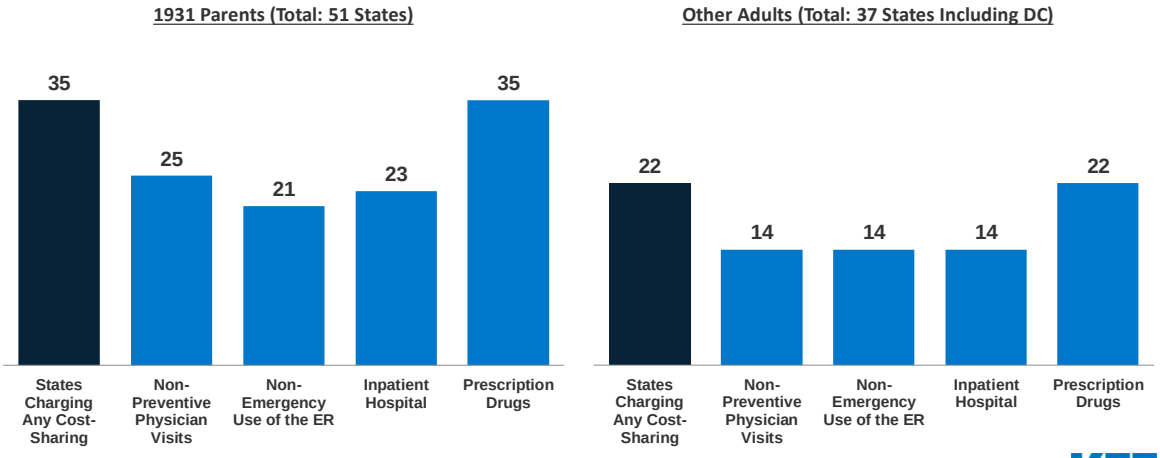
Premiums and Cost Sharing for Parents and Other Adults

As of January 2020, seven states have approved waivers to charge premiums or monthly contributions for adults in Medicaid that federal rules do not otherwise allow, but only five states have implemented these charges.[13] Arkansas, Indiana, Iowa, Michigan, and Montana charge premiums or monthly contributions for parents and other adults covered through the ACA Medicaid expansion. In Indiana, these charges also apply to parents covered through the traditional eligibility pathway that existed before the ACA. Some of these waivers also allow individuals to be locked out of coverage for a specified period if they are disenrolled due to non-payment and to delay coverage until after the first premium is paid.

As of January 2020, the majority of states charge cost sharing for parents and other adults, regardless of income. However, the total number of states charging cost sharing fell during 2019, with Illinois, Montana, and North Dakota eliminating copayments for parents and adults. Wisconsin also suspended copayments but plans to reinstate them in July 2020. As of January 2020, 35 states charge copayments for parents eligible for Medicaid under the traditional pathway that existed before the ACA (Figure 21). In addition, of the 37 states that cover other adults (counting the 36 states Medicaid expansion states and Wisconsin, which covers other adults but has not adopted the expansion), 22 charge copayments, including Utah, which expanded Medicaid as of January 2020.

Figure 21

Number of States with Cost Sharing for Selected Services for Adults, January 2020



NOTES: Wisconsin suspended copayments until July 2020.
SOURCE: Based on results from a national survey conducted by KFF and the Georgetown University Center for Children and Families, 2020.

Looking Ahead

Prior to the COVID-19 outbreak, the federal government and some states were taking actions to add eligibility requirements and increase eligibility verification for Medicaid coverage. The administration approved waivers in several states to allow work requirements and other eligibility restrictions and released guidance for new "Healthy Adult Opportunity" demonstrations that would allow for such requirements and other changes. Recent court decisions set aside or struck down work requirements and suggested that similar approvals are likely to be successfully challenged in litigation. The administration also indicated plans to increase eligibility verification requirements as part of program integrity efforts. Outside of Medicaid, other policy changes were also contributing to downward trends in coverage, including decreased federal funding for outreach and enrollment and shifting immigration policies**.** However, given increasing health care needs stemming from COVID-19, states and Congress are taking action to expand eligibility, expedite enrollment, promote continuity of coverage, and facilitate access to care.

States can take a range of actions under existing rules to facilitate access to coverage and care in response to COVID-19. They can take some of these actions quickly without federal approval. For example, they can allow self-attestation of eligibility criteria other than citizenship and immigration status and verify income post enrollment. They can also provide greater flexibility to enroll individuals who have small differences between self-reported income and income available through data matches. Further, they can suspend or delay renewals and periodic data checks between renewals. States can take other actions allowed under existing rules by submitting a state plan amendment (SPA, which is retroactive to the first day of the quarter submitted). Changes states can implement through a SPA include expanding

eligibility, adopting presumptive eligibility, providing 12-month continuous eligibility for children, and modifying benefit and cost sharing requirements, among others. Beyond these options, states can seek additional flexibility through Section 1135 and Section 1115 waivers.

The Families First Coronavirus Response Act provides additional options for states and access to increased federal funding subject to states meeting certain eligibility and enrollment requirements. Specifically, it provides coverage for COVID-19 testing with no cost sharing under Medicaid and CHIP (as well as other insurers) and provides 100% federal funding through Medicaid for testing provided to uninsured individuals for the duration of the emergency period associated with COVID-19. The law also provides states and territories a temporary 6.2 percentage point increase in the federal matching rate for Medicaid for the emergency period. To receive this increase, states need to meet certain requirements including: not implementing more restrictive eligibility standards or higher premiums than those in place as of January 1, 2020; providing continuous eligibility for enrollees through the end of the month of the emergency period unless an individual asks to be disenrolled or ceases to be a state resident; and not charging any cost sharing for any testing services or treatments for COVID-19, including vaccines, specialized equipment or therapies.

Endnotes

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[4] Ibid.

[5] Ibid.

[6] Donna Cohen Ross and Laura Cox, *Beneath the Surface: Barriers Threaten to Slow Progress on Expanding Health Coverage of Children and Families, A 50 State Update on Eligibility, Enrollment, Renewal, and Cost-Sharing Practices in Medicaid and CHIP*, (Washington, DC: Kaiser Family Foundation, October 2004), https://www.kff.org/wp-content/uploads/2013/01/beneath-the-surface-barriers-threaten-to-slow-progress-on-expanding-health-coverage-of-children-and-families-pdf.pdf and Laura Summer and Cindy Mann*, Instability of Public Health Insurance Coverage for Children and their Families: Causes, Consequences, and Remedies*, (New York: The Commonwealth Fund, June 2006), http://www.commonwealthfund.org/publications/fund-reports/2006/jun/instability-of-public-health-insurance-coverage-for-children-and-their-families--causes--consequence.

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[11] Robin Phinney, "Exploring Residential Mobility among Low-Income Families." Social Service Review 87, no. 4 (2013): 780-815. Accessed March 8, 2020. doi:10.1086/673963.

[12]Centers for Medicare and Medicaid Services, "MAGI 2.0: Building MAGI Knowledge," September 1, 2016, https://www.medicaid.gov/state-resource-center/mac-learning-collaboratives/downloads/part-2-income.pdf.

[13] Arizona has obtained waiver approval to charge premiums to certain expansion adults but the state has not implemented as of January 2020. In 2019, the courts struck down Kentucky's waiver that included monthly charges for adults, and, under new state leadership, the state ultimately waiver withdrew its waiver request. New Mexico also had obtained a waiver to charge premiums for certain adults starting in

2019; however, the new governor amended the waiver to remove this authority and does not intend to implement premiums.

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Table A: Trends in State Medicaid and CHIP Eligibility, Enrollment, and Renewal Policies, July 2000-January 2020[1]																			
	Program	July 2000	Jan 2002	April 2003	July 2004	July 2005	July 2006	Jan 2008	Jan 2009	Dec 2009	Jan 2011	Jan 2012	Jan 2013	Jan 2015	Jan 2016	Jan 2017	Jan 2018	Jan 2020	Jan 2020
ELIGIBILITY																			
Cover children >200% FPL	**N/A**	36	40	39	39	41	41	45	44	47	47	47	47	48	48	49	49	49	49
Cover children >300% FPL	**N/A**	5	6	6	6	6	8	9	10	16	16	17	17	19	19	19	19	19	19
Cover lawfully-residing immigrant children without five-year wait	**Medicaid**	Option Not Available								17	21	24	25	28	29	31	33	34	35
	CHIP														19	21	22	23	24
Cover pregnant women >200% FPL	**N/A**	NC		17	16	17	17	20	21	24	25	25	25	33	33	34	34	34	35
Cover lawfully-residing immigrant pregnant women without five-year wait	**Medicaid**	Option Not Available								14	17	18	20	23	23	23	25	25	25
	CHIP														4	3	3	3	4
Cover parents ≥100% FPL[2]	**N/A**	NC	20	16	17	17	16	18	18	17	18	18	18	31	34	35	34	35	37
Cover other adults[2,3]	**N/A**	NC									7	8	25	29	32	33	33	35	37
Asset test not required[4]	**Medicaid Children**	42	45	45	46	47	47	47	47	48	48	48	48	51	51	51	51	51	51
	CHIP	31	34	34	33	33	34	35	36	37	36	37	36						
	Parents	NC	19	21	22	22	21	22	23	24	24	24	24						
STREAMLINED ENROLLMENT PROCESSES																			
Real-time eligibility determinations	**N/A**	NC													37	39	40	46	47
Online Medicaid application[4]	**Medicaid**	NC									32	34	36	50	50	50	50	51	51
Telephone Medicaid application[4]	**Medicaid**	NC											17	47	49	49	49	47	45
Presumptive eligibility for children	**Medicaid**	8	9	7	8	9	9	14	14	14	16	16	17	15	18	20	20	20	19
	CHIP	4	5	4	6	6	6	9	9	9	10	11	12	9	10	11	11	11	10
Presumptive eligibility for pregnant women	**Medicaid**	NC		29	29	30	31	30	30	30	31	31	32	27	29	30	30	30	30
	CHIP														2	3	3	3	3
No face-to-face interview at enrollment[4]	**Medicaid Children**	40	47	46	45	45	46	46	48	48	49	49	49	51	51	51	51	51	51
	CHIP	31	34	33	33	33	33	34	38	38	37	38	37						
	Parents	NC	35	36	36	36	39	40	41	41	44	45	45						
STREAMLINED RENEWAL PROCESSES																			
Processing automated renewals	**N/A**	NC													34	42	46	46	47
Telephone Medicaid renewal	**N/A**	NC													41	41	41	41	41
No face-to-face interview at renewal[4]	**Medicaid Children**	43	48	49	48	48	48	48	49	50	50	50	50	51	51	51	51	51	51
	CHIP	32	34	35	35	35	35	36	38	38	37	38	37						
	Parents		35	42	42	43	45	46	46	46	46	48	48						
12-month eligibility period[4]	**Medicaid Children**	39	42	42	41	42	44	45	44	47	49	49	49	51	51	51	51	51	51
	CHIP	23	33	33	32	34	34	37	39	39	38	28	38						
	Parents		38	38	36	36	39	40	40	43	45	46	46						
12-month continuous eligibility for children	**Medicaid**	14	18	15	15	17	16	16	18	22	23	23	23	21	24	24	24	24	23
	CHIP	22	23	21	21	24	25	27	30	30	28	28	27	25	26	26	26	26	25

SOURCES: Based on a national survey conducted by the Kaiser Family Foundation with the Center on Budget and Policy Priorities, 1997-2009; and with the Georgetown University Center for Children and Families, 2011-2020.

NC indicates that data were not collected for the period. South Carolina did not report some data for January 2020.

1. The numbers in this table reflect the net change in actions taken by states from year to year. Specific strategies may be adopted and retracted by several states during a given year.

2. These counts do not include states that may have provided coverage above the levels shown using state-only funding or provide a more limited benefit package.

3. This count includes Wisconsin's coverage of adults to 100% FPL.

4. Required across all states under the Affordable Care Act (ACA). See S. Artiga, M. Musumeci, and R. Rudowitz, "Medicaid Eligibility, Enrollment Simplification, and Coordination Under the Affordable Care Act: A Summary of CMS's March 23, 2012 Final Rule," December 2012. Mitigation strategies are in place in cases in which requirements have not yet been met.

Table 1: Income Eligibility Limits for Children's Health Coverage as a Percent of the Federal Poverty Level, January 2020[1]								
State	Upper Income Limit	Medicaid Coverage for Infants Ages 0-1[2]		Medicaid Coverage for Children Ages 1-5[2]		Medicaid Coverage for Children Ages 6-18[2]		Separate CHIP for Uninsured Children Ages 0-18[3]
		Medicaid Funded	CHIP-Funded for Uninsured Children	Medicaid Funded	CHIP-Funded for Uninsured Children	Medicaid Funded	CHIP-Funded for Uninsured Children	
Median[4]	**255%**	**195%**	**217%**	**148%**	**216%**	**138%**	**155%**	**255%**
Alabama[5]	317%	146%		146%		146%	107%-146%	317%
Alaska	208%	177%	159%-208%	177%	159%-208%	177%	124%-208%	
Arizona	205%	152%		146%		138%	104%-138%	205%
Arkansas	216%	147%		147%		147%	107%-147%	216%
California[6]	266%	208%	208%-266%	142%	142%-266%	133%	108%-266%	
Colorado	265%	147%		147%		147%	108%-147%	265%
Connecticut	323%	201%		201%		201%		323%
Delaware	217%	217%	194%-217%	147%		138%	110%-138%	217%
District of Columbia[5]	324%	324%	206%-324%	324%	146%-324%	324%	112%-324%	
Florida[7]	215%	211%	192%-211%	145%		138%	112%-138%	215%
Georgia	252%	210%		154%		138%	113%-138%	252%
Hawaii	313%	191%	191%-313%	139%	139%-313%	133%	105%-313%	
Idaho	190%	147%		147%		138%	107%-138%	190%
Illinois	318%	147%		147%		147%	108%-147%	318%
Indiana[8]	262%	218%	157%-218%	165%	141%-165%	165%	106%-165%	262%
Iowa	380%	380%	240%-380%	172%		172%	122%-172%	307%
Kansas[9]	240%	171%		154%		138%	113%-138%	240%
Kentucky	218%	200%		142%	142%-164%	133%	109%-164%	218%
Louisiana	255%	142%	142%-217%	142%	142%-217%	142%	108%-217%	255%
Maine	213%	196%		162%	140%-162%	162%	132%-162%	213%
Maryland	322%	194%	194%-322%	138%	138%-322%	133%	109%-322%	
Massachusetts[10]	305%	205%	185%-205%	155%	133%-155%	155%	114%-155%	305%
Michigan[11]	217%	195%	195%-217%	160%	143%-217%	160%	109%-217%	
Minnesota[12]	288%	275%	275%-288%	280%		280%		
Mississippi	214%	199%		148%		138%	107%-138%	214%
Missouri	305%	201%		148%	148%-155%	148%	110%-155%	305%
Montana	266%	148%		148%		133%	109%-148%	266%
Nebraska	218%	162%	162%-218%	145%	145%-218%	133%	109%-218%	
Nevada	205%	165%		165%		138%	122%-138%	205%
New Hampshire	323%	196%	196%-323%	196%	196%-323%	196%	196%-323%	
New Jersey	355%	199%		147%		147%	107%-147%	355%
New Mexico	305%	240%	200%-305%	240%	200%-305%	190%	138%-245%	
New York	405%	223%		154%		154%	110%-154%	405%
North Carolina[13]	216%	215%	194%-215%	215%	141%-215%	138%	107%-138%	216%
North Dakota[14]	175%	147%	147%-175%	147%	147%-175%	133%	111%-175%	
Ohio	211%	156%	141%-211%	156%	141%-211%	156%	107%-211%	
Oklahoma[5,15]	210%	210%	169%-210%	210%	151%-210%	210%	115%-210%	
Oregon	305%	190%	133%-190%	138%		138%	100%-138%	305%
Pennsylvania	319%	220%		162%		138%	119%-138%	319%
Rhode Island	266%	190%	190%-266%	142%	142%-266%	133%	109%-266%	
South Carolina	213%	194%	194%-213%	143%	143%-213%	133%	107%-213%	
South Dakota	209%	187%	147%-187%	187%	147%-187%	187%	111%-187%	209%
Tennessee[5,16]	255%	195%	195%-216%	142%	142%-216%	133%	109%-216%	255%
Texas	206%	203%		149%		138%	101%-138%	206%
Utah	205%	144%		144%		138%	105%-138%	205%
Vermont	317%	317%	237%-317%	317%	237%-317%	317%	237%-317%	
Virginia	205%	148%		148%		148%	109%-148%	205%
Washington	317%	215%		215%		215%		317%
West Virginia	305%	163%		146%		138%	108%-138%	305%
Wisconsin[17]	306%	306%		191%		133%	101%-156%	306%
Wyoming	205%	159%		159%		138%	119%-138%	205%

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.
Table presents rules in effect as of January 1, 2020.

Table 1 Notes

1. January 2020 income limits are reported as a percentage of the federal poverty level (FPL). The FPL for a family of three is $21,720 as of 2020. The reported levels reflect Modified Adjusted Gross Income (MAGI)-converted income standards and include a disregard equal to five percentage points of the FPL applied at the highest income level for Medicaid and separate CHIP coverage. In states without a separate CHIP program, the disregard is added to the highest Medicaid or the CHIP-funded Medicaid expansion limit. In states with a separate CHIP program, the disregard is applied to the highest Medicaid or CHIP-funded Medicaid expansion limit as well as to the upper eligibility limit of the separate CHIP program. Because CHIP funding is limited to uninsured children, in states that have a higher eligibility limit for their CHIP-funded Medicaid expansion than regular Medicaid, there may be a small number of children who have another source of coverage that would be eligible for Medicaid when the 5 percentage point disregard is applied, which is not reflected in the table.
2. States may use Title XXI CHIP funds to cover children through CHIP-funded Medicaid expansion programs and/or separate child health insurance programs for children not eligible for Medicaid. Use of Title XXI CHIP funds is limited to uninsured children. The Medicaid income eligibility levels listed indicate thresholds for children covered with Title XIX Medicaid funds and uninsured children covered with Title XXI funds through CHIP-funded Medicaid expansion programs. To be eligible in the infant category, a child has not yet reached his or her first birthday; to be eligible in the 1-5 category, the child is age one or older, but has not yet reached his or her sixth birthday; and to be eligible in the 6-18 category, the child is age six or older, but has not yet reached his or her 19th birthday.
3. The states noted use federal CHIP funds to operate separate child health insurance programs for children not eligible for Medicaid. Such programs may either provide benefits similar to Medicaid or a somewhat more limited benefit package. They also may impose premiums or other cost sharing obligations on some or all families with eligible children. Unlike Medicaid, which allows states to cover 19 and 20 years as children, CHIP coverage is limited to uninsured children under the age of 19.
4. Medians for CHIP-funded uninsured children are based on the upper limit of coverage.
5. Alabama, the District of Columbia, Oklahoma, and Tennessee have different lower bounds for adolescents in Title XXI funded Medicaid expansions depending on age. The lower bound for Title XXI funded Medicaid is 18% for children ages 14 through 18 in Alabama, 63% for children ages 15 through 18 in the District of Columbia, 69% for children ages 14 through 18 in Oklahoma, and 29% for children ages 14 through 18 in Tennessee.
6. In California, children with higher incomes may be eligible for separate CHIP coverage in certain counties.
7. In Florida, all infants are covered in Medicaid. Florida operates three separate CHIP programs: Healthy Kids covers children ages 5 through 18; MediKids covers children ages 1 through 4; and the Children's Medical Services Managed Care Plan serves children with special health care needs from birth through age 18. In Florida, families can buy-in to Healthy Kids for children ages 5-19 and to MediKids children ages 1 to 4.

8. Indiana uses a state-specific income disregard that is equal to five percent of the highest income eligibility threshold for the group.
9. In Kansas, eligibility for children in the separate CHIP program is a dollar-based income level equal to 238% FPL in 2008. This amount increased in 2014 for the MAGI conversion, but as a fixed dollar amount, the equivalent FPL level may erode over time.
10. Massachusetts also covers insured children in its separate CHIP program with Title XIX Medicaid funds under its Section 1115 waiver. Massachusetts also covers uninsured 18 year olds with incomes up to 155% FPL under its Medicaid expansion and up to 305% under separate CHIP.
11. Michigan also provides CHIP-funded Medicaid expansion coverage to children with incomes between 212% FPL to 400% FPL affected by the Flint water crisis.
12. In Minnesota, the infant category under Title XIX-funded Medicaid includes insured and uninsured children up to age two with incomes up to 275% FPL, and insured children up to age 2 from 275-288% FPL.
13. In North Carolina, all children ages 0 through 5 are covered in Medicaid while the separate CHIP program covers children ages 6 through 18 with incomes above Medicaid limits.
14. North Dakota moved its separate CHIP program to a Medicaid expansion program as of January 2020.
15. Oklahoma offers a premium assistance program to children ages 0 through 18 with income up to 222% FPL with access to employer sponsored insurance through its Insure Oklahoma program.
16. In Tennessee, Title XXI funds are used for two programs, TennCare Standard (a Medicaid expansion program) and CoverKids (a separate CHIP program). TennCare Standard provides Medicaid coverage to uninsured children who lose eligibility under TennCare (Medicaid), have no access to insurance, and have family income below 216% FPL or are medically eligible.
17. In Wisconsin, children are not eligible for its separate CHIP program if they have access to health insurance coverage employer sponsored insurance that covers at least 80% of the cost.

Table 2: State Adoption of Optional Medicaid and CHIP Coverage for Children, January 2020							
State	No Waiting Period for CHIP[1]	Coverage for Dependents of State Employees in CHIP[2,7] (Total = 35)	Lawfully-Residing Immigrants Covered without 5-Year Wait[3]		Provides Medicaid Coverage to Former Foster Youth up to Age 26 from Other States[4]	EPSDT for Children Enrolled in Separate CHIP[5] (Total =35)	Health Services Initiative[6]
			Medicaid	CHIP (Total =35)			
Total	**38**	**18**	**35**	**24**	**11**	**13**	**23**
Alabama	None	Y					
Alaska	None	N/A (M-CHIP)		N/A (M-CHIP)		N/A (M-CHIP)	
Arizona	90 days					Y	
Arkansas	90 days	Y	Y	Y		Y	Y
California[11,15]	None	N/A (M-CHIP)	Y	N/A (M-CHIP)	Y	N/A (M-CHIP)	Y
Colorado	None	Y	Y	Y			
Connecticut	None	Y	Y	Y			
Delaware[16]	None		Y	Y	Y	Not reported	Y
District of Columbia[11]	None	N/A (M-CHIP)	Y	N/A (M-CHIP)		N/A (M-CHIP)	
Florida[17]	2 months	Y	Y	Y			Y
Georgia	None	Y			Y	Y	
Hawaii	None	N/A (M-CHIP)	Y	N/A (M-CHIP)		N/A (M-CHIP)	
Idaho[17]	None					Y	Y
Illinois[11,18,19]	90 days		Y	Y		Y	Y
Indiana[14,15]	90 days						Y
Iowa[15,19]	1 month		Y	Y			Y
Kansas[8]	None	Y				Y	
Kentucky	None	Y	Y	Y	Y		
Louisiana[12]	90 days		Y	Y		Y	
Maine	90 days	Y	Y	Y		Y	Y
Maryland[15,21]	None	N/A (M-CHIP)	Y	N/A (M-CHIP)		N/A (M-CHIP)	Y
Massachusetts[11,13,17,22]	None		Y	Y	Y		Y
Michigan[15,21]	None	N/A (M-CHIP)		N/A (M-CHIP)		N/A (M-CHIP)	Y
Minnesota[18]	None	N/A (M-CHIP)	Y	N/A (M-CHIP)		N/A (M-CHIP)	Y
Mississippi	None	Y					
Missouri[14,17,21,23]	None					Y	Y
Montana	None	Y	Y	Y			
Nebraska[15]	None	N/A (M-CHIP)	Y	N/A (M-CHIP)		N/A (M-CHIP)	Y
Nevada[14,17,20]	None	Y	Y	Y			
New Hampshire	None	N/A (M-CHIP)		N/A (M-CHIP)		N/A (M-CHIP)	
New Jersey[15,17,24]	90 days		Y	Y		Y	Y
New Mexico	None	N/A (M-CHIP)	Y	N/A (M-CHIP)	Y	N/A (M-CHIP)	
New York[11,15,17,25]	None		Y	Y			Y
North Carolina	None	Y	Y	Y			
North Dakota[9]	None	N/A (M-CHIP)		N/A (M-CHIP)		N/A (M-CHIP)	
Ohio[21]	None	N/A (M-CHIP)	Y	N/A (M-CHIP)		N/A (M-CHIP)	Y
Oklahoma[26]	None	N/A (M-CHIP)		N/A (M-CHIP)		N/A (M-CHIP)	Y
Oregon[11,15]	None		Y	Y			Y
Pennsylvania[10]	None	Y	Y	Y	Y		
Rhode Island	None	N/A (M-CHIP)	Y	N/A (M-CHIP)		N/A (M-CHIP)	
South Carolina	None	N/A (M-CHIP)	Y	N/A (M-CHIP)		N/A (M-CHIP)	
South Dakota	90 days				Y	Y	
Tennessee	None	Y					
Texas	90 days	Y	Y	Y			
Utah	90 days		Y	Y	Y		
Vermont	None	N/A (M-CHIP)	Y	N/A (M-CHIP)		N/A (M-CHIP)	
Virginia	None	Y	Y	Y	Y		
Washington[11,15]	None		Y	Y		Y	Y
West Virginia[17,27]	None	Y	Y	Y			Y
Wisconsin[15,21]	None		Y	Y	Y	Y	Y
Wyoming	1 month						

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.
Table presents rules in effect as of January 1, 2020.

Table 2 Notes

1. "Waiting period" refers to the length of time a child is required to be without group coverage prior to enrolling in CHIP coverage. Waiting periods generally apply to separate CHIP programs only, as they are not permitted in Medicaid without a waiver. The Affordable Care Act (ACA) limits waiting periods to no more than 90 days, and states must waive the waiting period for specific good causes established in federal regulations. States may adopt additional exceptions to the waiting period, which vary by state. In addition to the income exemptions shown, specific categories of children such as newborns may be exempt from the waiting periods.
2. This column indicates whether the state has adopted the option to cover otherwise eligible children of state employees in a separate CHIP program. Under the option, states may receive federal funding to extend CHIP eligibility where the state has maintained its contribution levels for health coverage for employees with dependent coverage or where it can demonstrate that the state employees' out-of-pocket health care costs pose a financial hardship for families.
3. This column indicates whether the state has adopted the option to provide coverage for immigrant children who have been lawfully residing in the U.S. for less than five years, otherwise known as the Immigrant Children's Health Improvement Act (ICHIA) option.
4. Under the Affordable Care Act (ACA), all states must provide Medicaid coverage to youth up to age 26 who were in foster care in the state as of their 18th birthday and enrolled in Medicaid. This column indicates whether the state also provides Medicaid coverage through a waiver to former foster youth up to age 26 who were enrolled in Medicaid in another state as of their 18th birthday.
5. The column indicates whether states with separate CHIP provide the full array of EPSDT or Early Periodic Screening Diagnosis and Treatment Services. EPSDT is the pediatric benefit standard in Medicaid. All Medicaid programs, including M-CHIP programs, must provide EPSDT services to all children but separate CHIP programs have more flexibility within federal parameters in regard to CHIP benefits.
6. States may use CHIP funds to support a state-designed health services initiative (HSI) to improve the health of low-income children, as long as overall CHIP administrative costs combined with HSI services do not exceed 10% of total CHIP expenditures. HSIs must directly improve the health of low-income children who are eligible for CHIP and/or Medicaid but may serve children regardless of income.
7. N/A (M-CHIP) responses indicate that the state does not administer a separate CHIP program for uninsured children.
8. Kansas eliminated its CHIP waiting period during 2019.
9. North Dakota transitioned its separate CHIP program to a Medicaid expansion program as of January 2020 and, as such, no longer has a waiting period for coverage.
10. In Pennsylvania, dependents of state employees are eligible during the employee's six-month probation period; after that period, dependents become eligible for State Employee Plan. Pennsylvania also provides CHIP coverage to dependents of part-time and seasonal state employees who are eligible for health benefits and meet a hardship exemption.

11. California, the District of Columbia, Illinois, Massachusetts, New York, Oregon, and Washington cover income-eligible children who are not otherwise eligible due to immigration status using state-only funds.
12. Louisiana began using federal funds to cover lawfully residing immigrant children in Medicaid and CHIP in February 2019.
13. In Massachusetts coverage for former foster youth extends to covered citizens or qualified immigrants to age 26, other former foster youth groups are covered up to age 21.
14. Indiana, Missouri and Nevada cover EPSDT services in CHIP with the exception of non-emergency transportation services.
15. California, Indiana, Iowa, Maryland, Michigan, Nebraska, New Jersey, New York, Oregon, Washington and Wisconsin use CHIP health service initiative funding to support the state's Poison Control Center.
16. Delaware's HSI provides vision exams and glasses to uninsured children in schools with a large share of children receiving free or reduced-cost school meals.
17. Florida, Idaho, Massachusetts, Missouri, Nevada, New Jersey, New York, and West Virginia use CHIP HSI's to fund various school-based health services programs.
18. Illinois and Minnesota use HSI funds to cover post-partum services for women covered under the CHIP unborn child option.
19. Illinois and Iowa use HSI funds to automatically cover children determined presumptive eligible until the application is registered in Illinois and until the final determination is made in Iowa.
20. Nevada uses HSI funds for a prevention program to target and address behavioral health issues early in after school programs.
21. Maryland, Michigan, Missouri, Ohio, and Wisconsin use HSI funds to support lead abatement programs.
22. Massachusetts has 18 different HSI programs with the overall goal of improving the health of children that are at least partially funded by CHIP Due to the number of programs and the 10% cap of administrative services, the state does not currently claim federal funds under all programs.
23. Missouri uses its HSI to fund different health projects for children ranging from immunizations to newborn home visiting.
24. In addition to poison control and school-based health services, New Jersey uses HSI funds for a number of different health projects for children (7 total) ranging from respite care for children with developmental disabilities to a pediatric psychiatry collaborative to support children with mental health issues to a birth defects registry.
25. In addition to poison control and school-based services, New York uses HSI funds for a hunger preventive and assistance program and offers sickle cell screening for children.
26. Oklahoma uses HSI funding to support 18 different health projects for children and youth, including increasing access to long-acting reversible contraceptives (LARC), distributing Naloxone rescue kits in high need counties, improving evidence-based prescribing of antipsychotic medications in counties with high utilization, and providing newborns with safe sleep kits.
27. West Virginia's HSI pays for well-child visits for uninsured children.

Table 3: Medicaid and CHIP Coverage for Pregnant Women and Medicaid Family Planning Expansion Programs, January 2020										
State	Income Eligibility Limits for Pregnant Women (% of the FPL)				Lawfully-Residing Immigrants Covered without 5-Year Wait[5]		Full Medicaid/CHIP Benefit Package for Pregnant Women[6]			Income Eligibility Limit for Family Planning Expansion Program (% of the FPL)[7]
	Medicaid[1]	CHIP[1]	Unborn Child Option (CHIP-Funded)[1,2]	Upper Income Limit	Medicaid	CHIP[4] (Total = 6)	Medicaid	CHIP[4] (Total = 6)	Unborn Child Option[4] (Total = 17)	
Median or Total[3]	**200%**	**262%**	**213%**	**205%**	**25**	**4**	**47**	**6**	**12**	**205%**
Alabama	146%			146%		N/A	Y	N/A	N/A	146%
Alaska	205%			205%		N/A	Y	N/A	N/A	N/A
Arizona	161%			161%		N/A	Y	N/A	N/A	N/A
Arkansas[8]	214%		214%	214%	Y	N/A		N/A		N/A
California	213%		322%	322%	Y	N/A	Y	N/A	Y	205%
Colorado	200%	265%		265%	Y	Y	Y	Y	N/A	N/A
Connecticut	263%			263%	Y	N/A	Y	N/A	N/A	263%
Delaware	217%			217%	Y	N/A	Y	N/A	N/A	N/A
District of Columbia[14]	324%			324%	Y	N/A	Y	N/A	N/A	N/A
Florida[17]	196%			196%		N/A	Y	N/A	N/A	190%
Georgia	225%			225%		N/A	Y	N/A	N/A	216%
Hawaii	196%			196%	Y	N/A	Y	N/A	N/A	N/A
Idaho[15]	138%			138%		N/A	Y	N/A	N/A	N/A
Illinois	213%		213%	213%		N/A	Y	N/A	Y	N/A
Indiana[9]	218%			218%		N/A	Y	N/A	N/A	148%
Iowa[18]	380%			380%		N/A	Y	N/A	N/A	N/A
Kansas	171%			171%		N/A	Y	N/A	N/A	N/A
Kentucky[17]	200%			200%		N/A	Y	N/A	N/A	218%
Louisiana	138%		214%	214%		N/A	Y	N/A	Y	138%
Maine	214%			214%	Y		Y	N/A	N/A	214%
Maryland	264%			264%	Y	N/A	Y	N/A	N/A	264%
Massachusetts[14]	205%		205%	205%	Y	N/A	Y	N/A	Y	N/A
Michigan[10]	200%		200%	200%		N/A	Y	N/A	Y	N/A
Minnesota	283%		283%	283%	Y	N/A	Y	N/A	Y	205%
Mississippi	199%			199%		N/A	Y	N/A	N/A	199%
Missouri	201%	305%	305%	305%			Y	Y	Y	206%
Montana	162%			162%		N/A	Y	N/A	N/A	216%
Nebraska	199%		202%	202%	Y	N/A	Y	N/A		N/A
Nevada	165%			165%		N/A	Y	N/A	N/A	N/A
New Hampshire	201%			201%		N/A	Y	N/A	N/A	201%
New Jersey[14,19]	199%	205%		205%	Y	Y	Y	Y	N/A	205%
New Mexico	255%			255%	Y	N/A		N/A	N/A	255%
New York[14]	223%			223%	Y	N/A	Y	N/A	N/A	223%
North Carolina	201%			201%	Y	N/A		N/A	N/A	200%
North Dakota[11]	162%			162%		N/A	Y	N/A	N/A	N/A
Ohio	205%			205%	Y	N/A	Y	N/A	N/A	N/A
Oklahoma[12]	138%		210%	210%		N/A	Y	N/A	Y	138%
Oregon[14]	190%		190%	190%		N/A	Y	N/A	Y	255%
Pennsylvania	220%			220%	Y	N/A	Y	N/A	N/A	220%
Rhode Island[20]	195%	258%	258%	258%			Y	Y	Y	258%
South Carolina	199%			199%	Y	N/A	Y	N/A	N/A	199%
South Dakota[16]	138%		138%	138%		N/A		N/A		N/A
Tennessee[14]	200%		255%	255%		N/A	Y	N/A		N/A
Texas[18]	203%		207%	207%		N/A	Y	N/A		N/A
Utah	144%			144%		N/A	Y	N/A	N/A	N/A
Vermont[21]	213%			213%	Y	N/A	Y	N/A	N/A	200%
Virginia	148%	205%		205%	Y	Y	Y	Y	N/A	205%
Washington[14]	198%		198%	198%	Y	N/A	Y	N/A	Y	265%
West Virginia[13]	190%	305%		305%	Y	Y	Y	Y	N/A	N/A
Wisconsin	306%		306%	306%	Y	N/A	Y	N/A	Y	306%
Wyoming[20]	159%			159%	Y	N/A	Y	N/A	N/A	159%

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.
Table presents rules in effect as of January 1, 2020.

Table 3 Notes

1. January 2020 income limits reflect Modified Adjusted Gross Income (MAGI)-converted income standards, and include a disregard equal to five percentage points of the federal poverty level (FPL). The FPL for a family of three is $21,720 as of 2020.
2. The unborn child option permits states to consider the fetus a "targeted low-income child" for purposes of CHIP coverage.
3. The totals in column headers indicate that the option only applies to the limited number of states that have adopted the coverage pathway. As of January 2020, six states use CHIP funding to cover pregnant women and 17 states provide coverage through the unborn child option
4. N/A responses indicate that the state does not provide CHIP-funded coverage to pregnant women or that the state does not provide coverage through the unborn child option.
5. These columns indicate whether the state adopted the option to cover immigrant pregnant women who have been lawfully residing in the U.S. for less than five years, known as the Immigrant Children's Health Improvement Act (ICHIA) option.
6. These columns indicate whether pregnant beneficiaries in the state receive the full Medicaid or CHIP benefit package. During a presumptive eligibility period, pregnant women receive only prenatal and pregnancy-related benefits.
7. This column lists income eligibility limits for programs in states that use federal funds under a state option or waiver to provide family planning services to individuals who do not qualify for full Medicaid benefits. January 2020 income limits include a disregard equal to five percentage points of the FPL.
8. Arkansas provides the full Medicaid benefits to pregnant women with incomes up to levels established for the old Aid to Families with Dependent Children (AFDC) program, which is $220 per month. Above those levels, more limited pregnancy-related benefits are provided to pregnant women covered under Medicaid and the unborn child option in CHIP with incomes up to 209% FPL.
9. Indiana uses a state-specific income disregard that is equal to five percent of the highest income eligibility threshold for the group.
10. Michigan also provides coverage to pregnant women with incomes over 400% FPL affected by the Flint water crisis.
11. North Dakota increased eligibility for pregnant women from 152% FPL to 162% FPL effective January 2020.
12. Oklahoma offers a premium assistance program to pregnant women with incomes up to 205% FPL who have access to employer sponsored insurance through its Insure Oklahoma program.
13. West Virginia began covering pregnant women in CHIP with income up to 305% FPL effective July 2019.
14. District of Columbia, Massachusetts, New Jersey, New York, Oregon, Tennessee and Washington provide some services not covered through emergency Medicaid for some income-eligible pregnant women or women in the post-partum period who are not otherwise eligible due to immigration status using state-only funds.

15. In 2019, Idaho began providing the full Medicaid benefit package to pregnant women.
16. South Dakota provides full Medicaid benefits to pregnant women with incomes up to $591 per month (for a family of three). Above that level, more limited pregnancy-related benefits are provided to pregnant women covered under Medicaid. South Dakota provides limited pregnancy-related benefits to pregnant women covered under the CHIP unborn child option.
17. Florida and Kentucky limit eligibility for their family planning expansion programs to those losing Medicaid eligibility.
18. Iowa and Texas offer family planning programs with state-only funds. Iowa has a state-funded family planning program for women with incomes up to 300% FPL who lose Medicaid at the end of the postpartum period.
19. New Jersey implemented family planning coverage in 2019.
20. Rhode Island and Wyoming limit eligibility for their family planning expansion programs to those losing Medicaid at the end of their postpartum period.
21. Vermont provides family planning services for women with incomes up to 200% FPL through Planned Parenthood health centers using funding under its Section 1115 Global Commitment waiver.

Table 4: Medicaid Income Eligibility Limits for Adults as a Percent of the Federal Poverty Level, January 2020[1]			
State	Parents (in a family of three)		Other Adults
	Section 1931 Limit	Upper Limit	(for an individual)
Median	**45%**	**138%**	**138%**
Alabama	18%	18%	0%
Alaska[2]	133%	138%	138%
Arizona	106%	138%	138%
Arkansas	15%	138%	138%
California[4]	109%	138%	138%
Colorado	68%	138%	138%
Connecticut[3]	160%	160%	138%
Delaware	87%	138%	138%
District of Columbia[4]	221%	221%	215%
Florida	31%	31%	0%
Georgia	35%	35%	0%
Hawaii[4]	100%	138%	138%
Idaho[5]	20%	138%	138%
Illinois[6]	29%	138%	138%
Indiana[7]	17%	138%	138%
Iowa	48%	138%	138%
Kansas	38%	38%	0%
Kentucky	18%	138%	138%
Louisiana	19%	138%	138%
Maine	100%	138%	138%
Maryland	123%	138%	138%
Massachusetts[4,8]	138%	138%	138%
Michigan	54%	138%	138%
Minnesota[9]	138%	138%	138%
Mississippi	26%	26%	0%
Missouri	21%	21%	0%
Montana	24%	138%	138%
Nebraska[10]	63%	63%	0%
Nevada	27%	138%	138%
New Hampshire	53%	138%	138%
New Jersey	28%	138%	138%
New Mexico[4]	42%	138%	138%
New York[4,9]	89%	138%	138%
North Carolina	41%	41%	0%
North Dakota	48%	138%	138%
Ohio	90%	138%	138%
Oklahoma[11]	41%	41%	0%
Oregon	33%	138%	138%
Pennsylvania[4]	33%	138%	138%
Rhode Island	116%	138%	138%
South Carolina	67%	67%	0%
South Dakota	48%	48%	0%
Tennessee	94%	94%	0%
Texas[12]	17%	17%	0%
Utah[5,13]	37%	138%	138%
Vermont[14]	41%	138%	138%
Virginia[15]	33%	138%	138%
Washington	45%	138%	138%
West Virginia	17%	138%	138%
Wisconsin[16]	100%	100%	100%
Wyoming	53%	53%	0%

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020. Table presents rules in effect as of January 1, 2020.

Table 4 Notes

1. January 2020 income limits reflect Modified Adjusted Gross Income (MAGI)-converted income standards, and include a disregard equal to five percentage points of the Federal Poverty Level (FPL) applied to the highest eligibility limit for the group. In some states, eligibility limits for Section 1931 parents are based on a dollar threshold. The values listed represent the truncated FPL equivalents calculated from these dollar limits. Eligibility levels for parents are presented as a percentage of the 2020 FPL for a family of three, which is $21,720. Eligibility limits for other adults are presented as a percentage of the 2020 FPL for an individual, which is $12,760.
2. In Alaska, the dollar threshold is generally updated every January 1 based on the CPI-U plus an adjustment for annual dividend payments to Alaska residents. However, due to a calculation error in 2015, Alaska income limits have been frozen until the error has been offset by CPI-U adjustments in the interim.
3. Connecticut increased parent eligibility from 155%FPL to 160% FPL effective October 2019.
4. California, the District of Columbia, Hawaii, Massachusetts, New Mexico, New York, and Pennsylvania cover some income-eligible adults who are not otherwise eligible due to immigration status using state-only funds. In some cases, the coverage is limited to targeted groups, such as lawfully present immigrants who are in the five-year waiting period for Medicaid coverage.
5. Idaho and Utah implemented the Affordable Care Act Medicaid expansion for adults effective January 2020.
6. In Illinois, traditional 1931 Medicaid coverage is based on a dollar threshold tied to TANF levels. Parents are also covered up to 133% FPL based on prior waiver eligibility and are not considered Section VIII expansion adults. In Illinois, the dollar threshold eligibility level for 1931 parents is linked to TANF levels, which increased in 2019.
7. Indiana uses a state-specific income disregard that is equal to five percent of the highest income eligibility threshold for the group.
8. Massachusetts provides subsidies for Marketplace coverage for parents and childless adults with incomes up to 300% through its Connector Care program. The state's Section 1115 waiver also authorizes MassHealth coverage for HIV-positive individuals with incomes up to 200% FPL, uninsured individuals with breast or cervical cancer with incomes up to 250% FPL, and individuals who work for a small employer and purchase employer-sponsored insurance (ESI) with incomes up to 300% FPL, as well as coverage through MassHealth CommonHealth for adults with disabilities with no income limit, provided that they have either met a one-time deductible or are working disabled adults.
9. Minnesota and New York have implemented Basic Health Programs (BHPs) established by the Affordable Care Act (ACA) for adults with incomes between 138%-200% FPL.
10. Nebraska voters approved a Medicaid expansion ballot measure in November 2018 and the state submitted a state plan amendment (SPA) for the expansion on April 2019. The SPA delays Medicaid expansion implementation until October 2020 to allow time for the state to seek a Section 1115

waiver to implement expansion with program elements that differ from what is allowed under federal law. The state submitted this waiver to CMS for review December 2019.

11. In Oklahoma, individuals without a qualifying employer with incomes up to 100% FPL are eligible for more limited subsidized insurance though the Insure Oklahoma Section 1115 waiver program. Individuals working for certain qualified employers with incomes at or below 222% FPL are eligible for premium assistance for employer-sponsored insurance.
12. In Texas, the income limit for parents and other caretaker relatives is based on monthly dollar amounts which differ depending on family size and whether there are one or two parents in the family. The eligibility level shown is for a single parent household and a family size of three.
13. As of January 2020, Utah has implemented the Medicaid expansion to adults using Section 1115 waiver authority with specific stipulations, including work requirements. With approval of the expansion waiver, Utah reverted its 1931 eligibility level to the pre-Affordable Care Act dollar threshold.
14. Vermont also provides a 1.5% reduction in the federal applicable percentage of the share of premium costs for individuals who qualify for advance premium tax credits to purchase Marketplace coverage with income up to 300% FPL.
15. In Virginia, eligibility levels for 1931 parents vary by region. The value shown is the eligibility level for Region 2, the most populous region.
16. Wisconsin covers adults up to 100% FPL in Medicaid but did not adopt the ACA Medicaid expansion.

Table 5: Coordination between Medicaid and Other Systems, January 2020					
State	System Determines Eligibility For:			Marketplace Structure[3]	FFM Conducts Assessment or Final Determination for Medicaid Eligibility[4] (Total Using FFM = 38)
	CHIP[1, 2] (Total = 35)	Seniors and Individuals Eligible Based on a Disability[1]	At Least One Non-Health Program[1]		
Total	**34**	**31**	**24**	**FFM: 28 Partnership: 6 SBM-FP: 4 SBM: 13**	**Assessment: 29 Determination: 8 Not Reported: 1**
Alabama	Y			FFM	Determination
Alaska	N/A (M-CHIP)			FFM	Determination
Arizona	Y	Y		FFM	Assessment
Arkansas	Y			SBM-FP	Assessment
California[5]	N/A (M-CHIP)			SBM	N/A (SBM)
Colorado	Y	Y	Y	SBM	N/A (SBM)
Connecticut	Y			SBM	N/A (SBM)
Delaware	Y	Y	Y	Partnership	Assessment
District of Columbia	N/A (M-CHIP)			SBM	N/A (SBM)
Florida	Y	Y	Y	FFM	Assessment
Georgia	Y	Y	Y	FFM	Assessment
Hawaii	N/A (M-CHIP)	Y		FFM	Assessment
Idaho	Y	Y	Y	SBM	N/A (SBM)
Illinois	Y	Y	Y	Partnership	Assessment
Indiana	Y	Y	Y	FFM	Assessment
Iowa	Y	Y		Partnership	Assessment
Kansas	Y	Y	Y	FFM	Assessment
Kentucky	Y	Y	Y	SBM-FP	Assessment
Louisiana	Y	Y		FFM	Determination
Maine	Y	Y	Y	FFM	Assessment
Maryland	N/A (M-CHIP)			SBM	N/A (SBM)
Massachusetts	Y			SBM	N/A (SBM)
Michigan	N/A (M-CHIP)			Partnership	Assessment
Minnesota	N/A (M-CHIP)			SBM	N/A (SBM)
Mississippi	Y	Y		FFM	Assessment
Missouri	Y			FFM	Assessment
Montana	Y	Y	Y	FFM	Determination
Nebraska	N/A (M-CHIP)	Y	Y	FFM	Assessment
Nevada[6]	Y	Y	Y	SBM	N/A (SBM)
New Hampshire	N/A (M-CHIP)	Y	Y	Partnership	Assessment
New Jersey	Y	Y		FFM	Determination
New Mexico	N/A (M-CHIP)	Y	Y	SBM-FP	Assessment
New York	Y			SBM	N/A (SBM)
North Carolina	Y			FFM	Assessment
North Dakota[7]	N/A (M-CHIP)		Y	FFM	Assessment
Ohio	N/A (M-CHIP)	Y	Y	FFM	Assessment
Oklahoma	N/A (M-CHIP)			FFM	Assessment
Oregon[8]	Y			SBM-FP	Assessment
Pennsylvania	Y	Y	Y	FFM	Assessment
Rhode Island	N/A (M-CHIP)	Y	Y	SBM	N/A (SBM)
South Carolina	N/A (M-CHIP)	Not Reported		FFM	Not Reported
South Dakota				FFM	Assessment
Tennessee[9]	Y	Y		FFM	Assessment
Texas	Y	Y	Y	FFM	Assessment
Utah	Y	Y	Y	FFM	Assessment
Vermont	N/A (M-CHIP)			SBM	N/A (SBM)
Virginia	Y	Y	Y	FFM	Determination
Washington	Y			SBM	N/A (SBM)
West Virginia	Y	Y	Y	Partnership	Determination
Wisconsin	Y	Y	Y	FFM	Assessment
Wyoming[10]	Y	Y		FFM	Determination

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.
Table presents rules in effect as of January 1, 2020.

Table 5 Notes

1. These columns indicate whether the state Medicaid eligibility system for MAGI-based groups (children, pregnant women, parents, and expansion adults) also determines eligibility for CHIP, seniors and individuals eligible based on a disability, or at least one non-health program, such as Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), and Child Care Subsidy.
2. N/A (M-CHIP) responses indicate that the state does not administer a separate CHIP program for uninsured children.
3. This column indicates whether a state has elected to use the Federally-facilitated Marketplace (FFM), establish a Marketplace in partnership with the federal government (Partnership), establish a State-based Marketplace that uses the federal platform (SBM-FP), or establish and operate its own State-based Marketplace (SBM). In an FFM state, the US Department of Health and Human Services (HHS) conducts all Marketplace functions. States with a Partnership Marketplace may administer plan management functions, in-person consumer assistance functions, or both, and HHS is responsible for the remaining Marketplace functions. States running a SBM are responsible for performing all Marketplace functions, except for SBM-FP states that rely on the FFM for application processing and certain eligibility and enrollment activities.
4. This column indicates whether states using the FFM IT platform for eligibility activities (including FFM, Partnership, and SBM-FP states) have elected to have the FFM make assessments or final determinations of Medicaid/CHIP eligibility for MAGI-based groups. In assessment states, applicants' accounts must be transferred to the state Medicaid/CHIP agency for a final determination. In determination states, the FFM makes a final Medicaid/CHIP eligibility determination and transfers the account to the state Medicaid/CHIP agency for enrollment. States marked as "N/A (SBM)" do not rely on the FFM for eligibility functions.
5. California's statewide-integrated Marketplace and Medicaid system, CALHEERS is not integrated with other programs. However, cases for all Medicaid enrollees are transferred to and managed at the county level where systems are integrated for all Medicaid groups, including seniors and people eligible based on a disability and non-health programs.
6. Nevada has transitioned to an SBM (Nevada Health Link) effective January 2020.
7. In 2019, North Dakota integrated its SNAP, TANF, and Child Care Subsidy programs into its MAGI-based Medicaid eligibility determination system.
8. In Oregon, the system does make a determination for former foster care youth, but other non-MAGI disability related and transitional or adopted care are not yet integrated.
9. In April 2019, Tennessee became an assessment state.
10. In Wyoming, the FFM conducts assessments rather than final determinations of CHIP eligibility.

Table 6: Online and Telephone Medicaid Applications for Children, Pregnant Women, Parents, and Expansion Adults, January						
State	Applications Can be Submitted Online at the State Level[1]	Share of Applications Submitted Online[2]	Applications Can be Submitted by Telephone at the State Level[3]	Online Portal for Application Assisters[4]	Application Can be Used for: Seniors and Individuals Eligible Based on Disability	Application Can be Used for: At Least One Non-Health Program[5]
Total or Median	**51**	**55%**	**45**	**30**	**34**	**25**
Alabama	Y	40%	Y			
Alaska[6,7]	Y	9%			Y	
Arizona	Y	72%	Y	Y	Y	Y
Arkansas	Y	Not reported	Y			
California[8]	Y	36%	Y	Y	Y	Y
Colorado	Y	36%	Y		Y	Y
Connecticut	Y	27%	Y			
Delaware	Y	64%	Y	Y	Y	Y
District of Columbia	Y	45%	Y	Y		
Florida	Y	90%	Y	Y	Y	Y
Georgia	Y	Not reported	Y	Y	Y	Y
Hawaii[9]	Y	60%	Y	Y		
Idaho	Y	30%	Y	Y	Y	
Illinois	Y	57%	Y	Y	Y	Y
Indiana	Y	89%	Y		Y	
Iowa	Y	42%	Y		Y	
Kansas	Y	60%	Y		Y	
Kentucky	Y	65%	Y	Y	Y	Y
Louisiana	Y	57%	Y	Y	Y	
Maine[6]	Y	26%			Y	Y
Maryland	Y	100%	Y			
Massachusetts	Y	16%	Y	Y		
Michigan	Y	63%	Y		Y	Y
Minnesota	Y	61%		Y		
Mississippi	Y	18%	Y			Y
Missouri	Y	69%	Y			
Montana	Y	25%	Y		Y	Y
Nebraska[7]	Y	48%	Y		Y	
Nevada	Y	30-40%	Y		Y	Y
New Hampshire	Y	90%	Y		Y	Y
New Jersey	Y	51%	Y	Y	Y	
New Mexico	Y	65%	Y	Y	Y	Y
New York	Y	95%	Y	Y		
North Carolina[6]	Y	6%		Y	Y	Y
North Dakota	Y	25%	Y	Y	Y	Y
Ohio	Y	Not reported	Y	Y	Y	Y
Oklahoma	Y	89%	Y	Y		
Oregon	Y	Not reported	Y	Y		
Pennsylvania	Y	54%	Y	Y	Y	Y
Rhode Island	Y	Not reported	Y	Y	Y	Y
South Carolina	Y	Not reported	Not reported	Not reported	Not reported	
South Dakota	Y	10%	Y			Y
Tennessee	Y	55%	Y	Y	Y	
Texas	Y	90%	Y	Y	Y	Y
Utah[6]	Y	66%		Y	Y	Y
Vermont	Y	62%	Y	Y		
Virginia	Y	Not reported	Y		Y	Y
Washington	Y	Not reported	Y	Y		
West Virginia	Y	48%	Y	Y	Y	Y
Wisconsin	Y	42%	Y	Y	Y	
Wyoming	Y	20%	Y		Y	

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.
Table presents rules in effect as of January 1, 2020.

Table 6 Notes

1. This column indicates whether individuals can complete and submit an online application for Medicaid through a state-level portal. For State-based Marketplace (SBM) states, such a portal may be either exclusive to Medicaid or integrated with the Marketplace. For Federally-facilitated Marketplace (FFM), Partnership Marketplace states and states with SBMs using the federal platform (SBM-FP), state Medicaid agency portals are indicated.
2. This column indicates the share of total applications for non-disabled, non-elderly groups (children, pregnant women, parents, and expansion adults) that is submitted online.
3. This column indicates whether individuals can complete Medicaid applications over the telephone at the state level, either through the Medicaid agency or the SBM without being required to send a follow-up paper form or written signature to complete the application.
4. This column indicates whether the Medicaid eligibility system provides either a separate online portal for application assisters or a secure log-in for assisters to submit facilitated applications. Some states are able to identify and collect information about assister-facilitated applications although they do not have a separate portal or secure log-in for assisters to submit facilitated applications.
5. In these states, a combined online multi-benefit application is available that allows applicants to apply for Medicaid and one or more non-health programs, such as the Supplemental Nutrition Assistance Program (SNAP; food stamps) or cash assistance.
6. In Alaska, Maine, North Carolina and Utah, a follow-up signature form is required to complete a telephone application. Maine is currently in the process of designing a method to accept a telephonic signature.
7. In Alaska and Nebraska, the share of applications submitted online includes MAGI and non-MAGI based Medicaid applications.
8. In California, multi-benefit applications are submitted at the county level, but individuals who apply through CALHEERS can request an evaluation of other programs and their application s routed to the county for action.
9. In Hawaii, telephone applications are included in the online share.

Table 7: Features of Online Medicaid Accounts, January 2020								
State	Online Medicaid Account[1]	Online Account Allows Individuals to: Report Changes	Review Application Status	Renew Coverage	View Notices	Authorize Third-Party Access	Upload Verification Documentation	Go Paperless and Receive Notices Electronically
Total	**43**	**40**	**39**	**39**	**39**	**32**	**33**	**33**
Alabama	Y	Y	Y	Y		Y		
Alaska								
Arizona	Y	Y	Y	Y	Y	Y	Y	Y
Arkansas								
California[2]	Y	Y	Y	Y	Y	Y	Y	Y
Colorado	Y	Y	Y	Y	Y	Y	Y	Y
Connecticut	Y	Y	Y	Y	Y	Y	Y	Y
Delaware	Y	Y	Y	Y	Y	Y		Y
District of Columbia	Y	Y	Y	Y	Y	Y	Y	Y
Florida	Y	Y	Y	Y	Y		Y	Y
Georgia	Y	Y	Y	Y	Y	Y	Y	Y
Hawaii	Y	Y	Y	Y	Y	Y	Y	Y
Idaho	Y	Y	Y	Y	Y	Y	Y	
Illinois	Y	Y	Y	Y	Y	Y	Y	Y
Indiana	Y	Y	Y			Y		
Iowa								
Kansas								
Kentucky	Y	Y	Y	Y	Y	Y	Y	Y
Louisiana	Y	Y		Y	Y		Y	
Maine	Y	Y	Y	Y	Y			Y
Maryland	Y	Y	Y	Y	Y	Y	Y	Y
Massachusetts	Y	Y	Y	Y				
Michigan	Y	Y	Y	Y	Y	Y	Y	Y
Minnesota[3]	Y				Y			
Mississippi								
Missouri[4]								
Montana	Y	Y	Y	Y	Y	Y	Y	Y
Nebraska	Y	Y	Y	Y	Y	Y	Y	Y
Nevada	Y	Y	Y	Y	Y	Y	Y	Y
New Hampshire	Y	Y	Y	Y	Y	Y	Y	Y
New Jersey[5]	Y		Y		Y			Y
New Mexico	Y	Y	Y	Y	Y		Y	
New York	Y	Y	Y	Y	Y	Y	Y	Y
North Carolina								
North Dakota	Y	Y	Y	Y	Y	Y	Y	Y
Ohio	Y	Y	Y	Y	Y	Y	Y	
Oklahoma	Y	Y	Y	Y	Y	Y	Y	Y
Oregon	Y	Y	Y	Y	Y		Y	Y
Pennsylvania	Y	Y	Y	Y	Y		Y	Y
Rhode Island	Y	Y	Y	Y	Y	Y	Y	Y
South Carolina	Y				Not Reported			
South Dakota								
Tennessee	Y	Y	Y	Y	Y	Y	Y	Y
Texas[6]	Y	Y	Y	Y	Y	Y	Y	Y
Utah	Y	Y	Y	Y	Y	Y	Y	Y
Vermont	Y	Y	Y	Y	Y	Y		
Virginia	Y	Y	Y	Y	Y	Y	Y	Y
Washington	Y	Y	Y	Y	Y	Y	Y	Y
West Virginia	Y	Y	Y	Y	Y			Y
Wisconsin	Y	Y	Y	Y	Y	Y	Y	Y
Wyoming	Y	Y		Y	Y	Y	Y	Y

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.

Table presents rules in effect as of January 1, 2020.

Table 7 Notes

1. This column indicates whether individuals can create an online account to review, update, or submit information at the state level, either through the Medicaid case management system or the integrated State-based Marketplace (SBM) system.
2. In California, Medicaid applicants can access certain eligibility notices if they applied through CALHEERS, the state's integrated Medicaid and Marketplace system. However, cases for all Medicaid enrollees are transferred to and managed at the county level. The ability to view notices and go paperless varies by county.
3. In Minnesota, not all notices can be viewed online. All notices are always mailed.
4. Missouri does not offer online accounts but applicants who apply online are able to return to the application to check its status.
5. In 2019, New Jersey, implemented online accounts.
6. In Texas, only certain notices can be viewed from a client's online account if the client does not elect to receive electronic notices.

Table 8: Mobile Access to Online Medicaid Applications and Accounts, January 2020						
State	Online Application (Total = 51)			Online Account[1] (Total = 43)		
	Can Submit using Mobile Device	Mobile-Friendly Design	Mobile App Available	Can Access using Mobile Device	Mobile-Friendly Design	Mobile App Available
Total	**44**	**20**	**2**	**40**	**24**	**8**
Alabama	Y					
Alaska	Y			N/A	N/A	N/A
Arizona[2]	Y			Y		
Arkansas				N/A	N/A	N/A
California[3]	Y	Y		Y	Y	
Colorado				Y	Y	Y
Connecticut	Y	Y		Y	Y	
Delaware	Y			Y		
District of Columbia	Y			Y		
Florida	Y			Y		Y
Georgia	Y			Y		
Hawaii	Y			Y		
Idaho	Y			Y		
Illinois	Y			Y		
Indiana	Y			Y		
Iowa	Y			N/A	N/A	N/A
Kansas	Y			N/A	N/A	N/A
Kentucky	Y	Y		Y	Y	
Louisiana	Y	Y		Y	Y	
Maine	Y			Y		
Maryland	Y	Y	Y	Y	Y	Y
Massachusetts	Y	Y		Y	Y	
Michigan	Y	Y		Y	Y	
Minnesota	Y			Y		
Mississippi[2]	Y	Y		N/A	N/A	N/A
Missouri	Y	Y		N/A	N/A	N/A
Montana				Y	Y	
Nebraska	Y	Y		Y	Y	
Nevada	Y	Y		Y	Y	
New Hampshire	Y	Y		Y	Y	
New Jersey	Y	Y		Y	Y	
New Mexico	Y	Y		Y	Y	
New York	Y			Y		
North Carolina	Y			N/A	N/A	N/A
North Dakota	Y	Y		Y	Y	
Ohio	Y			Y		
Oklahoma	Y	Y		Y	Y	
Oregon	Y			Y		
Pennsylvania				Y	Y	Y
Rhode Island						
South Carolina	Not reported			Not reported		
South Dakota				N/A	N/A	N/A
Tennessee	Y			Y	Y	Y
Texas	Y	Y		Y	Y	Y
Utah	Y			Y	Y	
Vermont[2]	Y			Y		
Virginia	Y			Y		
Washington	Y	Y	Y	Y	Y	Y
West Virginia	Y	Y		Y	Y	
Wisconsin[4]	Y					Y
Wyoming	Y	Y		Y	Y	

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.
Table presents rules in effect as of January 1, 2020.

Table 8 Notes

1. N/A responses indicate that the state does not have an online application and/or an online account.
2. Arizona, Mississippi, and Vermont added functionally to allow individuals to submit applications through a mobile device in 2019. Mississippi also provided a mobile-friendly design for their application.
3. In California, individuals can apply for MAGI-Medicaid only through the CALHEERS online application and user account, which are mobile-friendly. Certain information can be entered into the CALHEERS online account and passed the county where Medicaid cases are managed. Access to full Medicaid online accounts varies by county.
4. Wisconsin's Medicaid account "app" has more limited features than the web-based online account. It allows individuals to check benefits, get reminders of actions needed, and submit documents.

Table 9: Income Verification and Real-Time Eligibility Determinations, January 2020									
State	Verify Income Prior to Determining Eligibility[1]	Reasonable Compatibility Standard[2]	Able to Make Real-Time Determinations[3] (<24 Hours)	Share of Determinations Completed in Real-Time[4]				
				<25%	25%-50%	50%-75%	75%-90%	≥90%
Total	**45**	**33**	**47**	**21**	**11**	**5**	**6**	**4**
Alabama	Y	10%	Y				Y	
Alaska	Y	10%						
Arizona	Y	None	Y		Y			
Arkansas	Y	10%	Y			Y		
California	Y	None	Y	Y				
Colorado		10%	Y		Y			
Connecticut	Y	10%	Y					Y
Delaware		10%	Y	Y				
District of Columbia	Y	10%	Y				Y	
Florida[5]	Y	10%	Y		Y			
Georgia	Y	None	Y	Y				
Hawaii		10%	Y		Y			
Idaho	Y	None	Y				Y	
Illinois	Y	5%	Y	Y				
Indiana	Y	None	Y	Y				
Iowa	Y	10%	Y	Y				
Kansas	Y	20%	Y	Y				
Kentucky	Y	10%	Y			Y		
Louisiana	Y	10%	Y		Y			
Maine	Y	None	Y	Y				
Maryland	Y	10%	Y					Y
Massachusetts	Y	10%	Y			Y		
Michigan	Y	10%	Y		Y			
Minnesota	Y	10%	Y		Y			
Mississippi	Y	$50	Y	Y				
Missouri	Y	10%	Y		Y			
Montana	Y	10%	Y	Y				
Nebraska	Y	10%	Y	Y				
Nevada	Y	None	Y	Y				
New Hampshire	Y	10%	Y	Y				
New Jersey[5]	Y	10%	Y	Y				
New Mexico[6]	Y	None	Y				Y	
New York	Y	10%	Y					Y
North Carolina	Y	None	Y	Y				
North Dakota	Y	None	Y	Y				
Ohio	Y	5%	Y	Y				
Oklahoma		5%	Y					Y
Oregon	Y	10%	Y			Y		
Pennsylvania	Y	5%	Y	Y				
Rhode Island	Y	10%	Y				Y	
South Carolina	Not reported	Not reported	Not reported	Not reported				
South Dakota	Y	None						
Tennessee[7]	Y	10%	Y	Y				
Texas	Y	None						
Utah	Y	None	Y	Y				
Vermont	Y	None	Y			Y		
Virginia	Y	10%	Y		Y			
Washington		None	Y				Y	
West Virginia	Y	10%	Y	Y				
Wisconsin	Y	None	Y		Y			
Wyoming	Y	None	Y		Y			

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.

Table presents rules in effect as of January 1, 2020.

Table 9 Notes

1. States attempt to verify income through an electronic source at application; they can verify information prior to enrollment or enroll based on an individual's self-attestation and conduct a post-enrollment verification.
2. This column indicates if the state has set a reasonable compatibility threshold when the applicant reports income below the Medicaid eligibility threshold but the electronic data source reflects income above the threshold. If the information obtained from electronic data sources and the information provided by or on behalf of the individual are both above, at, or below the applicable income standard, the state must determine the applicant eligible or ineligible for Medicaid/CHIP. In these cases, any difference does not impact eligibility. If the data are not consistent, states have the option to apply a reasonable compatibility standard by establishing a threshold (e.g., a percentage or dollar figure) in which they will still consider the data to be reasonably compatible. States have the option to set different standards based on whether the applicant's attestation is above or below the eligibility threshold. In both cases, if the difference between the attested income and the electronic data source are within the reasonable compatibility standard, the state will process eligibility based on the individual's attestation. If the applicant reports income below the standard and the electronic source indicates income above the standard, and the difference is not reasonably compatible, the state may accept a reasonable explanation and/or request paper documentation. If the applicant reports income above the Medicaid or CHIP limit but the electronic source reflects income below, and the data are not reasonably compatible, the state may accept a reasonable explanation, request paper documentation, or determine the individual ineligible and transfer the application to the Marketplace.
3. Under the Affordable Care Act (ACA), states must seek to verify eligibility criteria based on electronic data matches with reliable sources of data. This column reflects whether the state system is able to make real-time eligibility determinations, defined as within 24 hours. Not all states have programmed their eligibility systems to make real-time determinations without worker interaction. In some states, only a small share of applications completed in person or over the phone that can be verified by an eligibility worker immediately are processed in real time.
4. These columns indicate the share of applications for non-disabled groups (children, pregnant women, parents, and expansion adults) that are determined eligible in real-time.
5. Florida and New Jersey have a reasonable compatibility threshold of 10% when the applicant reports income above the Medicaid eligibility threshold but the electronic data source reflects income below the threshold.
6. New Mexico implemented real-time eligibility for online applications December 2019.
7. Tennessee implemented real-time eligibility when the state's new eligibility system was implemented statewide in 2019.

Table 10: Medicaid Renewal Processes and Use of Periodic Data Matches Between Renewals for Children, Pregnant Women, Parents, and Expansion Adults, January 2020								
State	Processing Automated Renewals[1]	Percentage of Renewals that are Automated (Completed without Enrollee Action)[2]					Telephone Renewals[3]	Conducts Periodic Data Matches Between Renewals[4]
		<25%	25%-50%	50%-75%	75%-90%	≥90%		
Total	**47**	**8**	**13**	**13**	**9**	**0**	**41**	**30**
Alabama	Y				Y		Y	Y
Alaska	Y			Not Reported				
Arizona	Y			Y			Y	Y
Arkansas	Y				Y		Y	
California	Y			Y			Y	
Colorado	Y				Y		Y	
Connecticut	Y			Y			Y	
Delaware	Y			Not Reported			Y	Not Reported
District of Columbia	Y				Y		Y	Not Reported
Florida	Y		Y				Y	Y
Georgia	Y		Y					Y
Hawaii	Y			Y			Y	Y
Idaho	Y				Y		Y	
Illinois	Y		Y					Y
Indiana	Y			Y			Y	Y
Iowa	Y			Y			Y	Y
Kansas[6]	Y		Y					
Kentucky	Y			Y			Y	Y
Louisiana	Y			Y			Y	Y
Maine[6]								Y
Maryland	Y			Y			Y	Y
Massachusetts	Y	Y					Y	Y
Michigan	Y				Y			Y
Minnesota	Y		Y					Y
Mississippi	Y		Y				Y	
Missouri	Y	Y					Y	
Montana	Y		Y				Y	
Nebraska	Y	Y					Y	Y
Nevada							Y	
New Hampshire	Y	Y					Y	Y
New Jersey	Y	Y					Y	Y
New Mexico	Y		Y				Y	
New York	Y		Y				Y	
North Carolina	Y				Y		Y	Y
North Dakota	Y			Not Reported			Y	Y
Ohio	Y				Y		Y	Y
Oklahoma	Y		Y				Y	Y
Oregon	Y			Y			Y	
Pennsylvania	Y		Y				Y	Y
Rhode Island	Y				Y		Y	Y
South Carolina	Not Reported			Not Reported			Not Reported	Not Reported
South Dakota	Y		Y				Y	Y
Tennessee[7]	Y			Not Reported			Y	
Texas	Y	Y					Y	Y
Utah[6]	Y			Y				Y
Vermont	Y		Y				Y	
Virginia	Y			Y			Y	
Washington	Y			Y			Y	
West Virginia[6]	Y	Y						Y
Wisconsin	Y	Y					Y	Y
Wyoming							Y	Y

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.

Table presents rules in effect as of January 1, 2020.

Table 10 Notes

1. Under the Affordable Care Act (ACA), states must seek to re-determine eligibility at renewal using electronic data matches with reliable sources of data prior to requiring enrollees to complete a renewal form. This process is technically called ex parte but is often referred to as automated renewals.
2. These columns indicate whether the state system is able to process automated renewals and the share of renewals for MAGI-based groups that are successfully completed via automated processes.
3. This column indicates whether enrollees are able to complete a Medicaid renewal over the phone at the state level, either through the Medicaid agency or a State-based Marketplace call center.
4. This column indicates whether the state conducts routine electronic data matches with one or more data sources between annual renewal periods to identify potential changes in circumstances that would affect financial or other eligibility.
5. This column identifies the timeframe the state provides to enrollees from the date of notice to respond to information requests to confirm ongoing eligibility when a periodic data match identifies a potential change in circumstances that would affect eligibility.
6. In Kansas, Maine, Utah, and West Virginia, families may report changes by telephone but still need to sign and return the pre-populated renewal form.
7. Tennessee implemented automated renewals when the state's new eligibility system was implemented statewide in 2019.

Table 11: State Adoption of Options to Promote Continuity of Coverage for Children, Pregnant Women, Parents, and Expansion Adults, January 2020					
State	Account for Reasonably Anticipated Changes in Income[1]	Account for Projected Annual Income for Remainder of Calendar Year[2]	Proactively Update Address Information for Enrollees[3]	12-Month Continuous Eligibility[4]	
				Medicaid	CHIP (Total =35)
Total	**35**	**12**	**10**	**23**	**25**
Alabama	Y		Y	Y	Y
Alaska	Y	Y		Y	N/A (M-CHIP)
Arizona	Y				
Arkansas	Y				Y
California	Y	Y		Y	N/A (M-CHIP)
Colorado	Y	Y	Y	Y	Y
Connecticut			Y		
Delaware	Y	Not Reported	Not Reported		Y
District of Columbia	Y	Y			N/A (M-CHIP)
Florida[5]	Y				Y
Georgia					
Hawaii	Y		Y		N/A (M-CHIP)
Idaho	Y	Y	Y	Y	Y
Illinois	Y		Y	Y	Y
Indiana[6]		Y			
Iowa	Y			Y	Y
Kansas				Y	Y
Kentucky					
Louisiana	Y		Y	Y	Y
Maine				Y	Y
Maryland	Y				N/A (M-CHIP)
Massachusetts	Y				
Michigan	Y			Y	N/A (M-CHIP)
Minnesota	Y				N/A (M-CHIP)
Mississippi	Y			Y	Y
Missouri	Y	Y			
Montana[7]	Y			Y	Y
Nebraska	Y				N/A (M-CHIP)
Nevada	Y				Y
New Hampshire	Y				N/A (M-CHIP)
New Jersey	Y	Y	Y	Y	Y
New Mexico	Y			Y	N/A (M-CHIP)
New York[7]	Y	Y	Y	Y	Y
North Carolina				Y	Y
North Dakota	Y			Y	N/A (M-CHIP)
Ohio				Y	N/A (M-CHIP)
Oklahoma	Y				N/A (M-CHIP)
Oregon	Y			Y	Y
Pennsylvania[8]	Y				Y
Rhode Island		Not Reported			N/A (M-CHIP)
South Carolina	Not Reported	Not Reported	Not Reported	Not reported	Not reported
South Dakota	Y				
Tennessee			Y		Y
Texas[9]		Y			Y
Utah	Y				Y
Vermont					N/A (M-CHIP)
Virginia					
Washington	Y	Y		Y	Y
West Virginia		Y		Y	Y
Wisconsin					
Wyoming	Y			Y	Y

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.

Table presents rules in effect as of January 1, 2020.

Table 11 Notes

1. This column indicates whether the state takes into account anticipated income changes, such as recurring seasonable employment or a job change, when determining eligibility at application or renewal.
2. This column indicates if the state takes into account projected annual income for the remainder of the calendar year when determining ongoing eligibility at renewal or when an individual has an income change between renewal periods.
3. This column indicates whether the state routinely takes steps to update address information for enrollees prior to receiving returned mail.
4. This column indicates whether states have opted to cover children in Medicaid and/or CHIP for a full twelve months unless the child ages out, moves out of state, voluntarily withdraws, or does not make premium payments.
5. In Florida, children in Medicaid under the age of 5 receive 12-month continuous eligibility and children ages five and older receive six month of continuous eligibility.
6. Indiana provides 12-month continuous eligibility to children under age 3.
7. Montana and New York provide 12-month continuous eligibility to parents and expansion adults through a Section 1115 waiver.
8. Pennsylvania provides continuous eligibility for children under age 4.
9. Texas provides a child in CHIP with income below 185% FPL 12 months of continuous eligibility; children in CHIP at or above 185% FPL receives 12 months of continuous eligibility unless there is an indication of a change at a six-month income check that would make the child ineligible for CHIP.

Table 12: Presumptive Eligibility in Medicaid and CHIP, January 2020[1]								
State	Children		Pregnant Women		Parents	Adults[2] (Total = 37)	Family Planning Expansion[2] (Total = 29)	Former Foster Youth
	Medicaid	CHIP[2] (Total =35)	Medicaid	CHIP[2] (Total = 5)				
Total	**19**	**10**	**30**	**3**	**9**	**8**	**6**	**8**
Alabama				N/A		N/A		
Alaska		N/A (M-CHIP)		N/A			N/A	
Arizona				N/A			N/A	
Arkansas				N/A			N/A	
California	Y	N/A (M-CHIP)	Y	N/A				
Colorado	Y	Y	Y	Y			N/A	
Connecticut	Y	Y	Y	N/A			Y	
Delaware				N/A			N/A	
District of Columbia		N/A (M-CHIP)	Y	N/A			N/A	
Florida			Y	N/A		N/A		
Georgia			Y	N/A		N/A		
Hawaii		N/A (M-CHIP)		N/A			N/A	
Idaho[3]	Y	Y	Y	N/A	Y	Y	N/A	Y
Illinois	Y	Y	Y	N/A			N/A	
Indiana[4]	Y		Y	N/A	Y	Y	Y	Y
Iowa	Y	Y	Y	N/A	Y	Y		Y
Kansas	Y	Y	Y	N/A		N/A	N/A	
Kentucky			Y	N/A				
Louisiana				N/A				
Maine			Y	N/A				
Maryland[5]		N/A (M-CHIP)		N/A				
Massachusetts				N/A			N/A	
Michigan	Y	N/A (M-CHIP)	Y	N/A			N/A	Y
Minnesota		N/A (M-CHIP)		N/A			Y	
Mississippi				N/A		N/A		
Missouri	Y	Y	Y	Y		N/A		
Montana	Y	Y	Y	N/A	Y	Y		Y
Nebraska		N/A (M-CHIP)	Y	N/A		N/A	N/A	
Nevada				N/A			N/A	
New Hampshire	Y	N/A (M-CHIP)	Y	N/A	Y	Y	Y	
New Jersey	Y	Y	Y	Y	Y	Y		
New Mexico[6]	Y	N/A (M-CHIP)	Y	N/A				
New York	Y	Y	Y	N/A			Y	
North Carolina			Y	N/A		N/A		
North Dakota		N/A (M-CHIP)		N/A			N/A	
Ohio	Y	N/A (M-CHIP)	Y	N/A	Y	Y	N/A	Y
Oklahoma		N/A (M-CHIP)		N/A		N/A		
Oregon				N/A				
Pennsylvania			Y	N/A				
Rhode Island		N/A (M-CHIP)						
South Carolina	Not Reported							
South Dakota				N/A		N/A	N/A	
Tennessee[7]			Y	N/A		N/A	N/A	
Texas			Y	N/A		N/A	N/A	
Utah			Y	N/A			N/A	
Vermont		N/A (M-CHIP)		N/A				
Virginia								
Washington				N/A				
West Virginia	Y		Y	N/A	Y	Y	N/A	Y
Wisconsin	Y		Y	N/A			Y	
Wyoming	Y		Y	N/A	Y	N/A		Y

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.
Table presents rules in effect as of January 1, 2020.

Table 12 Notes

1. These columns indicate whether a state has elected to implement presumptive eligibility, under which a state can authorize qualified entities such as hospitals, community health centers, and schools to make presumptive eligibility determinations for Medicaid and/or CHIP and extend temporary coverage to individuals until a full eligibility determination is made. The ACA also gave hospitals nationwide the authority to conduct presumptive eligibility determinations regardless of whether a state has otherwise adopted presumptive eligibility.
2. N/A (M-CHIP) responses indicate that the state does not administer a separate CHIP program for uninsured children. N/A responses indicate that the state does not provide CHIP for pregnant women, does not cover other adults under Medicaid expansion and/or does not have a family planning expansion program.
3. Idaho implemented the Affordable Care Act Medicaid expansion for adults effective January 2020. Presumptive eligibility is applied to expansion adults.
4. Indiana does not use CHIP funds or income limits for the child population.
5. Maryland utilizes presumptive eligibility for individuals leaving correctional facilities if an application cannot be submitted prior to release.
6. New Mexico has presumptive eligibility for parents and other adults in Medicaid, but it is limited to those in correctional facilities (state prisons/county jails) and health facilities operated by the Indian Health Service, a Tribe or Tribal organization, or an Urban Indian Organization.
7. In 2019, Tennessee eliminated presumptive eligibility in Medicaid.

Table 13: Premium, Enrollment Fee, and Cost Sharing Requirements for Children, January 2020						
State	Premiums/Enrollment Fees			Cost Sharing		
	Medicaid	CHIP (Total = 35)[1]	Lowest Income at Which Premiums Begin (% of the FPL)[2]	Medicaid	CHIP (Total = 35)[1]	Lowest Income at Which Cost Sharing Begins (% of the FPL)[2]
Total	**4**	**26**		**1**	**21**	
Alabama		Y	141%		Y	141%
Alaska		N/A (M-CHIP)			N/A (M-CHIP)	
Arizona		Y	133%			
Arkansas					Y	142%
California	Y	N/A (M-CHIP)	160%		N/A (M-CHIP)	
Colorado		Y	157%		Y	143%
Connecticut		Y	249%		Y	196%
Delaware		Y	Not Reported			
District of Columbia		N/A (M-CHIP)			N/A (M-CHIP)	
Florida[3]		Y	133%		Y	133%
Georgia[4]		Y	139%		Y	139%
Hawaii		N/A (M-CHIP)			N/A (M-CHIP)	
Idaho		Y	143%		Y	143%
Illinois		Y	157%		Y	142%
Indiana		Y	158%		Y	158%
Iowa		Y	182%		Y	182%
Kansas		Y	167%			
Kentucky						
Louisiana		Y	213%			
Maine		Y	157%			
Maryland	Y	N/A (M-CHIP)	211%		N/A (M-CHIP)	
Massachusetts		Y	150%			
Michigan	Y	N/A (M-CHIP)	160%		N/A (M-CHIP)	
Minnesota		N/A (M-CHIP)			N/A (M-CHIP)	
Mississippi					Y	150%
Missouri		Y	150%			
Montana					Y	143%
Nebraska		N/A (M-CHIP)			N/A (M-CHIP)	
Nevada		Y	133%			
New Hampshire		N/A (M-CHIP)			N/A (M-CHIP)	
New Jersey		Y	200%		Y	151%
New Mexico		N/A (M-CHIP)			N/A (M-CHIP)	
New York		Y	160%			
North Carolina		Y	159%		Y	133%
North Dakota[5]					N/A (M-CHIP)	
Ohio		N/A (M-CHIP)			N/A (M-CHIP)	
Oklahoma		N/A (M-CHIP)			N/A (M-CHIP)	
Oregon						
Pennsylvania		Y	208%		Y	208%
Rhode Island		N/A (M-CHIP)			N/A (M-CHIP)	
South Carolina		N/A (M-CHIP)			N/A (M-CHIP)	
South Dakota						
Tennessee[6]				Y	Y	100%
Texas		Y	151%		Y	133%
Utah		Y	133%		Y	133%
Vermont	Y	N/A (M-CHIP)	195%		N/A (M-CHIP)	
Virginia					Y	143%
Washington		Y	210%			
West Virginia		Y	211%		Y	133%
Wisconsin[7]		Y	201%			
Wyoming					Y	134%

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.
Table presents rules in effect as of January 1, 2020.

Table 13 Notes

1. N/A (M-CHIP) responses indicate that the state does not administer a separate CHIP program for uninsured children.
2. In a number of states, the income at which premiums or cost sharing begins may vary by the child's age since Medicaid and CHIP eligibility levels vary by age and some states exempt younger children from cost sharing. The reported income eligibility limits at which premiums and cost sharing begin do not reflect the five percentage points of the federal poverty level (FPL) disregard that applies to eligibility determinations, although this disregard may apply when the income level at which premiums or cost sharing applies aligns with the eligibility cutoff between Medicaid and separate CHIP programs.
3. Florida charges premiums to children enrolled in its three separate CHIP programs, but it only charges cost sharing for children in one of its three separate CHIP programs, Healthy Kids.
4. Georgia does not charge premiums to children under age 6.
5. North Dakota eliminated copayments for children in CHIP when it transitioned them from separate CHIP coverage to Medicaid.
6. Tennessee has waiver authority to charge cost sharing for children between 100% and 133% FPL.
7. As of January 2020, Wisconsin suspended copayments for children in Medicaid and CHIP.

Table 14: Premiums and Enrollment Fees for Children at Selected Income Levels, January 2020[1,2]							
State	151% FPL (or 150% if upper limit)	201% (or 200% if upper limit)	251% FPL (or 250% if upper limit)	301% FPL (or 300% if upper limit)	351% FPL (or 350% if upper limit)	Is Premium Family-Based?	Family Maximum[3,4]
Monthly Payments (24 states)							
Arizona[5]	$40	$50	N/A	N/A	N/A		Yes
California[6]	$0	$13	$13	N/A	N/A		
Connecticut[7]	$0	$0	$30	$30	N/A		Yes
Delaware[8]	$10	$25	N/A	N/A	N/A	Yes	N/A
Florida[9]	$15	$20	N/A	N/A	N/A	Yes	N/A
Georgia[10]	$11	$29	$32	N/A	N/A		Yes
Idaho[11]	$15	N/A	N/A	N/A	N/A		No
Illinois[12]	$0	$15	$40	$40	N/A		Yes
Indiana[13]	$0	$33	$53	N/A	N/A		Yes
Iowa[14]	$0	$10	$20	$20	N/A		Yes
Kansas[15]	$0	$30	N/A	N/A	N/A	Yes	N/A
Louisiana	$0	$0	$50	N/A	N/A	Yes	N/A
Maine[16]	$0	$32/$64	N/A	N/A	N/A		Yes
Maryland	$0	$0	$54	$68	N/A	Yes	N/A
Michigan	$0	$10	N/A	N/A	N/A	Yes	N/A
Massachusetts[17]	$12	$20	$28	$28	N/A		Yes
Missouri[18]	$19 | $24 | $29	$63 | $79 | $96	$154 | $195 | $235	$154 | $195 | $235	N/A		
New Jersey[19]	$0	$45	$90	$152	$152	Yes	N/A
New York[20]	$0	$9 | $27	$30 | $90	$45 | $135	$60 | $180		Yes
Pennsylvania[21]	$0	$0	$53	$84	N/A		
Vermont[22]	$0	$15	$20/$60	$20/$60	N/A	Yes	N/A
Washington[23]	$0	$0	$20 | $40	$30 | $60	N/A		Yes
West Virginia[24]	$0	$0	$35	$35	N/A		Yes
Wisconsin	$0	$10	$34	$98	N/A		
Quarterly Payments (2 states)							
Nevada	$50	$80	N/A	N/A	N/A	Yes	N/A
Utah	$75	$75	N/A	N/A	N/A	Yes	N/A
Annual Payments (4 states)							
Alabama[20]	$104	$104	$104	$104	N/A		Yes
Colorado[25]	$0	$25	$75	N/A	N/A		Yes
North Carolina[26]	$0	$50	N/A	N/A	N/A		Yes
Texas[27]	$35	$50	N/A	N/A	N/A	Yes	N/A
No Premiums or Enrollment Fees (21 states)							
Alaska	--	--	--	--	--		--
Arkansas	--	--	--	--	--		--
District of Columbia	--	--	--	--	--		--
Hawaii	--	--	--	--	--		--
Kentucky	--	--	--	--	--		--
Minnesota	--	--	--	--	--		--
Mississippi	--	--	--	--	--		--
Montana	--	--	--	--	--		--
Nebraska	--	--	--	--	--		--
New Hampshire	--	--	--	--	--		--
New Mexico	--	--	--	--	--		--
North Dakota	--	--	--	--	--		--
Ohio	--	--	--	--	--		--
Oklahoma	--	--	--	--	--		--
Oregon	--	--	--	--	--		--
Rhode Island	--	--	--	--	--		--
South Carolina	--	--	--	--	--		--
South Dakota	--	--	--	--	--		--
Tennessee	--	--	--	--	--		--
Virginia	--	--	--	--	--		--
Wyoming	--	--	--	--	--		--

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.

Table presents rules in effect as of January 1, 2020.

Table 14 Notes

1. N/A indicates that coverage is not available at the specified income level. If a state does not charge premiums at all, it is noted as "--".
2. Cases in which premiums or enrollment fees are not a whole dollar value have been rounded to the nearest dollar.
3. This column indicates whether there is a maximum amount that a family with multiple children would be required to pay. Family based premium indicates that the premium amount listed in the table is per family rather than per child.
4. Federal rules limit total premiums and cost-sharing for all household members enrolled in Medicaid or CHIP to five percent of family income. States have the option to apply the cap on a monthly or quarterly basis. States are also required to have a mechanism in place to track family-based cost-sharing and waive cost-sharing for the remainder of the cost-sharing period selected by the state.
5. In Arizona, there is a maximum premium of $60 for families with incomes at 151% FPL and $70 for families with incomes at 200% FPL.
6. In California, the family maximum premium is $39.
7. In Connecticut, the family maximum premium is $50.
8. In Delaware, there is a maximum premium of $10 for families with children ages 6-18 with incomes between 134%-142% FPL and children ages 1-18 between 143%-159% FPL. Families with incomes between 160%-176% FPL pay $15 per family and families with incomes between 177%-212% FPL pay $25 per family. Delaware has an incentive system for premiums where families can pay three months and get one premium-free month, pay six months and get two premium-free months, and pay nine months and get three premium-free months.
9. Florida charges premiums to children enrolled in its three separate CHIP programs, but it only charges cost sharing for children in its separate CHIP program, HealthyKids.
10. In Georgia, the family maximum is $16 for families with incomes at 151% FPL and $58 for families with incomes at 201% FPL.
11. In Idaho, if a child is up to date on wellness checks, premiums are waived.
12. In Illinois, CHIP premiums are $15 per child, $25 for two children, and $5 for each additional child up to a $40 maximum for families with incomes below 208% FPL. Above 208% FPL, families pay $40 per child or $80 for two or more children.
13. In Indiana, there is a maximum premium of $33 for families with incomes between 175% and 200% FPL, $50 for families with incomes between 200% and 225% FPL, $53 for families with incomes between 225% and 250% FPL and $70 for families with incomes at or above 250% FPL.
14. In Iowa, there is a maximum premium of $20 for families with incomes at 201% FPL and $40 for families with incomes at 251% FPL or 301% FPL.
15. In Kansas, there is a maximum premium of $20 for families with incomes up to 191% FPL, $30 for families with incomes up to 218% FPL, and $50 for families with higher incomes.

16. In Maine, families with incomes between 157%-166% FPL pay $8 for one child and $16 for two or more children. Families with incomes between 166%-177% FPL pay $16 for one child and $32 for two or more children. Families with incomes between 177%-192% FPL pay $24 for one child and $48 for two or more children. Families with incomes between 192% -208% FPL pay $32 for one child and $64 for two or more children. The family maximum premium is $64.
17. In Massachusetts, the family maximum premium is $28. In Massachusetts, premiums are also charged for children covered at higher incomes through its CommonHealth and Children's Medical Security Plan program.
18. In Missouri premiums vary by family size. Amounts shown are for 2-person, 3-person, and 4-person family. Rates increase based on family size up to the family maximum cap of 5% of income.
19. In New Jersey, the family maximum varies by income and premiums are family-based. At 201% FPL, the family maximum is $43. At 251%, the family max is $86. At 301% FPL and 351%, the family max is $144.50; at 301% FPL, the premium is $144.50 but value shown in rounded to $145.
20. In Alabama and New York, there is a maximum premium of three times the child rate. In New York, The figure on the left is the individual child rate and the figure to the right is the family max amount which tops out at 3x the individual rate.
21. In Pennsylvania, premiums vary by contractor. The average amount is shown.
22. In Vermont, for those above 238% FPL, the monthly premium is $20 if the family has other health insurance and $60 if there is no other health insurance.
23. Washington State charges premiums of $20 for one child and $40 of two or more children in families with incomes of 210%-260% FPL; $30 for one child and $60 for two or more children in families with incomes above 260% FPL but not exceeding 312% FPL. In Washington, the family maximum varies by income. At 251% FPL, the family maximum is $40 and at 301% FPL, the family maximum is $60.
24. In West Virginia, the family maximum premium is $71.
25. In Colorado, there is a maximum annual enrollment fee of $35 for families with incomes at 201% FPL and $105 for families with incomes at 251% FPL.
26. In North Carolina, the family maximum annual enrollment fee is $100.
27. In Texas, annual enrollment fees in CHIP are family-based with three tiers up to 151%, up to and including 186%, and then above 186%.

Table 15: Disenrollment Policies for Non-Payment of Premiums in Children s Coverage, January 2020		
State	**Grace Period (Amount of Time) Before a Child Loses Coverage for Nonpayment[1]**	**Lockout Period in Separate CHIP Program[2]**
Monthly Payments (24 states)		
Arizona	60 days	2 months
California	60 Days	N/A (M-CHIP)
Connecticut[5]	Until Renewal	None
Delaware	60 days	None
Florida	1 month	1 month
Georgia	60 days	None
Idaho[5]	Until renewal	None
Illinois	60 days	None
Indiana	60 days	90 days
Iowa	45 days	None
Kansas	60 days	90 days
Louisiana	30 days	90 days
Maine[6]	12 Months	90 days
Maryland	60 Days	N/A (M-CHIP)
Massachusetts[7]	60 days	90 days
Michigan	60 days	N/A (M-CHIP)
Missouri[8]	30 days	90 days
New Jersey	60 days	90 days
New York	30 days	None
Pennsylvania	90 days	90 days
Vermont[5]	Until Renewal	N/A (M-CHIP)
Washington	90 days	90 days
West Virginia[5]	Until Renewal	None
Wisconsin	60 days	90 days
Quarterly Payments (2 states)		
Nevada	60 days	90 days
Utah	30 days	90 days
Annual Payments (4 states)		
Alabama[3]	--	--
Colorado[4]	--	--
North Carolina[9]	--	--
Texas[10]	--	--
No Premiums or Enrollment Fees (21 states)		
Alaska	--	--
Arkansas	--	--
District of Columbia	--	--
Hawaii	--	--
Kentucky	--	--
Minnesota	--	--
Mississippi	--	--
Montana	--	--
Nebraska	--	--
New Hampshire	--	--
New Mexico	--	--
North Dakota	--	--
Ohio	--	--
Oklahoma	--	--
Oregon	--	--
Rhode Island	--	--
South Carolina	--	--
South Dakota	--	--
Tennessee	--	--
Virginia	--	--
Wyoming	--	--

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.
Table presents rules in effect as of January 1, 2020.

Table 15 Notes

1. This column indicates the grace period for payment of Medicaid or CHIP premiums before a child is disenrolled from coverage. If premiums are charged in Medicaid, a state must provide a 60-day grace period. States must provide a minimum 30-day premium payment grace period in CHIP before cancelling a child's coverage. States that charge an annual enrollment fee may require prepayment as a condition of enrollment.
2. A lockout period is an amount of time during which the disenrolled child is prohibited from returning to the CHIP program. Lockouts are not permitted in Medicaid, and the Affordable Care Act (ACA) limited lockout periods in CHIP to no more than 90 days. N/A (M-CHIP) responses indicate that the state does not administer a separate CHIP program for uninsured children.
3. Alabama's annual enrollment fee is not required before a child enrolls in coverage, nor is a child disenrolled for non-payment in the first year. Following the annual renewal, families have 90 days to pay the annual enrollment fee; after that time they will be disenrolled for nonpayment.
4. Colorado's annual enrollment fee is required before a child enrolls in coverage. Applications are pended until the enrollment fee is paid. Once individuals pay the enrollment fee, their eligibility is effective retroactively to the first of the month of application.
5. Connecticut, Idaho, Vermont and West Virginia do not disenroll children for unpaid premiums in CHIP. Renewal is considered a new application, and families need to pay the initial month to continue coverage at renewal. Vermont is not currently disenrolling children for unpaid premiums due to system limitations.
6. In Maine, for each month there is an unpaid premium, there is a month of ineligibility up to a maximum of three months. The penalty period begins in the first month following the enrollment period in which the premium was overdue. For example, if a family does not pay the last two months of premiums, they will have a two-month penalty. If they do not pay three or more months, they will have a three-month lockout period.
7. In Massachusetts, if the premium payment is not paid within 60 days of the due date, a final notice is sent giving the family 15 days to pay before the case is closed. After the 90-day lock-out period children may re-enroll for prospective coverage without paying the past due premiums. Children may re-enroll for prospective coverage during the 90-day lock-out period if the past due premiums are paid, if a payment plan is set up, or if the family is determined eligible for a premium waiver. Premiums that are more than 24 months overdue are waived.
8. In Missouri, only children in families with incomes above 225% FPL are subject to the lockout period. Families are given the option to catch up on the premiums and coverage can be reinstated.
9. In North Carolina, families have 12 days to pay the annual enrollment fee. They may request an additional 12 days before disenrollment.
10. In Texas, children who renew coverage are given 30 days to pay the annual enrollment fee.

Table 16: Cost Sharing Amounts for Selected Services for Children at Selected Income Levels, January 2020[1]								
State	Family Income at 151% FPL (or 150% if upper eligibility limit)				Family Income at 201% FPL (or 200% if upper eligibility limit)			
	Non-Preventive Physician Visit	ER Visit	Non-Emergency Use of ER	Inpatient Hospital Visit	Non-Preventive Physician Visit	ER Visit	Non-Emergency Use of ER	Inpatient Hospital Visit
Total	**16**	**10**	**14**	**11**	**17**	**12**	**16**	**12**
Alabama	$13	$60	$60	$200	$13	$60	$60	$200
Alaska	--	--	--	--	--	--	--	--
Arizona	--	--	--	--	--	--	--	--
Arkansas	$10	$10	$10	20% of reimbursement rate for first day	$10	$10	$10	20% of reimbursement rate for first day
California	--	--	--	--	--	--	--	--
Colorado	$5	$30	$30	$20	$10	$50	$50	$50
Connecticut	$0	$0	$0	$0	$10	$0	$0	$0
Delaware	--	--	--	--	--	--	--	--
District of Columbia	--	--	--	--	--	--	--	--
Florida[2]	$5	$10	$10	$0	$5	$10	$10	$0
Georgia	$0.50-$3	$0	$0	$12.50	$0.50-$3	$0	$0	$12.50
Hawaii	--	--	--	--	--	--	--	--
Idaho	$3.65	$0	$3.65	$0	N/A	N/A	N/A	N/A
Illinois	$3.90	$0	$0	$3.90/day	$5	$5	$25	$5/day
Indiana	$0	$0	$0	$0	$0	$0	$0	$0
Iowa	$0	$0	$0	$0	$0	$0	$25	$0
Kansas	--	--	--	--	--	--	--	--
Kentucky	--	--	--	--	--	--	--	--
Louisiana	--	--	--	--	--	--	--	--
Maine	--	--	--	--	--	--	--	--
Maryland	--	--	--	--	--	--	--	--
Massachusetts	--	--	--	--	--	--	--	--
Michigan	--	--	--	--	--	--	--	--
Minnesota	--	--	--	--	--	--	--	--
Mississippi	$5	$15	$15	$0	$5	$15	$15	$0
Missouri	--	--	--	--	--	--	--	--
Montana	$3	$5	$5	$25	$3	$5	$5	$25
Nebraska	--	--	--	--	--	--	--	--
Nevada	--	--	--	--	--	--	--	--
New Hampshire	--	--	--	--	--	--	--	--
New Jersey	$5	$10	$10	$0	$5	$35	$35	$0
New Mexico	--	--	--	--	--	--	--	--
New York	--	--	--	--	--	--	--	--
North Carolina	$5	$0	$10	$0	$5	$0	$25	$0
North Dakota[3]	--	--	--	--	--	--	--	N/A
Ohio	--	--	--	--	--	--	--	--
Oklahoma	--	--	--	--	--	--	--	--
Oregon	--	--	--	--	--	--	--	--
Pennsylvania[2,4]	$0	$0	$0	$0	$0	$0	$0	$0
Rhode Island	--	--	--	--	--	--	--	--
South Carolina	--	--	--	--	--	--	--	--
South Dakota	--	--	--	--	--	--	--	--
Tennessee[2,5]	$5	$0	$10 | $50	$5	$15/$20	$0	$50	$100
Texas	$5	$0	$5	$35	$25	$0	$75	$125
Utah[6]	$25/$40	$300	$100-$200	20% daily reimbursement rate	$25/$40	$300	$100-$200	20% daily reimbursement rate
Vermont	--	--	--	--	--	--	--	--
Virginia	$5	$5	$25	$25	$5	$5	$25	$25
Washington	--	--	--	--	--	--	--	--
West Virginia[2,7]	$0	$0	$0	$0	$15	$35	$35	$25
Wisconsin[8]	--	--	--	--	--	--	--	--
Wyoming[2]	$10	$25	$25	$50	$10	$25	$25	$50

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.
Table presents rules in effect as of January 1, 2020.

Table 16 Notes

1. If a state charges cost sharing for selected services or drugs shown in Tables 17 and 18 but either does not charge them at the income level shown or for the specific service, it is recorded as $0; if a state does not provide coverage at a particular income level, it is noted as "N/A;" if a state does not charge copayments at all, it is noted as "--". Some states require 18-year-olds to meet the copayments of adults in Medicaid. These data are not shown.
2. In Florida, Pennsylvania, Tennessee, West Virginia, and Wyoming, the emergency room copayment is waived if the child is admitted.
3. North Dakota eliminated copayments for children in CHIP when it transitioned them from separate CHIP coverage to Medicaid.
4. Pennsylvania charges cost sharing starting at >208% of the federal poverty level (FPL), so no charges are reported in the table.
5. In Tennessee, children enrolled in TennCare have no copayments. The values shown before the “|” represent copayments for children enrolled in TennCare Standard, whereas the values after the “|” represent copayments for children enrolled in Cover Kids. The values shown before a “/” represent copayments for a primary care provider, whereas the values after the “/” represent copayments for a provider that is a specialist in Cover Kids.
6. Utah has a $40 deductible for all hospital services for families with incomes up to 150% FPL. Families with incomes above 150% FPL have a $500 per child or $1,500 per family deductible for hospital services. In Utah, for a non-preventive physician visit, the value before the “/” is the copayment amount for a visit with a primary care doctor, the value after the “/” is the copayment for a visit with a specialist.
7. In West Virginia, the copayment for a non-preventive physician visit is waived if the child goes to his or her medical home.
8. As of January 2020, Wisconsin suspended copayments for children in Medicaid and CHIP.

Table 17: Cost Sharing Amounts for Prescription Drugs for Children at Selected Income Levels, January 2020[1]						
State	Family Income at 151% FPL (or 150% if upper limit)			Family Income at 201% FPL (or 200% if upper limit)		
	Generic	Preferred Brand Name	Non-Preferred Brand Name	Generic	Preferred Brand Name	Non-Preferred Brand Name
Total	**12**	**14**	**10**	**15**	**16**	**12**
Alabama	$5	$25	$28	$5	$25	$28
Alaska	--	--	--	--	--	--
Arizona	--	--	--	--	--	--
Arkansas	$5	$5	$5	$5	$5	$5
California	--	--	--	--	--	--
Colorado	$3	$10	N/C	$5	$15	N/C
Connecticut	$0	$0	$0	$5	$10	$10
Delaware	--	--	--	--	--	--
District of Columbia	--	--	--	--	--	--
Florida	$5	$5	$5	$5	$5	$5
Georgia	$0.50	$0.50-$3	$0.50-$3	$1	$0.50-$3	$0.50-$3
Hawaii	--	--	--	--	--	--
Idaho	$0	$0	$0	N/A	N/A	N/A
Illinois	$2	$3.90	$3.90	$3	$5	$5
Indiana	$0	$0	$0	$3	$10	$10
Iowa	$0	$0	$0	$0	$0	$0
Kansas	--	--	--	--	--	--
Kentucky	--	--	--	--	--	--
Louisiana	--	--	--	--	--	--
Maine	--	--	--	--	--	--
Maryland	--	--	--	--	--	--
Massachusetts	--	--	--	--	--	--
Michigan	--	--	--	--	--	--
Minnesota	--	--	--	--	--	--
Mississippi	$0	$0	$0	$0	$0	$0
Missouri	--	--	--	--	--	--
Montana[2]	$0	$0	$0	$0	$0	$0
Nebraska	--	--	--	--	--	--
Nevada	--	--	--	--	--	--
New Hampshire	--	--	--	--	--	--
New Jersey	$1	$5	$5	$5	$5	$5
New Mexico	--	--	--	--	--	--
New York	--	--	--	--	--	--
North Carolina	$1	$1	$3	$1	$1	$10
North Dakota[3]	--	--	--	--	--	--
Ohio	--	--	--	--	--	--
Oklahoma	--	--	--	--	--	--
Oregon	--	--	--	--	--	--
Pennsylvania[4]	$0	$0	N/C	$0	$0	N/C
Rhode Island	--	--	--	--	--	--
South Carolina		Not Reported			Not Reported	
South Dakota	--	--	--	--	--	--
Tennessee[5]	$1.50 | $1	$3	$3 | $5	$1.50 | $5	$3 | $20	$3 | $40
Texas	$0	$5	N/C	$10	$35	N/C
Utah	$15	25% of cost	50% of cost	$15	25% of cost	50% of cost
Vermont	--	--	--	--	--	--
Virginia	$5	$5	$5	$5	$5	$5
Washington	--	--	--	--	--	--
West Virginia[6]	$0	$5	N/C	$0	$10	N/C
Wisconsin[7]	--	--	--	--	--	--
Wyoming	$5	$10	N/C	$5	$10	N/C

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.
Table presents rules in effect as of January 1, 2020.

Table 17 Notes

1. If a state charges cost sharing for selected services or drugs shown in Tables 17 and 18, but either does not charge them at the income level shown or for the specific service, it is recoded as a $0; if a state does not provide coverage at a particular income level, it is noted as “N/A;” if a state does not charge copayments at all, it is noted as “- -“; if a state does not cover a type of drug, it is noted as “N/C”. Some states require 18-year-olds to meet the copayments of adults in Medicaid. These data are not shown.
2. In Montana, if families order prescriptions through the mail, they pay $6 for a three-month supply of a generic drug.
3. North Dakota eliminated copayments for children in CHIP when it transitioned them from separate CHIP coverage to Medicaid.
4. Pennsylvania charges cost sharing starting at >208% of the federal poverty level (FPL), so no charges are reported in the table.
5. Tennessee covers children in its regular Medicaid program, called TennCare, with incomes up to 195% FPL for infants, 142% for children ages 1 – 5, and 133% FPL for children 6 – 18. Children who lose eligibility in TennCare qualify for coverage under a Medicaid expansion program, called TennCare Standard, if they are uninsured, have no access to insurance, and have family incomes below 211% FPL. Tennessee also operates a separate CHIP program, called Cover Kids, which covers uninsured children of all ages who do not qualify for TennCare or TennCare Standard and have incomes below 250% FPL. Children enrolled in TennCare have no copayments. The values shown before the “|” represent copayments for children enrolled in TennCare Standard, whereas the values after the “|” represent copayments for children enrolled in Cover Kids.
6. In West Virginia, unless the drug is specified as a medical necessity or the child came into the program already established on the drug, then client would get preferred drug co-pay.
7. As of January 2020, Wisconsin suspended copayments for children in Medicaid and CHIP.

Table 18: Premium and Cost Sharing Requirements for Selected Services for Section 1931 Parents, January 2020[1]									
State	Monthly Contribution /Premiums	Cost Sharing	Income at Which Cost Sharing Begins (%FPL)	Cost Sharing Amounts for Selected Services					
				Non-Preventive Physician Visit	Non-Emergency Use of ER	Inpatient Hospital Visit	Generic Drug	Preferred Brand Name Drug	Non-Preferred Brand Name Drug
Total	**1**	**35**		**24**	**21**	**22**	**32**	**34**	**33**
Alabama		Yes	0%	$1.30-$3.90	$3.90	$50	$0.65-$3.90	$0.65-$3.90	$0.65-$3.90
Alaska		Yes	0%	$3	$0	$50/day-$200/discharge	$0.50-$3.50	$0.50-$3.50	$0.50-$3.50
Arizona		Yes	0%	$3.4	$0	$0	$2.30	$2.30	$2.30
Arkansas		Yes	0%	$0	$0	10% cost of first day	$0.50-$3.90	$0.50-$3.90	$0.50-$3.90
California		Yes	0%	$1	$5	$0	$1	$1	$1
Colorado		Yes	101%	$2	$6	$4	$3	$3	$3
Connecticut		No	--	--	--	--	--	--	--
Delaware[2]		Yes	0%	$0	$0	$0	$.50-$3	$.50-$3	$.50-$3
District of Columbia		No	--	--	--	--	--	--	--
Florida		Yes	0%	$2	5% of first $300	$0	$0	$0	$0
Georgia		Yes	0%	$0	$0	$12.50	$.50-$3	$.50-$3	$.50-$3
Hawaii		No	--	--	--	--	--	--	--
Idaho		No	--	--	--	--	--	--	--
Illinois[3]		No	--	--	--	--	--	--	--
Indiana[4]	Yes, >0%	Yes	0%	$4	$8	$75	$4	$4	$8
Iowa[13]		Yes	0%	$3	$3	$0	$1	$1	$2-3
Kansas		No	--	--	--	--	--	--	--
Kentucky[14]		Yes	0%	$3	$8	$50	$1	$4	5% cost ($8 min/ $20 max)
Louisiana		Yes	0%	$0	$0	$0	$.50-$3	$.50-$3	$.50-$3
Maine[5]		Yes	0%	$0	$3	Up to $3/day	$3	$3	$3
Maryland		Yes	0%	$0	$0	$0	$1-$3	$1-$3	$1-$3
Massachusetts[15]		Yes	0%	$0	$0	$3	$3.65	$3.65	$3.65
Michigan[6]		Yes	0%	$2 | $4	$3 | $8	$50 | $100	$1 | $4	$1 | $4	$3 | $8
Minnesota[7]		Yes	0%	$3	$3.50	$0	$1	$3	$3
Mississippi		Yes	0%	$3	$0.00	$10	$3	$3	$3
Missouri		Yes	0%	$1	$3	$10	$.50-$2	$.50-$2	$.50-$2
Montana[3]		No	--	--	--	--	--	--	--
Nebraska[8]		Yes	0%	$2	$0	$15	$2	$3	$3
Nevada		No	--	--	--	--	--	--	--
New Hampshire		Yes	100%	$0	$0	$0	$0	$1	$2
New Jersey		No	--	--	--	--	--	--	--
New Mexico		No	--	--	--	--	--	--	--
New York		Yes	100%	$0	$3	$25/discharge	$1	$3	$3
North Carolina[12]		Yes	0%	$3	$3	$3/day	$3	$3	$3
North Dakota[3]		No	--	--	--	--	--	--	--
Ohio		Yes	0%	$0	$3	$0	$0	$2	$3
Oklahoma		Yes	0%	$4	$4	$10/day; $90 max	$4	$4	$4
Oregon		No	--	--	--	--	--	--	--
Pennsylvania[16]		Yes	0%	$0.65-$3.80	$0.50-$3	$3/day	$1	$3	$3
Rhode Island		No	--	--	--	--	--	--	--
South Carolina		Yes	0%	$3.30	$0	$25	$3.40	$3.40	$3.40
South Dakota		Yes	0%	$3	Full amount	$50	$1	$3.30	N/C
Tennessee		Yes	0%	$0	$0	$0	$1.50	$3	$3
Texas		No	--	--	--	--	--	--	--
Utah[9]		Yes	20%	$4	$8	$75	$4	$4	$4
Vermont		Yes	0%	$3	$0	$0	$1-$3	$1-$3	$1-$3
Virginia		Yes	0%	$1	$75	$75	$1	$3	$3
Washington		No	--	--	--	--	--	--	--
West Virginia[10]		Yes	0%	$0-$4	$8	$0-$75	$0-$3	$0-$3	$0-$3
Wisconsin[5,11]		No	--	--	--	--	--	--	--
Wyoming		Yes	0%	$2.45	$3.65	$0	$0.65	$3.65	$3.65

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.
Table presents rules in effect as of January 1, 2020.

Table 18 Notes

1. Data in the table present premiums or other monthly contributions and cost sharing requirements for Section 1931 parents. If a state charges cost sharing, but does not charge for the specific service, it is recorded as $0; if a state does not charge cost sharing at all, it is noted as "--". In some states, copayments vary based on the cost of the service.
2. In Delaware, parents have a $15 per month cap on out of pocket expenses from copayments.
3. Illinois and Montana, eliminated copayments on parents and adults in Medicaid as of January 2020. North Dakota eliminated copayments for parents and other adults as of October 2019.
4. In Indiana, Section 1931 parents who fail to pay monthly contributions will not be disenrolled but will receive Healthy Indiana Plan (HIP) Basic, a more limited benefit package with state plan level copayments. In Indiana, copayments are only required if enrolled in HIP Basic. In the HIP Plus plan, there are no copayments except for $8 for first time use of the emergency room.
5. In Maine and Wisconsin, copayments begin above 0% of the federal poverty level (FPL).
6. In Michigan, copayments vary by income levels. The values shown before the “|” represent copayments for individuals with incomes less than or equal to 100%FPL, whereas the value after the “|” represent copayments for individuals with incomes above 100%FPL.
7. In Minnesota, co-payments are limited to $12 a month. There are no co-payment for some mental health drugs. Minnesota does have a monthly deductible ($3.20).
8. In Nebraska, if 1931 parents are enrolled in managed care, all co-payments are waived.
9. In Utah, enrollees under the Temporary Aid to Needy Families (TANF) payment limit are exempt from paying copayments.
10. In West Virginia, copayment amounts for services may vary by income. Enrollees have a quarterly out-of-pocket maximum of $8 up to 50% FPL; $71 between 50% and 100%; and $143 above 100%.
11. Wisconsin suspended copayments in Medicaid for parents and adults as of January 2020.
12. North Carolina also added a copayment for non-emergency use of the emergency room to $3.
13. In Iowa, there is a $2 copay for non-preferred brand name drugs between $25.01 and $50 and a $3 copay for non-preferred brand name drugs above $50.
14. In Kentucky, enrollees are charged 5% coinsurance for non-preferred brand-name drugs, with a minimum of $8 and a maximum of $20.
15. In Massachusetts, generic drugs for diabetes, high blood pressure and high cholesterol have a $1 copayment. There is a cap of $36 per year for non-pharmacy copayments and a cap of $250 per year for pharmacy copayments.
16. In Pennsylvania, the inpatient hospital copayment is subject to a maximum of $21 per stay.

Table 19: Premium and Cost Sharing Requirements for Selected Services for Medicaid Adults, January 2020[1]									
State	Monthly Contributions /Premiums	Cost Sharing	Income at Which Cost Sharing Begins (%FPL)	Cost Sharing Amounts for Selected Services					
				Non-Preventive Physician Visit	Non-Emergency Use of ER	Inpatient Hospital Visit	Generic Drug	Preferred Brand Name Drug	Non-Preferred Brand Name Drug
Implemented Medicaid Expansion (36 states)									
Total	**5**	**22**		**13**	**14**	**13**	**18**	**21**	**21**
Alaska		Yes	0%	$3	$0	$50/day-$200/discharge	$0.50-$3.50	$0.50-$3.50	$0.50-$3.50
Arizona		No	--	--	--	--	--	--	--
Arkansas[2]	Yes, >100%	Yes	100%	$8/$10	$0	$140/day	$4	$4	$8
California		Yes	0%	$1	$5	$0	$1	$1	$1
Colorado		Yes	0%	$2	$6	$10/day	$1	$3	$3
Connecticut		No	--						
Delaware[3]		Yes	0%	$0	$0	$0	$0.50-$3	$0.50-$3	$0.50-$3
District of Columbia		No	--	--	--	--	--	--	--
Hawaii		No	--	--	--	--	--	--	--
Idaho		No	--	--	--	--	--	--	--
Illinois[4]		No	--	--	--	--	--	--	--
Indiana[5]	Yes, >0%	Yes	0%	$4	$8	$75	$4	$4	$8
Iowa[6]	Yes, >50%	Yes	0%	$0	$8	$0	$0	$0	$0
Kentucky		Yes	0%	$3	$8	$50	$1	$4	5% cost ($8 min/ $20 max)
Louisiana		Yes	0%	$0	$0	$0	$.50-$3	$.50-$3	$.50-$3
Maine		Yes	0%	$0	$3	Up to $3 per day	$3	$3	$3
Maryland		Yes	0%	$0	$0	$0	$1-$3	$1-$3	$1-$3
Massachusetts[7]		Yes	0%	$0	$0	$3	$3.65	$3.65	$3.65
Michigan[8]	Yes, >100%	Yes	0%	$2 | $4	$3 | $8	$50 | $100	$1 | $4	$1 | $4	$3 | $8
Minnesota[9]		Yes	0%	$3	$3.50	$0	$1	$3	$3
Montana[10]	Yes, >51%	No	--	--	--	--	--	--	--
Nevada		No	--	--	--	--	--	--	--
New Hampshire		Yes	100%	$0	$0	$0	$0	$1	$2
New Jersey		No	--	--	--	--	--	--	--
New Mexico		No	--	--	--	--	--	--	--
New York		Yes	100%	$0	$3	$25/ discharge	$1	$3	$3
North Dakota[11]		No	--	--	--	--	--	--	--
Ohio		Yes	0%	$0	$3	$0	$0	$2	$3
Oregon		No	--	--	--	--	--	--	--
Pennsylvania[12]		Yes	0%	$0.65-$3.80	$0.50-$3	$3/day	$1	$3	$3
Rhode Island		No	--	--	--	--	--	--	--
Utah		Yes	0%	$4	$8	$75	$4	$4	$4
Vermont		Yes	0%	$3	$0	$0	$1-$3	$1-$3	$1-$3
Virginia		Yes	0%	$1	$75	$75	$1	$3	$3
Washington		No	--	--	--	--	--	--	--
West Virginia[13]		Yes	0%	$0-$4	$8	$0-$75	$0-$3	$0-$3	$0-$3
Expansion Not Yet Implemented (15 states)									
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Alabama									
Florida									
Georgia									
Kansas									
Mississippi									
Missouri									
Nebraska									
North Carolina									
Oklahoma									
South Carolina									
South Dakota									
Tennessee									
Texas									
Wisconsin[14]									
Wyoming									

SOURCE: Based on a national survey conducted by KFF with the Georgetown University Center for Children and Families, 2020.

Table presents rules in effect as of January 1, 2020.

Table 19 Notes

1. Data in the table represent premium or other monthly contributions and cost sharing requirements for non-disabled adults. This group includes parents above Section 1931 limits. If a state charges cost sharing, but does not charge for the specific service or drug, it is recorded as $0; if a state does not charge cost sharing at all, it is noted as "--." In some states, copayments vary based on the cost of the service. Cost sharing and premiums may not exceed 5% of household income.
2. Arkansas may charge enrollees with income above 100% of the federal poverty level (FPL) a monthly premium up to 2% of income. Expansion adults with income above 100% FPL pay $8 for a non-preventive primary care visit and $10 for a specialist visit.
3. In Delaware, adults have a $15 per month cap on out of pocket expenses from copayments.
4. Illinois eliminated copayments for parents and other adults as of January 2020.
5. In Indiana, under Section 1115 waiver authority, adults with incomes above poverty who fail to pay monthly contributions will be disenrolled from coverage after a 60-day grace period and barred from reenrolling for 6 months. Beneficiaries with incomes at or below 100% FPL who fail to pay monthly contributions will receive Healthy Indiana Plan (HIP) Basic, a more limited benefit package with state plan level copayments.
6. In Iowa, under Section 1115 waiver authority, Medicaid expansion beneficiaries above 100% FPL pay contributions of $10 per month. Beneficiaries at or above 50% FPL through 100% FPL pay $5 per month and cannot be disenrolled for non-payment. Contributions are waived for the first year of enrollment. In subsequent years, contributions are waived if beneficiaries complete specified healthy behaviors. The state must grant waivers of payment to beneficiaries who self-attest to a financial hardship. Beneficiaries have the opportunity to self-attest to hardship monthly.
7. In Massachusetts, premiums are also charged for some adults with incomes above 150% FPL covered through waiver programs. Generic drugs for diabetes, high blood pressure, and high cholesterol have a $1 copayment. There is a $36 annual cap for non-pharmacy copayments and a $250 annual cap for pharmacy copayments.
8. In Michigan, copayments vary by income levels. The values shown before the “|” represent copayments for individuals with incomes less than or equal to 100%FPL, whereas the value after the “|” represent copayments for individuals with incomes above 100%FPL.
9. Minnesota has a buy-in group for people with disabilities which is based on income and a formula for the premiums.
10. Montana eliminated copayments for parents and other adults effective January 2020.
11. North Dakota eliminated copayments for parents and other adults effective October 2019.
12. In Pennsylvania, the inpatient hospital copayment is subject to a maximum of $21 per stay.
13. In West Virginia, copayment amounts for services may vary by income. Enrollees have a quarterly out-of-pocket maximum of $8 up to 50% FPL; $71 between 50% and 100%; and $143 above 100%.
14. Wisconsin suspended copayments in Medicaid for parents and adults as of January 2020.

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INFOGRAPHIC

1st COVID Bill: Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020 (P.L. 116 123 / H.R. 6074)

HHS AGENCY	USE OF FUNDS	RECIPIENTS
Public Health and Social Services Emergency Fund ($2.98 B until 9/30/24)[1,2]		
Biomedical Advanced Research & Development Authority (BARDA) thru Broad Agency Announcements **$2.98 B**	Research and development of medical countermeasures for influenza and other emerging respiratory viruses with a priority on effective approaches that improve pandemic preparedness and rapid response capabilities	Pharma, biotech, research orgs; Academic institutions; Research entities
NIH ($836 M until 9/30/24)		
National Institute of Allergy & Infectious Diseases (NIAID) thru contracts & grants **$826 M**	Basic and applied research that prevents, prepares for, & responds to coronavirus, domestically or internationally	
National Institute of Environmental Health Sciences thru grants **$10 M**	Worker training to prevent and reduce exposure of hospital employees, emergency first responders, and other workers at risk of exposure	Nonprofit orgs, (e.g., labor-based, health & safety orgs, & academic institutions)
HRSA ($100 M until 9/30/24)		
Public Health Service Act Section 330 Primary Health Care grants **$100 M**	Purchase vaccines, therapeutics, diagnostics, & med supplies; facility construction, alteration, & renovation to improve preparedness/response capability	Federally Qualified Health Centers
CDC ($1.5 B until 9/30/22)		
Public Health Emergency Preparedness (PHEP) cooperative agreements **$950 M**	Purchase surveillance, epidemiology, laboratory capacity, infection control, mitigation, communications, and other preparedness response activities	Public Health Depts; Tribes and Tribal Orgs
Infectious Diseases Rapid Response Reserve Fund **$300 M**	For activities determined by the Secretary to prevent, prepare for, or respond to an infectious disease emergency	To designated entities thru selected CDC & HHS programs
Global Disease Detection (GDD) & Emergency Response **$300 M**	Improve regional capabilities worldwide to prevent, detect, and respond to epidemics and emerging public health threats	GDD Centers

[1] An additional $300 M may be available if the HHS Secretary certifies that the initial funds will be obligated imminently & additional funds are needed

[2] Up to $2 million transferred to HHS Office of the Inspector General for oversight

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LONG-TERM HEALTH INSURANCE: THEORY MEETS EVIDENCE

Juan Pablo Atal
Hanming Fang
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Long-Term Health Insurance: Theory Meets Evidence
Juan Pablo Atal, Hanming Fang, Martin Karlsson, and Nicolas R. Ziebarth
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ABSTRACT

To insure policyholders against contemporaneous health expenditure shocks and future reclassification risk, long-term health insurance constitutes an alternative to community-rated short-term contracts with an individual mandate. Relying on unique claims panel data from a large private insurer in Germany, we study a real-world long-term health insurance application with a life-cycle perspective. We show that German long-term health insurance (GLTHI) achieves substantial welfare gains compared to a series of risk-rated short-term contracts. Although, by its simple design, the premium setting of GLTHI contract departs significantly from the optimal dynamic contract, surprisingly we only find modest welfare differences between the two. Finally, we conduct counterfactual policy experiments to illustrate the welfare consequences of integrating GLTHI into a system with a "Medicare-like" public insurance that covers people above 65.

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1 Introduction

For decades, academics and policymakers alike have been studying options to regulate (short-term) private health insurance markets. Such policy options strive to avoid outcomes that are considered undesirable, such as a high uninsurance rate, unaffordable premiums for sick individuals or large premium fluctuations following changes in health status (Claxton et al., 2017). However, standard regulatory tools to address these issues, e.g. community-rated premiums and guaranteed issuance, involve cross-subsidization from the healthy towards the sick, and therefore typically imply a trade-off with other unintended consequences such as adverse selection (cf. Akerlof, 1970).

A fundamental alternative to regulated cross-subsidization is an individual *long-term* health insurance contract. Instead of relying on transfers across individuals with different health statuses, long-term contracts leverage individuals' private intertemporal incentives over their lifecycle. Under long-term contracts, sick individuals pay relatively low premiums and compensate by paying relatively high premiums in healthy times of their life. In theory, a carefully designed long-term contract can reduce the risk of premium fluctuations due to health shocks ("reclassification risk"), while ensuring participation and eliminating adverse selection (cf. Pauly et al., 1999; Patel and Pauly, 2002; Pauly and Lieberthal, 2008).

In this paper, we study the largest and oldest individual private long-term health insurance market in the world. In Germany, ten percent of the population (or 8.8 million individuals) hold individual long-term health insurance policies sold by private insurance companies. After an initial risk-rating, the policies are guaranteed renewable until death (without an expiration date or enrollment period) and future premium changes have to be community rated; that is, premium changes over the lifecycle are independent of changes in the policyholder's health status.[1]

The simple design of the German long-term health insurance contract (henceforth GLTHI) differs substantially from the welfare-maximizing contract derived by Ghili et al. (2019) (henceforth GHHW). The German contract foresees the payment of constant real premiums over the lifecycle, regardless of the evolution of an individual's income and health status. As a consequence, the GLTHI contract almost entirely eliminates reclassification risk—at the expense of relatively high premiums during the early life years ("front-loading"). In contrast, the optimal dynamic contract involves a premium path that is income-dependent, and that changes over the lifecycle after the realization of health shocks. The optimal contract considers the individual's lifecycle income profile to find the welfare-maximizing balance between insurance against reclassification risk and consumption

[1] Germany has no public insurance specifically for people above the age of 65, like Medicare in the United States.

smoothing over the lifecycle.[2]

This paper first presents and discusses the main principles and functioning of GLTHI. It is a market that, despite its stable existence for decades, has received very little attention outside Germany. We formulate the theoretical foundations of GLTHI and contrast them with GHHW. Next, we leverage a unique panel of claims data from one of the largest German private insurers. In total, our data include 620 thousand unique enrollees over 7 years, spanning all age groups and all German states. For example, the oldest policyholder is 99 years and the most loyal client has been insured for 86 years. We then make use of the German version of the John Hopkins ACG© software, and propose a novel risk classification method which allows us to categorize the expected health risk and study health transitions over time. Because lifecycle income profiles play a crucial role when assessing the welfare effects of GLTHI, we leverage more than three decades of lifecycle income panel data from the representative German Socio-Economic Panel Study (SOEP). For this purpose, we rely on household income measures that consider all income streams, including social insurance benefits and consider within-household redistribution.[3]

We find that the simple GLTHI design generates only small welfare losses compared to the optimal contract of GHHW. Under various parameterizations and scenarios, replacing the GLTHI contract with the optimal contract would increase welfare by between zero and seven percent. Within a plausible range of parameter values, we find that the welfare gains are smaller than four percent. When delving deeper into an understanding the surprisingly small welfare loss of GLTHI relative to the optimal contract, we find that, compared to the optimal contract, the GLTHI contract entails less consumption smoothing over the lifecycle, but also less reclassification risk. On balance, compared to the optimal contract, the welfare loss due to less consumption smoothing is almost entirely offset by better reclassification risk insurance in the GLTHI contract. These results are robust to the incorporation of private savings, to a wide range of degrees of risk aversion, and to non-time-separable recursive preferences à la Epstein and Zin (1989).

We also investigate the potential implications of our findings for U.S. health insurance reform. We argue that the U.S. health insurance system, prior to the Affordable Care Act at least, could be approximated by a hybrid system of private health insurance contracts for the working-age population up to age 64 and payroll tax financed Medicare insurance for age 65 and higher; in addition,

[2]The contract derived by Ghili et al. (2019) is optimal under one-sided commitment and no-borrowing constraints. This paper also maintains those assumptions. The first-best contract corresponds to a constant consumption profile over an individual's lifecycle but is unattainable under these assumptions.

[3]We also show that the findings are robust to using more than three decades of lifecycle income data from the U.S. Panel Study of Income Dynamics (PSID).

the market for private health insurance contracts is to a first order approximation a 60/40 mixture of long-term contracts (employer-sponsored health insurance) and short-term contracts. We implement the U.S. system using our estimates from the German data, and show that switching all short-term contracts to long-term contracts (either in the form of GLTHI or the GHHW optimal contracts) could result in substantial welfare gains. However, we also find that such a hybrid system of private insurance contracts and Medicare achieves lower welfare than a system in which private long-term insurance contracts cover individuals throughout their entire lifecycle (as in the GLTHI sytem).

This paper contributes to the literature on dynamic contracts for which vast theoretical work but relatively little empirical evidence exists. Pauly et al. (1995) propose a "guaranteed-renewable" contract with a pre-specified path of premiums that fully eliminates adverse selection and reclassification risk. Similarly, Cochrane (1995) proposes a scheme of severance payments, made after the realization of health shocks, which provides full insurance against reclassification risks. Hendel and Lizzeri (2003) and Ghili et al. (2019) show that the optimal contract only partially insures reclassification risk, because fully eliminating reclassification risks requires large front-loaded payments, preventing consumption smoothing over the lifecycle. These results are mostly theoretical, and the proposed contracts typically have complex designs that have high informational requirements to implement. The main contribution of our paper is to provide a systematic welfare analysis of an existing, simple real-world alternative long-term contract with a distinct advantage of low information requirements for implementation. We show that, even though the GLTHI contracts are theoretically not optimal, they provide a close approximation in terms of welfare to the optimal GHHW contracts by providing better reclassification risk insurance at the cost of less intertemporal consumption smoothing.

Several papers, including Hendel and Lizzeri (2003), Herring and Pauly (2006), Finkelstein et al. (2005), and Atal (2019), investigated empirically the workings of long-term contracts in different contexts. Our paper also contributes to this empirical literature by introducing in Section 5.1 a method of discrete classification of health risks. We base our method on the properties of *homogeneity* and *separation* in the actuarial science literature (see Finger, 2006). Our proposed method is, in our view, a more informative way of discrete classification of health risks than the mostly *ad hoc* method used in the existing literature.

Our paper is also related to a few papers that have previously studied the Germany long-term health insurance market. Hofmann and Browne (2013) describe GLTHI contracts and show that switching behavior in the market is consistent with its incentive structure. Christiansen et al. (2016) empirically study determinants of lapsing and switching behavior. Baumann et al. (2008) and Eekhoff

et al. (2006) discuss the potential effects of higher switching rates on market competition if the capital accumulated through front-loaded payments were to be made portable across insurers. While these two papers discuss a hypothetical reform, Atal et al. (2019) theoretically and empirically study the effects of the actual 2009 portability reform on switching behavior.

The rest of the paper is organized as follows. In Section 2, we provide the institutional details of the GLTHI market; in Section 3, we derive the theoretical life-cycle premiums under the GLTHI framework and contrasts them with the premiums of the optimal contract as derived in Ghili et al. (2019). In Section 4, we describe our data and provide summary statistics; in Section 5, we model the health risk and income dynamics over the lifecycle. Section 6 uses the theoretical and empirical inputs to simulate the economy and to quantify welfare under different contracts. We also present possible implications of our findings for U.S. health reforms. In Section 7, we discuss the robustness of our main results to different values of risk aversion, and to Epstein and Zin (1989)'s recursive preferences. Finally, in Section 8, we conclude.

2 Institutional Details

Germany has a two-tier health insurance system where a statutory health insurance (SHI) and an individual private health insurance market co-exist. SHI is a public insurance program that covers ninety percent of the population. SHI enrollees pay income-dependent contribution rates for a standardized benefit package with very little cost-sharing, and they are enrolled in one of the 109 non-profit sickness funds (Schmitz and Ziebarth, 2017; Bünnings et al., 2019; Bundesministerium für Gesundheit, 2020). However, for historical reasons, select population subgroups (see below for details) have the right to leave the public SHI system *permanently* and fully insure their health risks on a private market. By opting out of the SHI, individuals no longer need to pay SHI taxes, but they are mandated to purchase long-term private health insurance. In the private market, individuals can choose among thousands of individual *long-term* plans. Karlsson et al. (2016) provide more details on the general structure of the German health insurance market. Hofmann and Browne (2013) and Atal et al. (2019) provide additional specific details on the individual private market. The uninsurance rate in Germany is around 0.1 percent (German Statistical Office, 2016).

Besides Chile (cf. Atal, 2019), Germany is the only country in the world with an existing private long-term health insurance market. About 8.8 million enrollees in Germany are long-term insured on this market (Association of German Private Healthcare Insurers, 2019b). For historical reasons,

GLTHI covers three main population subgroups: (a) the self-employed; (b) high-income earners with gross labor incomes above a politically defined federal threshold (in 2020, the threshold is €62,550, or about $68,800 per annum); and (c) civil servants. These population subgroups have the option to leave the public SHI system and insure their health risks privately with a long-term contract (Nuscheler and Knaus, 2005; Hullegie and Klein, 2010; Polyakova, 2016; Panthöfer, 2016). This decision to enter the private market is essentially a lifetime decision. Switching back to SHI is strictly limited, so as to prevent individuals from strategically switching back and forth and gaming the system; the basic principle is "once privately insured, always privately insured" (Schencking, 1999; Innungskrankenkasse Berlin Brandenburg, 2018). We discuss the institutional specifics of this rule, as well as the empirical evidence on the difficulty of switching from GLTHI back to SHI in Appendix A1.

The GLTHI market consists of 48 private insurers that sell *comprehensive* as well as *supplemental* insurance coverage (Association of German Private Healthcare Insurers, 2019c). The focus of this paper is the comprehensive or "substitutive" (to SHI) insurance, which is solely sold as individual policies. Besides not paying the SHI taxes, other advantages for consumers to opt out of SHI and getting private GLTHI coverage include that the GLTHI offers a lot of choice as well as actuarially fair premiums in a lifecycle perspective (as we discuss in more detail below). Compared to the post-ACA era in the U.S., the GLTHI market is less regulated. Applicants can freely choose their level of coverage in terms of benefits and cost-sharing amounts, within some lax limits. This results in thousands of different health plans among the 8.8 million policyholders, most of which are sold across state lines and nationwide. The majority of private insurers operate nationwide and are open to all applicants who opt out of SHI.

Provider Networks. Provider networks and "Managed Care" are unknown in the public and private system in Germany; that is, people can freely choose their providers in either system. Moreover, in both the public and private system, reimbursement rates are centrally determined and do not vary by insurers or health plans. While the fees for inpatient services are identical across the public and private market, the fees for outpatient services are structurally higher in the private market, which is why wait times for outpatient services, especially those of the specialists, are shorter for the privately insured (Werbeck et al., 2019). Because they do not negotiate rates or build provider networks, the main job of private insurers is to customize health plans and process, scrutinize, and deny claims. Thus, different from the private insurance plans in the United States, the GLTHI contract primarily

constitutes a *pure financial contract*. This feature of the German health insurance system significantly simplifies our welfare analysis of GLTHI versus the optimal contract and other alternative arrangements.

Guaranteed Renewability and One-Sided Commitment. While an individual applies for a private health insurance, the insurer can initially deny coverage to applicants with bad risks, however, the insurers cannot terminate ongoing contracts. Contracts are not yearly contracts like in the U.S., but permanent lifetime contracts without an end date. In other words, the GLTHI contracts are guaranteed lifetime renewable.[4] Because enrollees can cancel their permanent contracts but insurers cannot, the GLTHI is a market with a one-sided commitment. However, it is relatively common that enrollees remain insured with their carrier until they die (recall that Medicare does not exist in Germany).[5] In addition, whereas the initial premium is risk-rated, all subsequent premium increases are community-rated at the plan level, such that the contract provides insurance against reclassification risk.

Premium Calculation and Old Age Provisions. The initial GLTHI premium is individually underwritten.[6] Premiums consist of several components whose exact calculations are regulated by the *Kalkulationsverordnung (KalV)*. The insurers' actuaries carry out the specific actuarial calculations which have to be approved by a federal financial regulatory agency (the *Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin*). Specifically, Chapter 1 of the *KalV* specifies that premiums have to be a function of the expected per capita health care claims or *Kopfschäden* (which depend on the plan chosen, age, gender, health risks),[7] the assumed guaranteed interest rate (*Rechnungszins*), the probability to lapse (*Stornowahrscheinlichkeit*), and the life expectancy (*Sterbewahrscheinlichkeit*).

One important and distinct characteristic of the GLTHI market is the legal obligation of insurers to build up *old-age provisions*, typically until age 60 of the policyholder. The *old-age provision* accumu-

[4] In fact, because there is no enrollment period and end date, contracts are permanent and do not have to be renewed.

[5] In our sample, the policyholders' average age is 46 years and policyholders have been with the insurer for an average of 13 years; the oldest client is 99 years old and the most loyal client has been with the insurer for 86 years, see Table A1 (Appendix).

[6] The only exception is the "Basic Plan" (*Basistarif*). The Basic Plan must be offered by all carriers and is structured after the SHI with the same essential benefits and actuarial values. For the Basic Plan, guaranteed issue exists for people above 55 and those who joined the GLTHI after 2009. The maximum premium is capped at the maximum SHI contribution (in 2020, it is €935.94 per month). The legislature mandated the Basic Plan to provide an "affordable" private option for GLTHI enrollees who cannot switch back to SHI, are uninsured, would have to pay excessive premiums, or would be denied coverage. However, the demand for the Basic Plan has been negligible; thus henceforth, we will abstain from it. In 2018, in the entire GLTHI, only 32 thousand people, or 0.4 percent, were enrolled in the Basic Plan (Association of German Private Healthcare Insurers, 2019c). In our data, only 1,006 enrollees chose the basic plan in 2010.

[7] Gender rating was allowed until December 21, 2012. After this date, for new contracts, all insurers in the European Union (EU) have to provide unisex premiums as the EU Court of Justice banned gender rating as discriminatory (Schmeiser et al., 2014)

lated early in the lifecycle serves as capital to cover higher health expenditures later in the lifecycle. Premiums are calculated under the basic principle of a constant premium over the lifecycle that is enough to cover expenses over the enrollee's lifecycle (we provide a formal treatment of this principle in Section 3.1). Thus, in young ages, premiums exceed the expected claims; while in old ages, premiums are lower than the expected claims—a phenomenon known as "front-loading" in long-term insurance contracts (Nell and Rosenbrock, 2007, 2009).[8]

Figure 1 provides an illustration of the front-loading for four combinations of age at initial enrollment and health risk: high and low health risk, and initial enrollment at either age 30 or 50. In this illustration, we assume the health risk types to be constant over the lifecycle.[9]. The low health risk type corresponds to a hypothetical individual with no pre-existing conditions, and the expected health expenditures by age conditional on survival is denoted by $E(m|\text{surv, low})$ in Figure 1; the high health risk type corresponds to a hypothetical individual who has 50 percent higher expected health care costs at each age, denoted by $E(m|\text{surv, high})$ in Figure 1. In Figure 1, $P_{30,\text{low}}$ (and respectively, $P_{30,\text{high}}$) is the premiums under the GLTHI if a low (respectively, high) risk type starts its enrollment into the long-term contract at age 30; similarly, $P_{50,\text{low}}$ and $P_{50,\text{high}}$) are the premiums under the GLTHI if the two types start their enrollment into the contract at age 50.

Figure 1 has the following important features. In principle, premiums remain stable over enrollees' life cycles. Front-loaded premiums allow to dampen increases in premiums via the capital stock built through old-age provisions—the cumulative difference between the premium payments and the expected claims in addition to the investment returns from these front-loaded payments.[10] Second, premiums are higher for enrollees who joined the GLTHI later in their life, as the expected yearly future expenditures increase with age.[11] Third, because of the initial risk rating, high-risk types (the "sick") pay higher premiums throughout their lives, relative to the low-risk types (the

[8] Such front-loading creates a "lock-in" effect, in addition to the lock-in induced by guaranteed renewability (Nell and Rosenbrock, 2008; Atal, 2019). To strengthen consumer power and reduce this lock-in, the German legislature made a standardized portion of these old-age provisions portable across carriers for contracts signed after Jan 1, 2009; see Atal et al. (2019) for an evaluation of this reform. For existing contracts, Atal et al. (2019) do not find a significant impact on external switching rates. However, they find a one-time increase in internal plan switching during the limited six months period from January to June 2009 where portability was granted for existing contracts.

[9] Although the case with permanent health risk allows to illustrate the basic front-lading principle, allowing for a stochastic health status is fundamental to the analysis: First, it allows to show that front-loading can dampen the reclassification risk. Second, an evolving health status means that individuals who start unhealthy may lapse their contract, which introduces (downwards) reclassification risk even if premiums are constant within a given contract. Also, lapsation needs to be taken into account when calculating the premium level. We treat the case with evolving health status extensively in Section 3.1 and in the rest of the paper.

[10] In 2018, the capital stock built through old-age provisions amounted to € 260 billion ($286 billion) for 8,736,400 policies, or to € 29,760 ($32,737) per policy (Association of German Private Healthcare Insurers, 2019c).

[11] This is not necessarily true when health risk may change over time. With a stochastic health status, the initial premium may start to decrease at very high ages as, over time, the need to front-load for future negative shocks to health status decreases (see Section 6.1.)

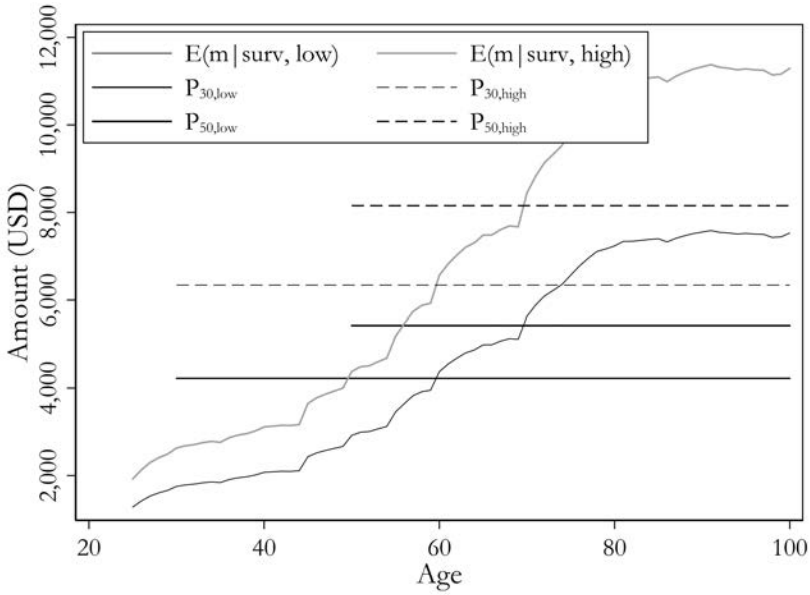


Figure 1: Premiums and Health Expenditures over the Lifecycle in the GLTHI

Source: German Panel Claims Data (see Section 4.1), own calculations, own illustration.

"healthy").[12]

While, theoretically, the premium of a contract is constant over an individual's lifecycle, in reality nominal and also real premiums do increase. The main factors that trigger such premium adjustments (*Beitragsanpassungen*) are the following: (i) structural changes in life expectancy; (ii) structural changes in health care consumption; (iii) structural changes in health care prices mostly due to medical change, e.g. new expensive drugs;[13] (iv) structural changes of the economic environment, e.g. through capital markets or new financial regulation. An example of (iv) is the structural and unexpected shift of central banks to a super-low interest rate environment over the past decade. Such a structural shift implies a strong decrease in returns to risk-free capital investment. Because GLTHI insurers (like life insurers) are heavily invested in the bond market, structural premium adjustments have been the consequence.[14]

Premium adjustments are not only allowed in some cases, but also *required* by the regulatory financial oversight agency *BaFin* to ensure financial stability within the regulatory framework in the

[12] Again, this is not necessarily true when health risk may change over time.

[13] The Health Care Reform 2000 (*GKV-Gesundheitsreformgesetz 2000*) introduced a mandatory 10 percent premium surcharge up to age 60 to dampen structural increases in health care spending due to medical progress. This surcharge only applies to GLTHI contracts signed after January 1, 2000 (see article 14 of GKV-Gesundheitsreformgesetz (2000)).

[14] The *KalV* has traditionally capped the assumed return on equity, the so called "guaranteed interest rate" (*Rechnungszins*) for the premium calculation at 3.5 percent. This has been the case for five decades. However, in 2016 for the first time, the average net return on investment has dropped below 3.5 percent, which is why the *German Actuary Association* has issued a new guideline to calculate the new insurer-specific "maximum allowed interest rate" (*Höchstrechnungszins*), see Deutsche Aktuarvereinigung (DAV) (2019).

Versicherungsvertragsgesetz (VVG), the *Versicherungsaufsichtsgesetz (VAG)*, and the *KalV*.[15] Most insurers have to follow the *Solvency II* reporting requirements. Each year, insurers have to test whether their underlying assumptions for their premium and old age provision calculations for each health plan are still accurate. If they deviate by a certain amount, they have to adjust the premiums, which can result in two-digit premium increases, bad press, and lawsuits (Krankenkassen-Zentrale (KKZ), 2020).[16] However, on average, nominal premium increases have been moderate—in 2018 at 1.8 percent and from 2009 to 2019 at an average nominal rate of 2.8 percent(Association of German Private Healthcare Insurers, 2019a). Most important for our analysis is that the premium adjustments of GLTHI after the initial purchase are not allowed to depend on the enrollee's possibly evolving health status.

3 Premium Settings and Welfare Measures

3.1 Lifecycle Premiums in the German Long-Term Health Insurance (GLTHI)

We start by formalizing the calculation of GLTHI premiums over the lifecycle. Then we compare them to the lifecycle premium profile of the optimal dynamic contract as derived by Ghili et al. (2019) (GHHW).

Let $P_t(\xi_t)$ be the premium offered when signing a GLTHI contract in period t. $P_t(\xi_t)$ depends on the individual's health risk in year t, ξ_t, as GLTHI contracts are individually underwritten at inception (see Section 2). We assume that $\xi_t \in \Xi$ where Ξ is a finite set of health states to be described below. In subsequent periods, each contract is guaranteed-renewable. As such, individuals who sign a contract in period t can renew the contract for the same premium, $P_t(\xi_t)$, in all periods between $t+1$ and T, regardless of the evolution of their health status.

As discussed in Section 2, the contract breaks even in equilibrium, given premium $P_t(\xi_t)$. Consequently, we express $P_t(\xi_t)$ as the solution to a fixed-point problem in which $P_t(\xi_t)$ covers exactly the expected claims of enrollees who stay in the contract at premium $P_t(\xi_t)$. We solve for $P_t(\xi_t)$ recursively, starting from the last period, $t = T$. In T, there is no uncertainty regarding future health shocks and future lapsation. Let m_t denote health care expenditures in year t. Assuming full coverage, it follows that $P_T(\xi_T) = \mathbb{E}(m_T|\xi_T)$.

[15] Effective January 1, 2016 the *KalV* has been replaced by the *Krankenversicherungsaufsichtsverordnung (KVAV)*.

[16] All premium adjustments have to be legally checked and approved by 16 independent actuaries who are appointed by the *BaFin*. However, some plaintiffs in lawsuits argue that some of these actuaries would not be sufficiently independent. Other reasons of courts to declare a premium increase as "not justified" were insufficient explanations by the insurers or a deliberate initial underpricing of premiums in the first year to attract enrollees (Krankenkassen-Zentrale (KKZ), 2020).

To calculate the equilibrium premium in $t < T$, we need to consider *endogenous lapsation*. Enrollees will lapse their current contract if, given the evolution of their health status, they can obtain a lower premium if they apply for a new policy in the market than their current guaranteed-renewable premium. Formally, lapsing a contract signed in $t < T$ at the risk-rated premium $P_t(\xi_t)$ occurs at the first $\tau > t$ under health status ξ_τ if $P_\tau(\xi_\tau) < P_t(\xi_t)$, where $P_\tau(\xi_\tau)$ is the premium that the individual can get time $\tau > t$ when his/her health status is ξ_τ from a new long-term policy.[17]

Remark 1 *Note that the lapsation decision under GLTHI is only driven by a comparison between one's current guaranteed premium $P_t(\xi_t)$ and the premium that he/she could obtain from a new contract $P_\tau(\xi_\tau)$. Neither risk aversion nor income shocks play any role in the lapsation decision under GLTHI; also as we mentioned previously, GLTHI is a pure financial contract, thus the lapsation decision is not driven by any differentiation in provider networks associated with the policies.*

For a given $t < T$ and $\tau > t$, we denote $\mathbf{P}_{t+1}^{\tau} \equiv \{P_{t+1}(.), ..., P_\tau(.)\}$ as the set of guaranteed premiums from $t+1$ to $t+\tau$. We can then recursively write the break-even GLTHI lifecycle premium for time-t new enrollees applying for GLTHI with heath state ξ_t, which we denote by $P_t(\xi_t)$, as follows:

$$P_t(\xi_t) = \frac{\mathbb{E}(m_t|\xi_t) + \sum_{\tau>t}^{T} \sum_{z\in\Xi} \delta^{\tau-t} \mathbb{E}(m_\tau|z) \times q_\tau(z|\xi_t, \mathbf{P}_{t+1}^{\tau}, P_t(\xi_t))}{1 + \sum_{\tau>t}^{T} \sum_{z\in\Xi} \delta^{\tau-t} \times q_\tau(z|\xi_t, \mathbf{P}_{t+1}^{\tau}, P_t(\xi_t))}, \tag{1}$$

where the first element of the numerator, $\mathbb{E}(m_t|\xi_t)$, is expected health care costs in period t, given ξ_t; the second element of the numerator is the sum of the expected future health care costs over all remaining life years from t to T, which are discounted with rate δ, with the spending at a future time τ weighted by $q_\tau(z|\xi_t, \mathbf{P}_{t+1}^{\tau}, P_t(\xi_t))$, the probability that (1) $\xi_\tau = z$, and (2) the individual does not lapse (or die) between periods t and τ, given the subsequent equilibrium premiums $\mathbf{P}_{t+1}^{\tau}$. These expected lifecycle health care claims are then normalized by the expected number of non-lapsing years in the contract in the denominator.[18] In other words, in the GLTHI market, the lifecycle premium $P_t(\xi_t)$ equals the average of today's expected health care spending and all expected future health care spending, given the health risk today and in the future, weighted by the likelihood of non-lapse in any of the future time periods until death.

[17] Note that we abstain from horizontal differentiation across plans, and from switching costs.

[18] Of course, $q_\tau(z|\xi_t, \mathbf{P}_{t+1}^{\tau}, P_t(\xi_t))$ depends on the evolution of the health status $\xi_{t+1}, ..., \xi_\tau$ and death, conditional on current health status ξ_t. We describe how we model the health risk process in Section 5.

Equation (1) implicitly determines the constant GLTHI equilibrium lifecycle premium for a contract signed in period t. Note that the break-even constraint determines the GLTHI lifecycle premium in any period for different health statuses, considering the likelihood to lapse in future periods. These lifecycle premiums do not maximize any *ex ante* consumer objective functions; conceptually, they are *not* designed to maximize any welfare criterion.

Remark 2 *Note that the equilibrium premiums of the GLTHI recursively determined by Equation 1 do not depend on the utility function, and the income profiles. Therefore, the GLTHI premiums do not depend on educational achievement of the applicants even though the income profiles differ substantially across education groups.*

3.2 Lifecycle Premiums in the Optimal Dynamic Health Insurance Contract (GHHW)

In contrast, Ghili et al. (2019) study the optimal dynamic health insurance contract that maximizes consumer welfare, subject to break-even, no lapsation, and no borrowing constraints, in an environment where individuals have *time-separable* and *risk averse* preferences subject to stochastic health expenditure shocks.Ghili et al. (2019) show that the optimal dynamic insurance contract provides a *consumption guarantee* $\bar{c}_t(\xi_t, \mathbf{y}_t^T)$ that is a function of enrollees' current health risk as well as the vector of current and future income $\mathbf{y}_t^T \equiv \{y_t, y_{t+1}, ...y_T\}$. The optimal dynamic insurance contract establishes that the individual will start consuming $\bar{c}_1(\xi_1, \mathbf{y}_1^T)$. Over time, the consumption of an individual holding a guarantee $\bar{c}$ is bumped up in every period t such that a competing firm can offer a higher guarantee $\bar{c}_t(\xi_t, \mathbf{y}_t^T) > \bar{c}$ and still break-even in expectation.

Analogous to the GLTHI lifecycle premium calculation, $\bar{c}_t(\xi_t, \mathbf{y}_t^T)$ is solved by backwards induction. Specifically, the consumption guarantee in period T is given by $\bar{c}_t(\xi_t, y_T) = y_T - \mathbb{E}(m_T|\xi_T)$. For any $t < T$ and $\tau > t$, denote the set of future equilibrium consumption guarantees $\bar{\mathbf{c}}_{t+1}^{\tau} \equiv \{\bar{c}_{t+1}(.), ..., \bar{c}_{\tau}(.)\}$. Then an algebraic reformulation of the consumption guarantee in Ghili et al. (2019) shows that the equilibrium break-even consumption guarantee under the optimal dynamic contract for an individual purchasing a long-term optimal contract at time t under health status ξ_t is recursively determined by:

$$\bar{c}_t(\xi_t, \mathbf{y}_t^T) = \frac{y_t - \mathbb{E}(m_t|\xi_t) + \sum_{\tau>t}^{T} \sum_{z\in\Xi} \delta^{\tau-t}(y_\tau - \mathbb{E}(m_\tau|z)) \times q_\tau(z|\xi_t, \bar{\mathbf{c}}_{t+1}^{\tau}, \bar{c}_t(\xi_t, \mathbf{y}_t^T))}{1 + \sum_{\tau>t}^{T} \sum_{z\in\Xi} \delta^{\tau-t} \times q_\tau(z|\xi_t, \bar{\mathbf{c}}_{t+1}^{\tau}, \bar{c}_t(\xi_t, \mathbf{y}_t^T))}, \tag{2}$$

where $q_\tau(z|\xi_t, \bar{\mathbf{c}}_{t+1}^{\tau}, \bar{c}_t(\xi_t, \mathbf{y}_t^T))$ is, with some slight abuse of notation, the probability that (1) $\xi_\tau =$

z, and (2) the individual does not lapse (or die) between periods t and τ, given the set of future equilibrium consumption guarantees $\bar{\mathbf{c}}_{t+1}^{\tau}$. Again, as above, Equation (2) implicitly determines the equilibrium consumption guarantee in period t under health status ξ_t. As noted in Ghili et al. (2019), these consumption guarantees can be re-interpreted as a series of contracts with guaranteed premium *paths* $P_\tau(\xi_\tau, y_\tau) = y_\tau - \bar{c}_t(\xi_t, \mathbf{y}_t^T)$ for $\tau \geq t$; and the consumer would lapse at a time $\tau > t$ under health status ξ_τ whenever $\bar{c}_\tau(\xi_\tau, \mathbf{y}_\tau^T) > \bar{c}_t(\xi_t, \mathbf{y}_t^T)$. That is, a consumer who chose an optimal long-term contract at time t under health status ξ_t will lapse at a future time τ under health status ξ_τ if he/she is able to obtain a new long-term contract from the market that provides higher consumption guarantees.

Remark 3 *The consumption guarantees under GHHW's optimal long-term contracts, recursively characterized by Equation 2, do not depend on the utility function. What is important for the theoretical derivations of the optimal contract is that the consumers' preferences are time separable and exhibit risk aversion. The time-separability assumption is violated when we examine the Epstein-Zin recursive preferences in Section 7.*

Remark 4 *The consumption guarantees under GHHW's optimal long-term contracts, recursively characterized by Equation 2, do depend on income profiles. This implies that the corresponding guaranteed premium paths $P_\tau(\xi_\tau, y_\tau) = y_\tau - \bar{c}_t(\xi_t, \mathbf{y}_t^T)$ also depend on the income profiles. Since income profiles differ by education group, the GHHW premiums differ by education group. This differs from the GLTHI premiums (see Remark 2).*

3.3 GLTHI vs. GHHW from a Welfare Perspective

The design of the GLTHI contract differs substantially from the welfare-maximizing GHHW contract, leading to different consumption profiles.[19] On the one hand, GLTHI implies the payment of a constant premium regardless of policyholders' income and the evolution of their health (with the exception of those who become healthy enough to switch to a contract with lower premiums; as shown later, this is a rare occurrence). As a consequence, the GLTHI contract almost completely eliminates the reclassification risk. However, the elimination of reclassification risk comes at the expense of large premium payments at early ages to prevent future premium hikes. These large upfront premiums have negative welfare implications when income is low and the marginal utility of consumption is high at early ages. On the other hand, the optimal dynamic contract involves a path of consumption

[19] In the special case of flat income over the lifecycle, i.e., $y_t = y^0$ for all t, then $y^0 - P_t(\xi_t) = \bar{c}_t(\xi_t)$, cf. Equations (1) and (2). That is, when income is flat over the lifecycle, then the guaranteed premium in GLTHI coincides with the implicit guaranteed premium paths in GHHW.

guarantees (and therefore, a path of premiums) that is income-dependent, and that changes over the lifecycle after health shocks. The reason is that the optimal contract penalizes high premiums when the marginal utility of consumption is high.

We quantify the welfare consequences under each contract from the perspective of lifetime utility U defined as:

$$U = \mathbb{E} \quad \sum_{t=t_0}^{T} S_t \delta^{t-t_0} u(c_t) \Bigg) \Bigg($$

where S_t is an indicator of survival until period t, and c_t is the consumption in period t that is specified by the contract, which may depend on the full history of health realizations up to t as well as the individual's full lifecycle income profile. Expectation is taken over the individual's lifetime health history $(\xi_1, \xi_2, ..., \xi_t)$ and survival.[20] With a parametric assumption for flow utility $u(.)$, and knowing income y_t, we can summarize welfare with the "*certainty income equivalent*", denoted CE, such that:

$$u(CE) = \frac{\mathbb{E}\left(\sum_{t=t_0}^{T} S_t \delta^{(t-t_0)} u\left(c_t\right)\right)}{\mathbb{E}\left(\sum_{t=t_0}^{T} S_t \delta^{t-t_0}\right)} \Bigg(\Bigg($$

This simple expression captures the main trade-offs in health insurance design for lifetime welfare. Lifetime utility is higher when consumption is smoothed across health states and across periods. In particular, the *first-best* consumption level is equal to the present discounted value of "net income" $y_t - \mathbb{E}(m_t)$, taking into account mortality risk. This constant optimal consumption level C^* is given by:

$$C^* = \frac{\mathbb{E}\left(\sum_{t=t_0}^{T} S_t \delta^{t-t_0} (y_t - \mathbb{E}(m_t))\right)}{\mathbb{E}\left(\sum_{t=t_0}^{T} S_t \delta^{t-t_0}\right)} \Bigg(\Bigg(\tag{3}$$

In contrast, under a series of actuarially fair *short-term* contracts, the premium at time t and health status ξ_t will simply be $\mathbb{E}(m_t)$ and the consumption will thus be $c_t = y_t - \mathbb{E}(m_t|\xi_t)$, the certainty equivalent CE becomes:

$$u(CE_{ST}) = \frac{\mathbb{E}\left(\sum_{t=t_0}^{T} S_t \delta^{t-t_0} u(y_t - \mathbb{E}(m_t|\xi_t))\right)}{\mathbb{E}\left(\sum_{t=t_0}^{T} S_t \delta^{t-t_0}\right)} \Bigg(\Bigg(\tag{4}$$

4 Claims and Survey Panel Data from Germany

This section describes the claims panel dataset and the survey panel dataset used in this paper. The main working samples focus on the privately insured in the GLTHI market. We use the claims

[20] We assume that there are no annuity markets, so mortality risk is still considered.

panel data primarily to estimate individual health transitions and related medical expenditures over the lifecycle. In contrast, we use the survey panel data primarily to estimate individual income dynamics over the lifecycle.

4.1 GLTHI Claims Panel Data

The claims panel data are administrative records for the universe of contracts and claims between 2005 and 2011 from one of the largest private health insurers in Germany. In total, our data include more than 2.6 million enrollee-year observations from 620 thousand unique policyholders along with detailed information on plan parameters such as premiums, claims, and diagnoses. Atal et al. (2019) provide more details about the dataset. The claims data also contain the *age* and *gender* of all policyholders as well as their occupational group and the age when they first signed a contract with the insurer. We converted all monetary values to 2016 U.S. dollars (USD).

Sample Selection. We focus on primary policyholders. In other words, we disregard children insured by their primary caregivers and those who are younger than 25 years (555,690 enrollee-year observations).[21] Moreover, due to the 2009 portability reform (see footnote 8), we disregard inflows after 2008 (253,325 enrollee-year observations).[22] Hence, the final sample consists of 1,867,465 enrollee-year observations from 362,783 individuals.

Descriptive Statistics. Table A1 (Appendix) presents the descriptive statistics. The mean age of the sample is 45.5 years and the oldest enrollee is 99 years old. Thirty-four percent of the sample are high-income employees, 49 percent are self-employed and 13 percent are civil servants. The majority of policyholders (72 percent) are male, because women are underpresented among the self-employed and high-income earners in Germany. On average, policyholders have been clients of the insurer for 13 years and have been enrolled in their current health plan for 7 years. Ten percent of all policyholders have been with the insurer for more than 28 years and one policyholder has been with the insurer for as long as 86 years, illustrating the existence of a real-world private long-term health insurance system.[23] The distribution of policyholders' age when joining the company is shown in Figure B2. The mass of individuals signs their first GLTHI contract around the age of 30, at a time

[21] Children obtain their own individual risk-rated policies. However, if parents purchase the policy within two months of birth, no risk-rating applies. Under the age of 21, insurers do not have to budget and charge for old-age provisions.

[22] Below we show that the composition of enrollees has remained stable between 2006 and 2011.

[23] Our insurer doubled the number of clients between the 1980s and 1990s and has thus a relatively young enrollee population, compared to all GLTHI enrollees. Gotthold and Gräber (2015) report that a quarter of all GLTHI enrollees are either retirees or pensioners.

when most Germans have fully entered the labor market but are still healthy and face reasonable premiums.

Table A1 shows that the average *annual premium* is $4,749 and slightly lower than the average premium for a single plan in the U.S. group market at the time (Kaiser Family Foundation, 2019). Note that the *annual premium* is the total premium—including employer contributions for privately insured high-income earners.[24] The average *deductible* is $675 per year.

In terms of benefits covered, we simplify the rich data and focus on three plan-generosity indicators provided by the insurer. These classify plans into *TOP*, *PLUS*, and *ECO* plans. *ECO* plans lack coverage for services such as single rooms in hospitals and treatments by a leading senior M.D. For *ECO* and *PLUS* plans, a 20 percent coinsurance rate applies if enrollees see a specialist without referral from their primary care physician. About 38 percent of all policyholders have a *TOP* plan, 34 percent a *PLUS* plan, and 29 percent an *ECO* plan. Because these plan characteristics have mechanical effects on claim sizes and correlate with policyholders' age, we control for them in our estimation of health care costs in Section 5.

4.2 Socio-Economic Panel Study

The German Socio-Economic Panel Study (SOEP) is a representative longitudinal survey that started in 1984. It collects annual information at the household and individual level from individuals above the age of 17. Currently, the SOEP surveys more than 20,000 respondents from more than 10,000 households per year (Wagner et al., 2007). We use SOEPlong (SOEP, 2018), and all existing waves as of this writing, from 1984 to 2016, in order to fully exploit the lifecycle dimension of this panel survey.[25] Table A2 (Appendix) provides summary statistics for our SOEP sample. Again, all monetary values are in 2016 USD.

Sample Selection. We leave the representative sample as unrestricted as possible, but exclude observations with missings on core variables such as age, gender, employment status or the insurance status. Other than that, we only exclude respondents below the age of 25 as many Germans have not entered the labor market before that age.

Income Measures. Our main income measure, *equivalized post-tax post-transfer annual income* accounts for redistribution within households and controls for economies of scale by assigning each

[24] Employers cover roughly one half of the total premium and the self-employed pay the full premium.

[25] Prior to 1990, the SOEP was not in the field in East Germany but started covering East Germans right after the reunification in 1990 (Wagner et al., 2007).

individual a needs-adjusted income measure. Specially, *equivalized post-tax post-transfer annual income* sums over all post-tax monetary income flows at the household level, such as income from labor, capital, public and private retirement accounts, or social insurance programs.[26] Then, the total annual post-tax household income is divided by the number of household members, where we use the modified OECD equivalence scale.[27] As Table A2 shows, from 1984 to 2016, the average annual income per household member was $26,433. Note that this measure has positive values for *all* respondents, including those who are not active in the labor market.

For completeness, Table A2 also shows statistics for two additional income measures: *monthly gross wage* and *monthly net wage*. These measures have positive values for all working people with labor earnings (58 percent of observations in Table A2). The SOEP Group generates and provides these individual-level income measures to guarantee consistency over time. As seen in Table A2, the average *monthly gross wage* was $2,940 and the average *monthly net wage* was $1,921 between 1984 and 2016.

Socio-Demographics. Table A2 also provides the summary statistics of all other socio-demographic variables. In the SOEP sample, the average age is 47, and 52 percent are female. About 27 percent are white collar workers, 6 percent are self-employed, and 4 percent are civil servants. 42 percent work full-time and 14 percent part-time.

Below, we differentiate the lifecycle income processes by educational status. We do this because, after age 25, schooling degrees are largely time-invariant and determine lifecycle income substantially. Germany has a three-tier education system: *Ed 13* is one for individuals with the highest schooling degree after 13 years of schooling. *Ed 10* is one for individuals with an intermediate degree after 10 years of schooling. *Ed 8* is one for individuals who earned a degree after 8 or 9 years of schooling.

5 Modeling Health Risk and Income over the Lifecycle

5.1 Risk Classification

Risk classification is a key ingredient for calculating the prices of and the welfare from the short- and long-term insurance contracts. The risk classification variable represents the observed risk type

[26] The SOEP group also generates and provides these single components in a time-consistent manner.

[27] The modified OECD equivalence scale assigns a value of 1 to the household head, 0.5 to other adults, and 0.3 to children up to 14 years of age.

of an individual at the beginning of each year. In this section we introduce a procedure that borrows insights from actuarial science, to produce an "efficient" classification. We consider our procedure to be a significant improvement over the approach used in the state-of-the art literature of dynamic contracts.

Following the literature (e.g. Einav et al., 2013; Handel et al., 2015; Ghili et al., 2019), we construct the risk classification variable using the (German version of) the John Hopkins ACG© software, which is routinely used by commercial insurers for underwriting purposes. The ACG© software provides a continuous *risk score* λ_t^*. The commonly-used approach to risk classification would use an ad-hoc criterion to partition the domain of λ_t^* into different risk classes.[28] We depart from the common approach in two key ways: First, we allow the risk class to be a function of current and lagged values of λ_t^*; $\Lambda_t^*(n) \equiv \{\lambda_t^*, \lambda_{t-1}^*, .., \lambda_{t-n-1}^*\}$, where n is determined within our procedure. Our procedure can therefore allow for higher-order dependencies in the health dynamics in a parsimonious way. Second, we propose and implement a method to discretize the vector of scores $\Lambda_t^*(n)$. Our method maximizes an efficiency criterion from the actuarial science literature, that we discuss in detail later (cf. Finger, 2001).

In the first step, we calculate the continuous score λ_t^*, which is the *unscaled total cost predicted risk* variable provided by ACG©. It is based on (a) diagnosis codes (pre-existing conditions and claim diagnoses), (b) costs of treatments and (c) treatment episode dates. λ_t^* is meant to represent the *expected costs* in year t. In the reference population of publicly insured individuals in Germany, it has a mean of 1.

Figure 2 shows the empirical distributions of λ_t^* for our working sample in 2006 (the first year) and 2011 (the last year). Both distributions are approximately unimodal, and they appear stable over time.[29] Figure 2 also illustrates that the distribution of λ_t^* is heavily skewed and has a long right tail (consistent with stylized facts regarding the distribution of health expenditures, see French and Kelly, 2016). For example, the top percentile of the λ^* distribution has expected health expenditures $\mathbb{E}(m|\lambda^* \geq \mathbb{P}_{99})$= \$63,422; the second highest percentile has $\mathbb{E}(m|\mathbb{P}_{98} \leq \lambda^* < \mathbb{P}_{99}) = \$30,027$; and the following three percentiles have $\mathbb{E}(m|\mathbb{P}_{95} \leq \lambda^* < \mathbb{P}_{98}) = \$19,253$, where $\mathbb{P}_k$ denotes the k-th percentile of the distribution of λ^* plotted in Figure 2.

Next we combine the continuous score λ_t^* and its $n-1$ lags into the vector of scores $\Lambda_t^*(n)$, that we map into K different *risk categories*. These categories will be ultimately combined with the

[28] For example, Ghili et al. (2019) partition the health statuses measured by λ_t^* into seven mutually exclusive and exhaustive bins, where each bin contain one-seventh of the overall sample.

[29] This suggests that excluding inflows in 2010 and 2011 due to the portability reform, see Section 2, poses no major issue.

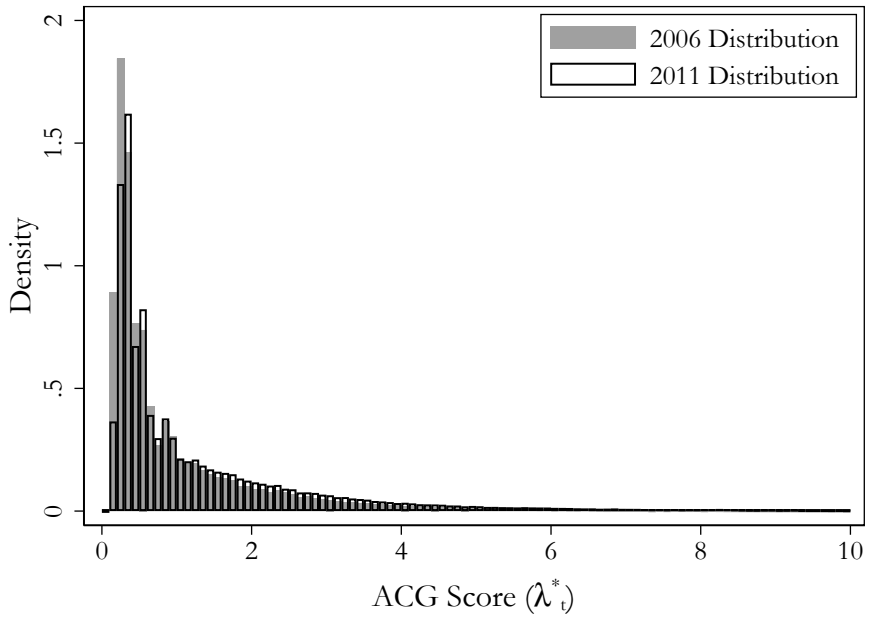


Figure 2: Distribution of λ_t^* in 2006 and 2011

Source: GLTHI claims data, ACG©, own calculations. The distribution of λ_t^* is truncated at 10; but 0.7 percent of the analysis sample have $\lambda_t^* > 10$.

individual's age for the construction of discrete health types. Modeling risk types as a discrete state serves two specific purposes. First, we allow the contract premiums to depend on the risk type. Hence, the granularity in our model should capture the granularity of the information needed by the underwriters, both in the actual environment and in counterfactual scenarios. Second, the model should be parsimonious enough to allow for modeling health dynamics with a reasonable number of parameters.

The considerable skewness in Figure 2 implies that the amount of reclassification risk will strongly depend on the granularity allowed for in the risk classification. We split the task of constructing the risk categories into two sequential problems: (1) For a given number of classes K, and the n most recent values of λ_t^*, define the efficient partitioning of the scores vector $\Lambda_t^*(n)$ into K discrete categories; (2) Find the values of K and n that lead to the best performance of the classification system. We explain the details of each step below.

Efficient Classification. According to the actuarial science literature (cf. Finger, 2001), an efficient risk classification system has two properties: *homogeneity*—meaning that individuals in one risk category are similar in terms of risk, and *separation*—meaning that categories are sufficiently different in

terms of expected loss to warrant their specification as being a distinct category.[30]

For any given number of risk categories (K) and number of current and lagged values of $\lambda_t^*(n)$, we define a *risk classification* as a subjective function $f_K : \Re_+^n \to \{\lambda \in \mathbb{Z} : 1 \leq \lambda \leq K\}$, where $\Re_+^n$ is the state space (i.e. λ_t^* and its $n-1$ lags). Denote this classification function $\lambda_t = f_K(\Lambda_t^*(n))$ where $\Lambda_t^*(n)$ is the vector of the n most recent ACG© scores available for an individual, and $\lambda_t \in \{1, \ldots, K\}$ is the risk category assigned to a person with those ACG© scores. According to Finger (2001), the *efficient* risk classification f_K maximizes the "structure variance" defined as

$$SV(f_K) = \text{Var}(m_t) - \sum_{k=1}^{K} \Pr(\lambda_t = k) \text{Var}(m_t \mid \lambda_t = k), \tag{5}$$

where m_t is individual annual health expenditure. The structure variance $SV(f_K)$ is thus the total variance less the weighted sum of within-class variances of health expenditures. Put differently, the efficient classification maximizes the variance of mean expenditure across groups. Applying the law of total variance to both terms in Equation (5), we can write the structure variance as:[31]

$$SV(f_K) = \text{Var}(\mathbb{E}(m_t \mid \Lambda_t^*(n))) - \sum_{k=1}^{K} \Pr(\lambda_t = k) \text{Var}(\mathbb{E}(m_t \mid \Lambda_t^*(n)) \mid \lambda_t = k). \tag{6}$$

Note that the first term in Equation (6) is independent of the classification (as it is independent of the classes λ_t); thus for a given K, finding the efficient classification system is equivalent to finding the classes λ_t that *minimize* the heterogeneity in expected expenditure within risk classes: $\sum_{k=1}^{K} \Pr(\lambda_t = k) \text{Var}(\mathbb{E}(m_t \mid \Lambda_t^*(n)) \mid \lambda_t = k)$.

Three things are worth noting about Equation (6). First, only the mean expenditure conditional on ACG© scores $\mathbb{E}(m_t \mid \Lambda_t^*(n))$ matter for the classification system, whereas the dispersion of m_t around this mean is inconsequential. Second, minimizing heterogeneity within classes is incidentally what the k-means clustering method does (Lloyd, 1982; Athey and Imbens, 2019). Thus, we will apply k-means clustering of $\mathbb{E}(m_t \mid \Lambda_t^*(n))$ to determine the efficient classification system. Third, this implies that the efficient classification also maximizes the coefficient of determination (R^2) in a regression of expenditure on risk class indicators (Kriegel et al., 2017).

Next, we determine the number of risk classes K and the history n (number of lags) of ACG©

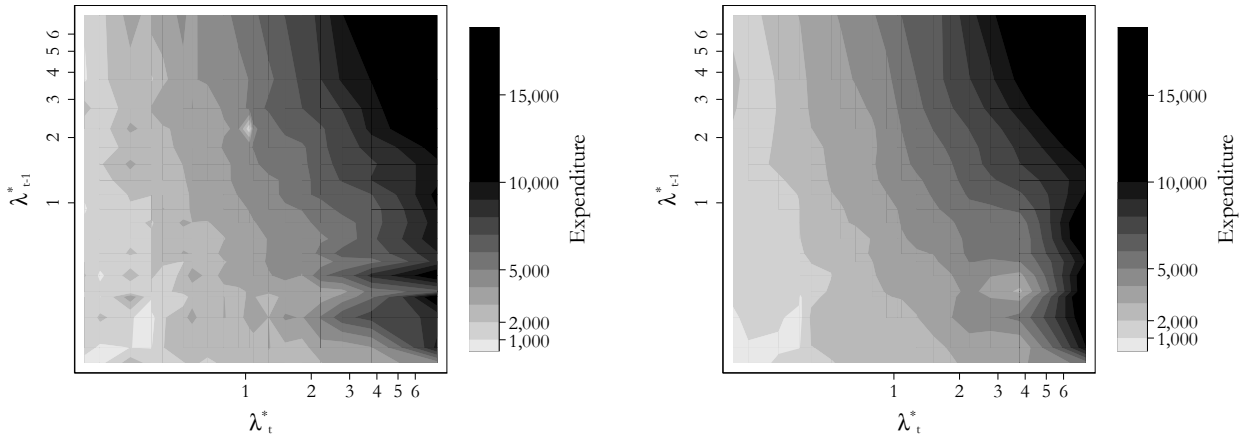
[30] For instance, given the distribution of λ_t^* in Figure 2, it is easy to see that equally-sized categories are unlikely to be optimal as they would assign similar individuals in terms of λ^* into different categories in the left tail of the distribution, failing the *separation* principle. In addition, it would assign individuals with substantial λ^* differences into identical categories in the right tail of the distribution, failing the *homogeneity* principle.

[31] The law of total variance implies $\text{Var}(m_t) = \mathbb{E}(\text{Var}(m_t \mid \Lambda_t^*(n))) + \text{Var}(\mathbb{E}(m_t \mid \Lambda_t^*(n)))$ and $\text{Var}(m_t \mid \lambda_t = k) = \mathbb{E}(\text{Var}(m_t \mid \Lambda_t^*(n)) \mid \lambda_t = k) + \text{Var}(\mathbb{E}(m_t \mid \Lambda_t^*(n)) \mid \lambda_t = k)$.

scores when computing $\mathbb{E}\left(m_t \mid \Lambda_t^*(n)\right)$.

Model selection. The last step of the risk classification system is to perform model selection, i.e., select values for the parameters K and n that determine, respectively, the number of risk classes and how many ACG© scores lags should be included in $\Lambda_t^*(n)$. [32] k-means clustering is an unsupervised learning method; therefore, choosing the correct number of clusters is difficult (Athey and Imbens, 2019). We proceed assuming that the objective $SV(.)$ applies also when determining these parameters. As noted above, this means we can use R^2 as our criterion for model selection.

If $n = 1$ so that $\Lambda_t^*(n) = \lambda_t^*$, the clustering algorithm can be applied to λ_t^* since $\mathbb{E}\left(m_t \mid \lambda_t^*\right) = \mu\lambda_t^*$ (where μ is the global mean expenditure). If, however, previous ACG© scores have explanatory power, $\mathbb{E}\left(m_t \mid \Lambda_t^*(n)\right)$ needs to be estimated. In order to get predictions that are accurate along the entire distribution, including the tails, we use cubic regression splines. Figure 3 provides a comparison of mean expenditure by $\Lambda_t^*(n)$ before and after smoothing for $n = 2$.



(a) Raw Averages

(b) Smoothed Expenditure

Figure 3: Mean Expenditure by Λ_t^*.

Note: The left figure is based on average expenditure within each of 400 cells (ventiles in λ_t^* and λ_{t-1}^*). The right figure uses predicted values from a cubic spline regression. Source: German Claims Panel Data.

Once $\mathbb{E}\left(m_t \mid \Lambda_t^*(n)\right)$ has been estimated for all $n > 1$, we can conduct the k-means clustering in order to maximize the objective function (6). Figure 4 shows how the performance depends on parameters K and n. For all values of n, there is initially a rapid improvement in the predictive power when we increase the number of categories K; however, this improvement levels out at quite low levels. Moreover, starting from a classification scheme that uses only the previous year's claims ($n = 1$), there is distinct improvement when we add the previous year ($n = 2$). However, adding a

[32] Including lagged ACG© scores is consistent with an underwriting process often covering a relatively long medical history of the applicant (e.g., all diseases of the past 5 years and all surgeries of the past 10 years in case of our insurer).

second lag of the ACG© scores brings only marginal improvement in the predictive accuracy. Figure 4 shows that including at least one lag and 7 distinct classes attains the best performance; increasing K or n further yields negligible improvement in performance.[33]

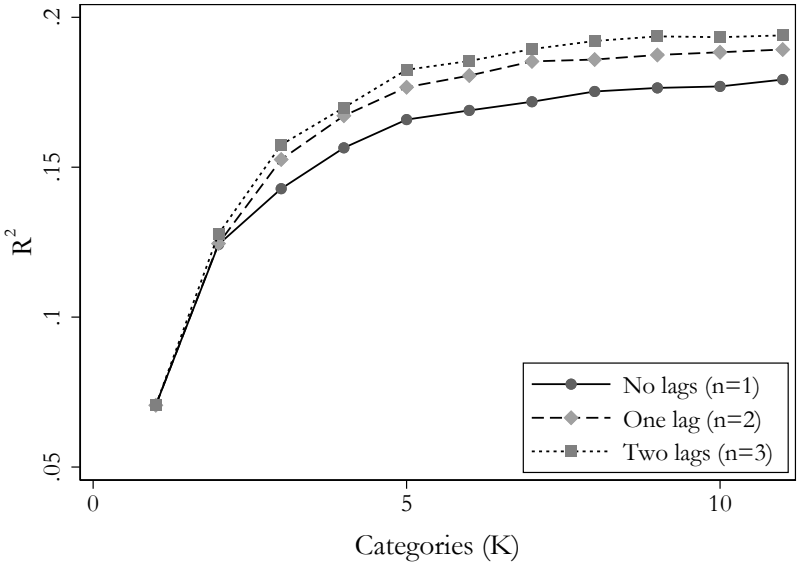


Figure 4: Performance of Alternative Risk Classifications.

Note: Each specification includes 21 age times gender fixed effects, year fixed effects and 79 plan fixed effects. Source: German Claims Panel Data.

Appendix C1 presents a number of robustness checks regarding the efficient classification system. First, we analyze the extent to which results are driven by *outliers* in m_t. It is of course desirable that the classification considers outliers, given their disproportionate contributions to means and variances; however, if the performance of the classification were widely different when they are not considered, it would cast doubt on how well the scheme performs with regard to less extreme risks. Figure C1 (Appendix) plots the performance of different classification systems when using winsorized expenditures. As expected, the topcoding of outliers improves the predictive power of all schemes; however, their relative performance is unaffected by this change.

Second, we compare two different ways of including a longer history of claims. Instead of expanding the information set $\Lambda_t^*(n)$ before discretizing, we consider an alternative based on $\Lambda_t^*(n) = \lambda_t^*$ but where we consider the predictive power of the classification scheme interacted with its lags (i.e. a classification based on K^2 classes). Figure C2 (Appendix) provides the results. It shows that our preferred classification with K classes performs only slightly worse than the corresponding interacted classification with K^2 classes.

[33] We consistently report *unadjusted* R^2. All results are robust to using *adjusted* R^2 instead.

Third, we acknowledge that increasing n also changes the sample used for estimation. In Figure C3 (Appendix) we compare the performance over different n within the same sample. It shows that our main result is robust to the sample used.

5.2 Estimation of Expenditure Risk

Next, we estimate the transition rates between different discrete risk categories λ_t, as well as the mean expenditure by risk categories. We posit that the risk type of individual i at age t, ξ_{it}, depends on the combination of the contemporaneous risk category λ_{it} and age at t (in 5-year bins). That is, $\xi_{it} \equiv (A_{it}, \lambda_{it})$, where A_{it} is an indicator for one of the eleven age groups (five-year bands from age 25 to age 75 and 75+). It is important to note that the ACG© scores are based on an individual's age, so that, in principle, a risk category λ_{it} that uses ACG© scores as input should contain all the information needed to predict mean expenditures. However, ACG© scores are not designed to predict transitions so, in principle transition matrices, may depend on age even after conditioning on λ_{it}. As discussed below, our results confirm these predictions.

Considering that the clustering method generates a set of risk classes of very different sizes, a completely non-parametric estimation for the transition matrices $g(\xi_{it}|\xi_{i,t-1})$ and mean expenditures $\mathbb{E}(m_{it}|\xi_{it})$ is not possible. Instead, we resort to a parametric, yet flexible model. To estimate the transition matrices, we estimate a multinomial logit model for health dynamics specified as:

$$\eta_{it}^{j} = A_{it}\beta_j + L_{it}\gamma_j + h\left(A_{it}, L_{it}; \theta_j\right) + \epsilon_{it}^{j} \tag{7}$$

where η_{it}^{j} represents the log odds for $\lambda_{i,t+1} = j$, for $j \in \{2, \ldots, 8\}$. The category $\lambda_{i,t+1} = 1$ is the reference category and $\lambda_{i,t+1} = 8$ represents death. A_{it} represents i's age groups, and $L_{i,t}$ is a set of indicators for the categories of $\lambda_{i,t}$. In addition, Equation (7) includes $h\left(A_{it}, L_{it}; \theta_j\right)$ which consists of pairwise interactions of A_{it} and L_{it} with the associated parameter vector θ_j.[34]

To model the expected claims based on risk type, we follow a similar approach, but use the predicted values of claims from an OLS regression. In addition to the controls in Equation (7), we also control for a vector of dummies Q_{it} representing health plan generosity $q \in \{ECO, PLUS, TOP\}$. The base specification is:

$$m_{it} = A_{it}\beta + L_{it}\gamma + Q_{it}\delta + h\left(A_{it}, L_{it}, Q_{it}; \theta\right) + \epsilon_{it} \tag{8}$$

[34] We selected the interacted terms sequentially: in each iteration, we include the interaction term with the strongest association with transition rates (based on a χ^2 test), until none of the remaining interaction terms is statistically significant.

In an iterative process, we add pairwise interaction terms between A_{it}, L_{it}, and Q_{it} (represented by $h(A_{it}, L_{it}, Q_{it}; \theta)$) to Equation (8) until no remaining term is statistically significant.[35] Hence, we include age groups indicators A_{it} also in the estimation of expected expenditure. As noted above, we should expect that age per-se does not have predictive power in the model for expected expenditures if our risk classification based on ACG© scores is rich and flexible enough.

Descriptive Statistics. Table 1 shows the summary statistics of total claims m by age group. Following Ghili et al. (2019), we decompose the variation of m into two components: the part that is explained by λ, i.e., S.D. of $\mathbb{E}(m \mid \lambda)$;[36] and the residual variation around the predicted value, i.e., S.D. around $\mathbb{E}(m \mid \lambda)$.

As expected, mean claims strongly increase in age: they almost double from \$1,996 in age group 25 to 30, to \$3,719 in age group 45 to 50, almost double again to \$7,151 in age group 65 to 70. For enrollees above 75 years, the average amount of claims is \$10,020 (all values are in 2016 U.S. dollars). This age gradient is, however, accounted for by our risk classification. Even though a few age-related parameters in Equation (8) turn out statistically significant, the deviations from mean expenditure within each risk class are economically insignificant. Figure A1 (Appendix) illustrates this point. We interpret it as evidence that our preferred risk classification is rich enough.

Table 1: Health Expenditure Claims m by Age Group

Ages	Mean	S.D.	S.D.($\mathbb{E}(m \mid \lambda)$)	S.D.($m - \mathbb{E}(m \mid \lambda)$)
All	4,109	9,451	3,494	8,806
25-	1,996	5,529	1,782	5,234
30-	2,619	6,050	1,938	5,731
35-	2,840	6,312	2,086	5,957
40-	3,119	7,153	2,411	6,734
45-	3,719	8,444	2,946	7,913
50-	4,880	9,866	3,544	9,208
55-	6,517	12,679	4,573	11,825
60-	7,635	18,608	4,299	18,104
65-	7,151	12,753	4,421	11,963
70-	8,355	13,837	5,026	12,892
75-	10,020	13,485	4,490	12,715

Source: German Claims Panel Data. Sample includes all age groups and uses the ACG© scores to construct risk categories λ as explained in Section 5.1.

[35] The estimation of conditional expenditure given λ_t is based on a subsample of clients with moderately-sized deductibles. The reason is that clients with large deductibles may decide not to submit their claims, which leads to a downward bias in the estimates. This is less of a concern for the risk classification λ_t^*, which is based on a much broader set of information on the clients and on treatment episodes. In Appendix section C2 we provide some descriptives for this subsample, which generally confirm that this assumption is reasonable.

[36] This statistic also corresponds closely to the maximand of the risk classification algorithm, cf. Section 5.1 above.

Table 2 shows how different age groups are distributed across risk categories λ, and it shows a clear age gradient in health expenditure risk. The probability of being in the lowest risk category, i.e., $\lambda = 1$, declines progressively with age, whereas the share of enrollees in the five highest categories increases in age; the pattern is particularly pronounced for categories $\lambda = 4$ and $\lambda = 5$. Only 1.7 percent of enrollees between 25 and 30 years are in categories $\lambda = 4$ and $\lambda = 5$. This share almost quadruples to 6.2 percent in age group 45 to 50, and then more than quadruples again to 28.6 percent in age group 65 to 70. It is 61 percent for enrollees above 75 years. On the other hand, risk category $\lambda = 7$ clearly represents catastrophic costs and covers at most 0.3 percent of the population in any age group.

Table 2: Health Risk Categories λ by Age Group

Age	1 (Healthiest)	2	3	4	5	6	7 (Sickest)
25-30	0.789	0.154	0.039	0.013	0.004	0.001	0.000
30-35	0.740	0.178	0.054	0.020	0.006	0.001	0.000
35-40	0.652	0.225	0.085	0.027	0.009	0.002	0.000
40-45	0.622	0.227	0.103	0.034	0.012	0.003	0.000
45-50	0.539	0.258	0.136	0.046	0.016	0.004	0.001
50-55	0.463	0.263	0.174	0.068	0.024	0.007	0.001
55-60	0.291	0.319	0.232	0.108	0.036	0.011	0.002
60-65	0.184	0.313	0.269	0.155	0.058	0.019	0.003
65-70	0.069	0.291	0.337	0.217	0.069	0.014	0.002
70-75	0.019	0.203	0.347	0.309	0.105	0.015	0.002
75+	0.000	0.092	0.267	0.422	0.188	0.029	0.003

Source: German Claims Panel Data. Sample includes all age groups and uses the ACG© scores to construct risk categories λ as explained in Section 5.1.

Transitions between States. Table 3 displays one-year transition rates between health risk categories for all age groups; the numbers are predicted probabilities based on Equation (7). Two facts emerge from Table 3. First, we find strong persistence in health risk. For instance, an individual with $\lambda_t = 1$ has an 83 percent probability of $\lambda_{t+1} = 1$. The likelihood of staying in the same category between two consecutive years decreases over risk categories but, still, 45 percent of individuals in category 7 remain in category 7 in the next year. Second, despite the high persistence, the likelihood of a severe health shock (and thus the reclassification risk) is non-trivial even when just considering two calendar years. For example, the probability of ending up in risk category 4 in $t + 1$ is 3.6 percent after being category 2 in year t.

The transition rates are highly dependent on age. Tables C1 and C2 (Appendix) show transition matrices for each of the 11 age groups. For example, the probability of remaining in state 1 decreases

Table 3: Health Risk Category Transitions

	λ_{t+1}							
λ_t	1	2	3	4	5	6	7	8 (†)
1	0.831	0.158	0.006	0.003	0.001	0.001	0.000	0.001
2	0.214	0.523	0.215	0.036	0.009	0.001	0.000	0.002
3	0.050	0.179	0.572	0.164	0.029	0.003	0.000	0.003
4	0.024	0.053	0.227	0.541	0.128	0.013	0.001	0.013
5	0.018	0.027	0.035	0.330	0.445	0.104	0.005	0.036
6	0.010	0.018	0.017	0.096	0.294	0.409	0.052	0.104
7	0.002	0.005	0.002	0.027	0.085	0.200	0.452	0.226

Source: German Claims Panel Data. Sample includes all years, all age groups, and uses the ACG© scores to construct risk categories λ as explained in Section 5.1.

from 89 percent among 25-year-olds to 18 percent among individuals above 75. Also the probability of recovering, i.e. transitioning from a higher to a lower risk class, is declining in age. Moreover, the mortality rates increase rapidly with age—in particular for states below 7. All these differences are statistically significant. Therefore, allowing for age-dependent transition rates is necessary even though, as noted above, expected expenditure conditional on risk class is constant in age.

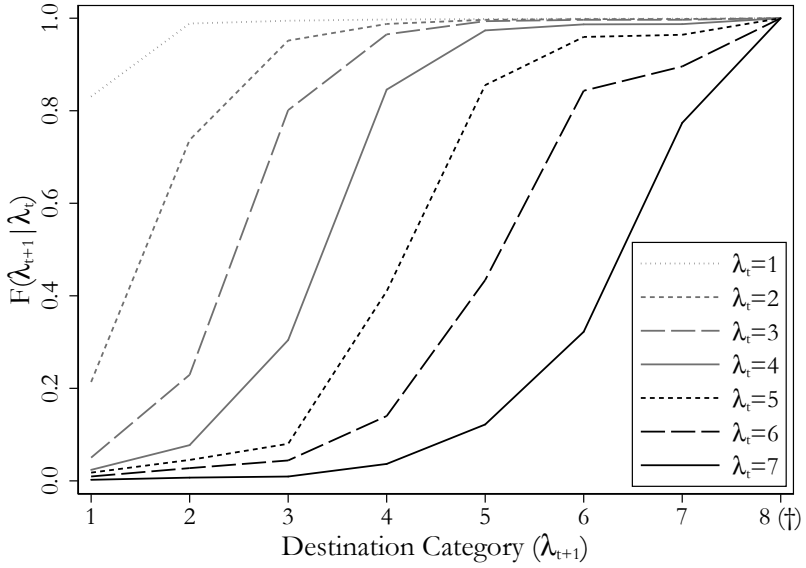


Figure 5: Stochastic Dominance.

Stochastic Dominance. In their characterization of the optimal contract, Ghili et al. (2019) invoke an assumption of stochastic dominance. It requires that transition rates between risk categories—which are represented by the cumulative distribution function $F(\lambda_{t+1} \mid \lambda_t)$—satisfy first-order stochastic dominance in the following sense: if $\lambda'_t > \lambda_t$, then $F(\lambda_{t+1} \mid \lambda'_t) \succ_{FSD} F(\lambda_{t+1} \mid \lambda_t)$. In Figure 5 we

show that this property holds for all pairwise combinations of (λ_t, λ_t') such that $\lambda_t' > \lambda_t$.

5.3 Lifecycle Income Paths

Next, we estimate the lifecycle income paths using 33 years of SOEP panel data. Because individuals may enroll in GLTHI contracts during their entire lifetime, we consider all sources of income beyond wages. Our main income measure is the *equivalized post-tax post-transfer annual income*, which sums over all post-tax income flows at the household level, and then normalizes by the number of household members (see Section 4.2). Using this income measure, we estimate the following individual fixed effects model:

$$log(y_{it}) = \theta_i + f(age_{it}) + \epsilon_{it} \tag{9}$$

where y_{it} stands for our income measure in 2016 U.S. dollars in year t for individual i; and θ_i are individual fixed effects which net out all persistent individual time-invariant income determinants, such as gender, preferences, or work productivity. The flexible function $f(age_{it})$ represents a series of age fixed effects and identifies the main coefficients of interest. They capture the main features of the German lifecycle income profiles from 1984 to 2016.

We estimate this income process separately by educational status for the two following groups: (a) individuals with the highest schooling degree after 13 years of schooling (*Ed 13*), and (b) individuals with an intermediate degree after 10 years of schooling (*Ed 10*).[37] We estimate separate income processes by education groups because lifecycle profiles differ substantially by educational degree (Becker and Chiswick, 1966). As mentioned, the steepness of these lifecycle income profiles will determine the welfare consequences of long-term health insurance to a large extent.

The solid black lines in Figure 6 show the estimated coefficients of $f(age_{it})$ for the two groups. Income rises sharply between age 25 and age 57. Then it decreases substantially until around age 70, from which point it remains relatively flat until death. It is also easy to observe a level difference in income paths between the two educational groups over the entire lifecycle.

Several factors can explain the lifecycle income pattern in Figure 6. First, the labor market entry and subsequent careers significantly increase post-tax income between the main working ages 25 and 55. Second, our income measure includes social insurance benefits, and the German welfare state is known for its generosity. Third, it may be surprising that equivalized household income starts to

[37] Germany has three different schooling tracks where the majority of students complete school after 10 years and then start a three-year apprenticeship (cf. Dustmann et al., 2017).

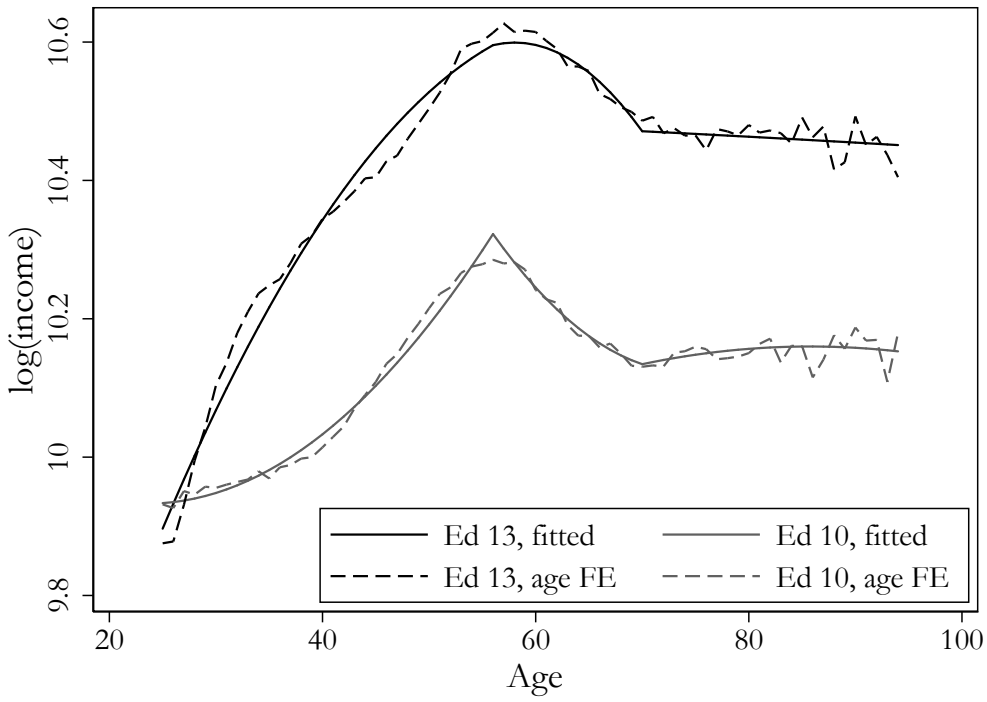


Figure 6: Lifecycle Income Paths Germany, Nonparametric and Fitted.

Source: SOEP (2018), years 1984 to 2016. All values in 2016 USD.

decrease after age 57 until around age 70. However, especially in the 1980s and 1990s and also today, many Germans retire early (Börsch-Supan and Jürges, 2012); others reduce their working hours, for example, to take care of their grandchildren or provide long-term care for their parents (Schmitz and Westphal, 2017). Finally, the stable permanent income stream from age 70 until death may be explained by the fact that our income measure includes primarily statutory pensions, employer-based pensions and private pensions (Geyer and Steiner, 2014; Kluth and Gasche, 2016; Engels et al., 2017).

We accommodate these lifecycle income pattern by fitting $f(age_{it})$ as a piece-wise squared polynomial of age, where we allow the parameters of age and age^2 to differ across three different age bins: $[25, 56]$, $[56, 70]$ and $70+$. This is illustrated by the two gray solid lines in Figure 6. It is noteworthy that the piece-wise squared polynomials fit the empirical lifecycle profiles very well.

6 Main Results

6.1 Equilibrium Lifecycle GLTHI Premiums

After estimating the health risk process, we can calculate the equilibrium GLTHI lifecycle premiums by solving Equation (1) using backwards induction. Note that $P_t(\xi_t)$ in Equation (1) is the guaranteed-renewable premium that an individual with health ξ_t would be offered if she entered a contract in period t in the GLTHI market. Therefore, the equilibrium GLTHI premiums correspond to 490 values: premiums depend on enrollee's current health category $\lambda_t \in \{1, 2, ..., 7\}$, as well as age $t \in \{25, ..., 94\}$. We use a discount factor $\delta = 0.966$ (corresponding to a discount rate of 3.5 percent).

Figure 7 plots the resulting premiums for a handful of the most relevant combinations: $\lambda_t = 1$ and $t \in [25..59]$; $\lambda_t = 2$ and $t \in \{25, ..., 74\}$; $\lambda_t = 3$ and $t \in \{65, ..., 94\}$; $\lambda_t = 4$ and $t \in \{60, ..., 74\}$; $\lambda_t = 5$ and $t \in [75...94]$. These combinations represent the three most common states for each corresponding age interval.

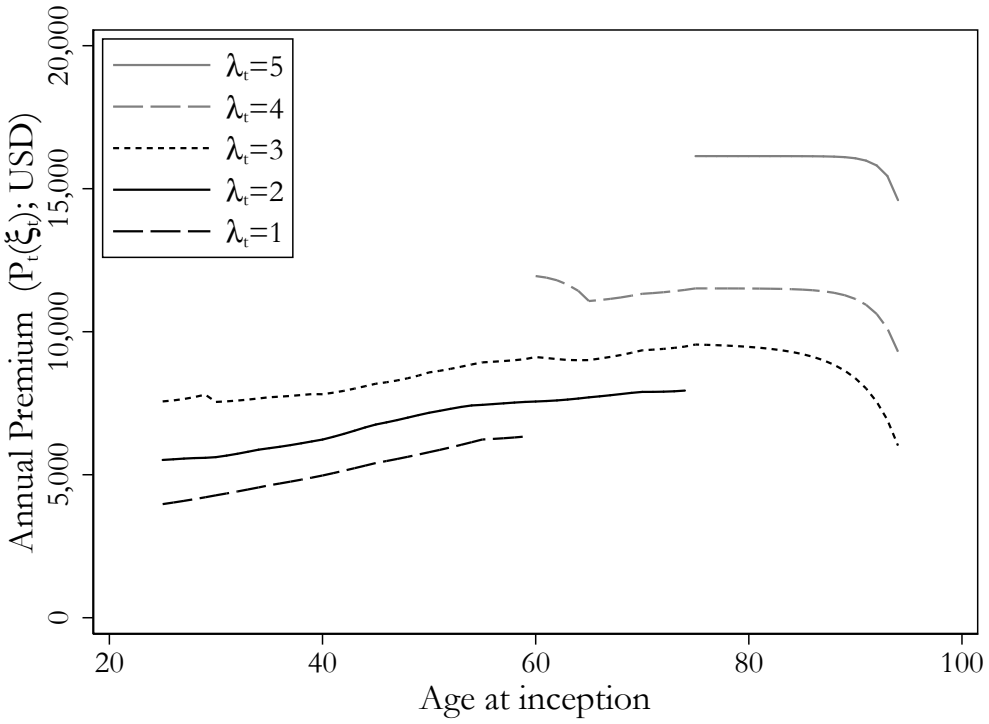


Figure 7: Calibrated Starting Premiums $P_t(\xi_t)$ in the GLTHI

Three forces are at play that determine the lifecycle profile of $P_t(\xi_t)$ in Figure 7. First, $P_t(\xi_t)$ is an increasing function of ξ_t. This is because, for any age, a higher health risk classification is associated with higher current and future health claims (both through their effect on current claims and their

effect on health transitions).

Second, starting premiums increase with age for most age ranges. This is because expected health care claims and health transitions depend on age (through the A_t component of ξ_t). As a consequence, the annualized net present value of health care claims of an individual with a given ξ_t increases with age for most of the age ranges.

Third, however, when individuals enter the contract later in their lives, the need to front-load premiums to fund future negative health shocks *decreases* over the lifecycle. This force explains why $P_t(\xi_t)$ decreases with t when t is sufficiently large.

In Figure D1a and D1b (Appendix), we compare the calibrated and the observed premiums by age at inception. First, we observe positively sloped starting premiums by age over the entire age range, both for the calibrated and the observed premiums. Second, there are clear level differences by health risk such that the starting premiums are a clear function of λ_t—sicker applicants have to pay higher premiums. This rank ordering persists over the entire lifecycle. Third, although the premium levels for sicker individuals are slightly larger in the calibrated than the observed case, the two Figures D1a and D1b show very similar starting premiums by age and health risk.

6.2 Comparison with the Optimal Dynamic Contract

The optimal dynamic contract as derived by Ghili et al. (2019) implies evolving consumption guarantees over the lifecycle. These consumption guarantees depend on lifecycle income profiles (see Equation (2) and Remark 4).

Table 4: Contract Terms at Inception

λ_{25}	1	2	3	4	5	6	7
Expected claims	1,473	3,559	6,019	9.302	14,600	24,554	54,930
(a) GLTHI							
Premium	3,973	5,517	7,563	10,363	15,291	24,561	54,930
front-loading	2,499	1,957	1,545	1,062	691	7	0
(b) GHHW *Ed 13*							
Premium	1,895	4,578	6,988	10,103	15,187	24,554	54,930
front-loading	421	1,019	970	801	586	0	0
(c) GHHW *Ed 10*							
Premium	2,571	5,366	7,489	10,307	15,273	24,554	54,930
front-loading	1,097	1,807	1,471	1,006	673	0	0

Source: German Claims Panel Data, SOEP data. Table shows expected health care claims, starting premiums, and the amount of front-loading by health risk category at age 25, $\lambda_{25} \in \{1, ..., 7\}$. All values in 2016 USD.

We illustrate the differences between the optimal and the GLTHI contract by comparing the con-

tract terms at age 25. Panel (a) of Table 4 shows the GLTHI premium and front-loading amounts for a 25 year old by the health status $\lambda_{25} \in \{1, ..., 7\}$. Specifically, if an individual's health status is $\lambda_{25} = 1$, she pays a premium of \$3,973, which is \$2,499 in excess of expected claims. Individuals with higher λ's pay higher premiums, but the amount of front-loading decreases. For example, for $\lambda_{25} = 3$ the premium is \$7,563 which includes \$1,545 in front-loading. The amount of front-loading decreases the worse the current health status is, because the likelihood of a further health deterioration also decreases the worse the current health status is. Also, note that the GLTHI premiums are *not* contingent on the lifecycle income paths (see Remark 2).

Panel (b) of Table 4 shows the premium and front-loading amounts under the optimal dynamic contract for an individual with the highest schooling degree (*Ed 13*). For almost all health states, the initial premium and front-loading is lower and thus consumption higher when compared to the GLTHI contract. However, the differences in premiums between GLTHI and GHHW converge, the worse the health risk classification. For example, for $\lambda_{25} = 1$ the GHHW premium is \$1,895 (vs. \$3,973 for GLTHI) but for $\lambda_{25} = 4$, the GHHW premium is \$10,103 (vs. \$10,363 for GLTHI). The optimal contract entails less front-loading because a higher front-loading increases the marginal utility of consumption; in addition, if the current health status is very poor, there is a lesser need for front-loading because the likelihood of future health status getting worse is smaller. As such, in the optimal contract, the amount of front-loading depends not only on the implications of the current health state for future health states, but also on its implications for the marginal utility of consumption.

Panel (c) of Table 4 shows the optimal contract for an individual with a schooling degree after 10 years of schooling (*Ed 10*). This individual has a flatter income profile over her lifecycle (see Figure 6), which is why the optimal contract entails a *higher* degree of front-loading, especially for healthy individuals. In general, the premium and front-loading amounts for the education group *ED 10* with $\lambda_{25} \in \{1, ..., 5\}$ are in between the premiums and front-loading levels of GHHW for *Ed 13* and the GLTHI. For example, for enrollees with $\lambda_{25} = 1$, the optimal premium is \$2,571 for an individual with *Ed 10*, which is in between the optimal premium of $1,895$ for individuals with *Ed 13* and the GLTHI premium of $3,973$. Similar to Panels (a) and (b), for *Ed 10* group enrollees, the front-loading amount is lower, the sicker the individual is at inception. This is because, the likelihood of a further health shock decreases and it is very rare that health substantially improves over the lifecycle for very sick individuals.

Finally, comparing Panels (a)-(c), we see that the premium amounts under GLTHI, GHHW (*Ed*

13) and GHHW (*Ed 10*) converge for individuals whose health status at inception is $\lambda_{25} \in \{5, 6, 7\}$, the three sickest states. Specifically, for $\lambda_{25} = 5$, all three premiums are around \$15K; for $\lambda_{25} = 6$, all three premiums are around \$24.5K; and for $\lambda_{25} = 7$, all three premiums are exactly at \$54,930.

6.3 Welfare Results

We now calculate welfare under the different contracts as defined in Section 3.3. We calculate welfare by simulating the economy for a lifecycle of 70 years, from age 25 to age 94 for $N = 500,000$ individuals. Note that, up to now, we did not need to specify the utility function because, as we pointed out in Remarks 1 and 3, neither the GLTHI premiums nor the premiums under the GHHW optimal contracts hinge on the specific utility function. However, for welfare comparisons, we need to assume some utility function. For the baseline results, we follow Ghili et al. (2019) and use a constant absolute risk aversion (CARA) utility function of the form:[38]

$$u(c) = -\frac{1}{\gamma} e^{-\gamma c}. \tag{10}$$

In our main results, following Ghili et al. (2019), we use a risk aversion parameter $\gamma = 0.0004$. In Section 7, we will explore the robustness of the welfare results with respect to γ, and also under non-time-separable Epstein-Zin preferences.

We provide nine sets of results, corresponding to different assumptions regarding the probability simplex that determines the initial state, $\Delta_0 \in \Delta^7$. Panels (a) to (g) of Table 5 show the results assuming that individuals start in each of the seven possible health states. For instance, Panel (a) assumes that everyone starts in the healthiest state, such that $\Delta_0 = \frac{1}{100}[100, 0, 0, 0, 0, 0, 0]$. Panel (h) assumes that λ_{25} is drawn from the distribution implied by the transition matrix at age 25, given $\lambda_{24} = 1$ (see Table C1, Appendix). By doing so, we accurately replicate the distribution of ξ among the 25- to 30-year old. Finally, Panel (i) replicates Panel (h) but does not allow individuals to start in the worst possible health state. We simulate Panel (i) because Panel (h) shows that even though only 0.01 percent of the population are in the worst health state, this group dominates welfare calculations for all contract types considered. As discussed in Section 5.3, we stratify the findings by two different education-dependent lifecycle income paths.

[38] The CARA utility function has the convenience of allowing for negative consumption, which occurs when income is lower than the required premium payments, for example, but it also implies that the consumption equivalent may be negative under some contracts, as we will see in Table 5.

Table 5: Welfare Under Various Contracts

	C^* (1)	C_{ST} (2)	C_{GLTHI} (3)	C_{GHHW} (4)	$\frac{C_{GLTHI}-C_{ST}}{C^*-C_{ST}}$ (5)	$\frac{C_{GHHW}-C_{GLTHI}}{C_{GHHW}}$ (6)
	Panel (a): $\Delta_0 = \frac{1}{100}[100, 0, 0, 0, 0, 0, 0]$					
Ed 10	23,082	-10,153	21,484	22,587	0.952	0.049
Ed 13	34,857	-1,954	26,125	28,115	0.763	0.071
	Panel (b): $\Delta_0 = \frac{1}{100}[0, 100, 0, 0, 0, 0, 0]$					
Ed 10	22,712	-10,777	20,915	21,563	0.946	0.030
Ed 13	34,485	-3,704	25,193	25,970	0.757	0.030
	Panel (c): $\Delta_0 = \frac{1}{100}[0, 0, 100, 0, 0, 0, 0]$					
Ed 10	22,417	-10,683	20,039	20,435	0.928	0.019
Ed 13	34,187	-1,957	23,644	24,032	0.708	0.016
	Panel (d): $\Delta_0 = \frac{1}{100}[0, 0, 0, 100, 0, 0, 0]$					
Ed 10	22,128	-10,795	18,548	18,752	0.891	0.011
Ed 13	33,898	-2,007	21,356	21,530	0.651	0.008
	Panel (e): $\Delta_0 = \frac{1}{100}[0, 0, 0, 0, 100, 0, 0]$					
Ed 10	21,765	-10,871	15,083	15,132	0.795	0.003
Ed 13	33,534	-1.993	17,039	17,092	0.536	0.003
	Panel (f): $\Delta_0 = \frac{1}{100}[0, 0, 0, 0, 0, 100, 0]$					
Ed 10	21,055	-11,209	6,414	6,416	0.546	0.000
Ed 13	32,820	-2,401	8,021	8,027	0.296	0.001
	Panel (g): $\Delta_0 = \frac{1}{100}[0, 0, 0, 0, 0, 0, 100]$					
Ed 10	13,261	-26,690	-26,673	-26,673	0.000	0.000
Ed 13	24,631	-24,214	-24,212	-24,212	0.000	0.000
	Panel (h): $\Delta_0 = \frac{1}{100}[89.10, 10.25, 0.47, 0.11, 0.04, 0.03, 0.01]$					
Ed 10	22,980	-10,179	-912	-912	22.117	0.000
Ed 13	34,150	-2,759	1,344	1,344	27.865	0.000
	Panel (i): $\Delta_0 = \frac{1}{100}[89.11, 10.25, 0.47, 0.11, 0.04, 0.03, 0]$					
Ed 10	22,980	-10,119	21,168	21,945	0.945	0.035
Ed 13	34,159	-2,223	25,088	26,093	0.751	0.039

Source: German Claims Panel Data, SOEP data. Table shows welfare measured by the consumption certainty equivalents in 2016 USD dollars, per capita, per year, separately for two income profiles (see Figure 6). Panels (a) to (g) differentiate by initial health status $\lambda_{25} \in \{1, ..., 7\}$. In Panel (h), we use the actual population distribution across health states in our data and in Panel (i), we do not allow 25 year olds to be in the worst health risk category. Columns (1) to (4) show welfare according to the (1) first-best, (2) a series of short-term contracts, (3) the GLTHI, and (4) the GHHW. Column (5) shows how much of the welfare gap between (2) and (1) is closed by GLTHI. Column (6) shows the percentage of welfare loss under GLTHI relative to GHHW.

Column (1) calculates the welfare for the first-best as decribed by Equation (3); Column (2) calculates welfare under a series of short-term contracts, C_{ST} (Equation (4)); Column (3) shows the results under the GLTHI contracts, C_{GLTHI}; Column (4) calculates the welfare under the optimal dynamic

contract as described by GHHW, C_{GHHW}. Columns (5) and (6) show the welfare difference between the GLTHI and C_{ST}, and that between C_{GHHW} and C_{GLTHI}, respectively.

Overall, Table 5 shows the following: First, not surprisingly, Column (1) shows that welfare in the first-best scenario is always lower for the lower education (*Ed 10*) and decreases with health at inception. For example, for individuals with the highest schooling degree who are in the healthiest risk category at age 25, the consumption certainty equivalent is \$34,857 per year. This decreases to \$24,631 for those 25 year olds who are in the sickest risk category.

Second, Column (2) shows that a series of short-term contracts C_{ST} produces large welfare losses compared to the first-best. For all initial health states at age 25 and for both lifecycle income profiles, the consumption certainty equivalents are always negative.[39]

Third, the GLTHI produces substantial welfare gains compared to short-term contracts. Consider the case when $\lambda_{25} = 1$ with probability 1, which is described in Panel (a) for $\Delta_0 = \frac{1}{100}[100, 0, 0, 0, 0, 0, 0]$. Column (3) shows that, under the GLTHI, the consumption certainty equivalent is \$21,484 for *Ed 10* and \$26,125 for *Ed 13*, respectively. Column (5) shows that the GLTHI closes 95 and 76 percent of the welfare gap between a series of short-term contracts and the first best for *Ed 10* and *Ed 13* individuals, respectively. Column (4) presents the welfare under the theoretically optimal GHHW contract, which shows that indeed the GHHW contracts achieve higher welfare than that from GLTHI for both *Ed 10* and *Ed 13* education groups, with their consumption equivalents equal to \$22,587 and \$28,115, respectively. However, Columns (6) shows that the welfare gains from the GHHW contracts relative to those achieved under the GLTHI contracts are quite small, at only 4.9 and 7.1 percent, respectively, for *Ed 10* and *Ed 13* education groups.

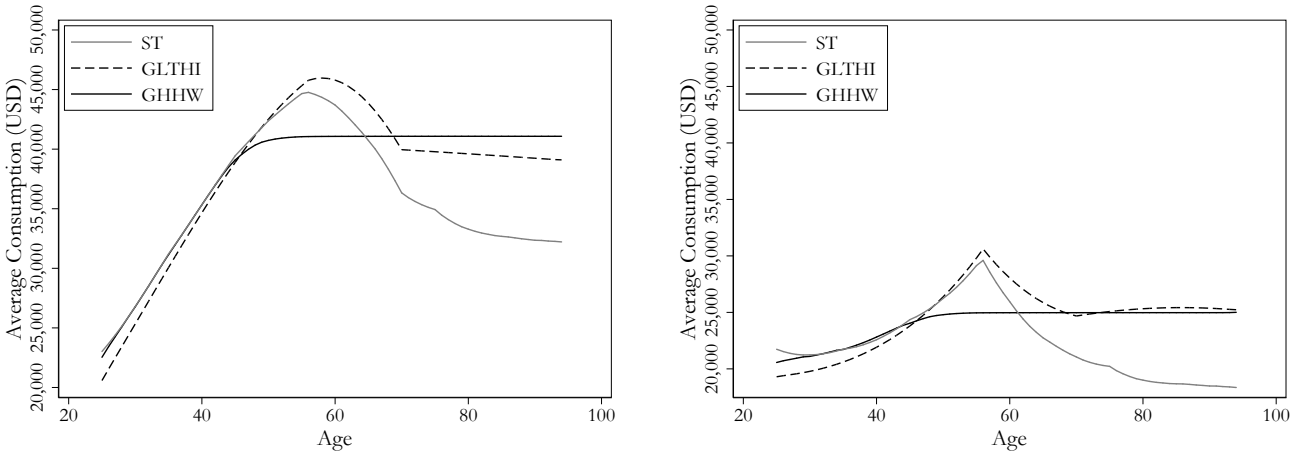
Fourth, when evaluating welfare under different distributions over the initial health states, the findings discussed above turn out to be systematic. The welfare differences between the GLTHI and the GHHW contracts for initial health states $\lambda_{25} \in \{2, 3, 4\}$ are reported in Panels (b)-(d), respectively. Column (6) in these panels show that the welfare differences are only between 0.8 to 3 percent, for lifecycle income profiles of both *Ed 10* and *Ed 13* education groups. For very bad initial health states, $\lambda_{25} \in \{5, 6, 7\}$, the results are reported in Panels (e)-(g). Column (6) for these panels reveal that the welfare between the GHHW and the GLTHI contracts is almost identical for both *Ed 10* and *Ed 13* education groups. However, it should be noted that starting in the sickest state $\lambda_{25} = 7$ produces negative welfare even under GHHW (see also Ghili et al., 2019) and also under GLTHI. In Panels (h) and (i) where the initial health distributions corresponds to the observed empirical distribution for

[39] Recall that the CARA utility function as specified by Equation (10) allows for negative consumption.

age-25 enrollees in our sample, we find that the welfare loss under the GLTHI contracts relative to the optimal GHHW contracts is at most 3.9 percent.

6.4 Understanding the Welfare Comparisons

In order to understand the welfare results discussed in the previous section, we now delve deeper into how the short-term contracts, the GLTHI contracts, and the GHWW contracts affect both individuals' *intertemporal consumption smoothing* and the *consumption volatility* over their lifecycle. Figure 8 plots the *average* consumption over the lifecycle for (i) a series of short-term contracts, (ii) GHHW, and (iii) GLTHI, separately for *Ed 10* (Figure 8a), and *Ed 13* (Figure 8b). The figures illustrate the driving forces behind the welfare differences in Table 5.



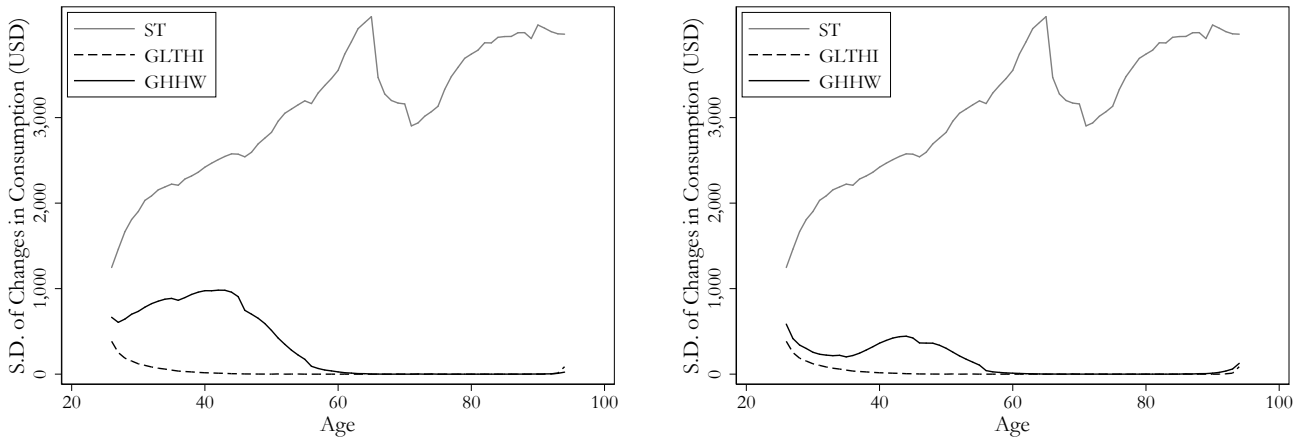
(a) *Ed 13* (b) *Ed 10*

Figure 8: Expected Consumption over the Lifecycle by Education

As shown by the thin solid lines, the average consumption under a series of short-term contracts is simply equal to the income (Figure 6) minus the expected medical spending (see Equation 4). The average consumption profile under short-term contracts is therefore hump-shaped over the lifecycle for both education groups. As shown by the dashed lines, average consumption under the GLTHI has a similar shape, but starts at a lower level and is higher at older ages. This reflects the heavy front-loading of GLTHI up to the early 50s. As shown by the thicker solid lines, average consumption under the optimal GHHW contract is designed to account for the utility effects from not only *reducing the reclassification risk*, but also from the *smoothing of consumption over the lifecycle*. Hence, the optimal contract implies a much smaller degree of front-loading than the GLTHI contract (Table 4). Thus, the average consumption under GHHW contracts starts at a higher level, particularly for the

highly educated who have steeper income profiles and for whom front-loading is costlier. As individuals approach their middle ages, the optimal contract allows to fully smooth consumption, which is illustrated by the straight flat consumption line after around age 40. [40]

However, relative to GLTHI, the optimal contract achieves better consumption smoothing at the expense of *more* reclassification risk. To illustrate the degree of *reclassification risk* over the lifecycle, Figure 9 displays the *standard deviations* of consumption *changes* over the lifecycle. (That is, Figure 9 plots for each t the standard deviation of $\Delta C_{i,t} \equiv C_{i,t+1} - C_{i,t}$.)



(a) *Ed 13* (b) *Ed 10*

Figure 9: Simulated Standard Deviation of Consumption Changes

As seen, the GLTHI contract imposes very little reclassification risk as most individuals lock $P_{25}(\cdot)$ in the first period. The few individuals who switch are those who start with $\lambda_{25} > 1$ and become sufficiently healthier over the lifecycle (such that $P_t(\xi_t) > P_{25}(\xi_{25})$ for some t) to be offered a cheaper contract. However, this is a rare event, especially after age 40. On the other hand, the optimal GHHW contract specifies consumption bumps early in the lifecycle. For instance, the consumption guarantee under GHHW increases for individuals who start at $\lambda_{25} = 1$ and remain at $\lambda_{26} = 1$ in the following year. The reason is that a competing insurer can take into account the "good news" regarding future health, contained in the event "$\lambda_{25} = 1$ and $\lambda_{26} = 1$," and offer the individual a higher consumption guarantee, and still break even in expectation. Finally, the standard deviation of consumption changes increases strongly between age 25 and 60 for a series of short-term contracts, then decreases slightly up to age 70 and then increases again until death.

[40] Furthermore, as we will show in Figure 11 below, with a risk aversion parameter of $\gamma = 4 * 10^{-4}$, the welfare differences between GLTHI and GHHW contracts due to differences in the *expected* consumption profiles over the lifecycle are meaningful. Barring differences in reclassification risk across contracts, the lifecycle consumption under the GHHW contracts produces welfare gains of approximately US 2,600 per year.

Figure 10 compares the average lapsation rates under each contract, where lapsing under GHHW is defined as an increase in the consumption guarantees.[41] As expected, lapsation from GLTHI is very low over the entire lifecycle. In contrast, when expected future health improves, GHHW leads to a higher consumption for the healthiest types (and therefore for almost everyone) in the early periods. Still, lapsation under GHHW decreases substantially in the late 40s. At this point, most individuals have achieved their consumption plateau. Subsequently, consumption remains constant in order to transfer resources intertemporally and to save for old age.

Figures 8-9 illustrate the fundamental trade-offs between the GLTHI and the GHHW. The GHHW requires less front-loading by tolerating more consumption volatility (and reclassification risks); because consumers' income profiles for both *ED 10* and *ED 13* education groups tend to rise in early ages, less front-loading required by the GHHW contracts implies that GHHW contracts engender a better intertemporal consumption smoothing than the GLTHI, as illustrated by Figure 8. However, the extra front-loading of the GLTHI contracts does result in lower standard deviations of consumption changes (and much lower lapsation rates) than the GHHW contracts. Of course, by design, the GHHW contracts optimally balance the above-mentioned trade-offs; thus the GHHW contracts always, in environments that satisfy the conditions required for Ghili et al. (2019)'s theoretical characterization, achieve a higher welfare than the GLTHI contracts. The results we reported in Table 5, however, suggest that the GLTHI contracts, despite their simplicity, are able to achieve welfare similar to the optimal GHHW contracts.

The trade-offs between the GLTHI and the GHHW contracts, therefore, are intertemporal consumption smoothing vs. consumption volatility. The welfare effect of intertemporal consumption smoothing depends on the *intertemporal elasticity of substitution* (IES), and the welfare effect of consumption volatility depends on *risk aversion*. The time-separable preference hypothesized so far in our analysis, similar to that in Ghili et al. (2019), imposes that the IES and risk aversion are parametrically linked. In Section 7, we will break the parametric link between IES and risk aversion, and conduct welfare comparisons between different contracts under the Epstein and Zin (1989)'s recursive preferences.

[41] As noted by Ghili et al. (2019), optimal contracts impose a "no-lapsation constraint", so that the consumer will always stay in the same contract. However, an increase in the consumption guarantee specified within a contract can be also interpreted as a lapsation from an equivalent set of guaranteed premium paths. Figure 10 uses this interpretation of lapsing.

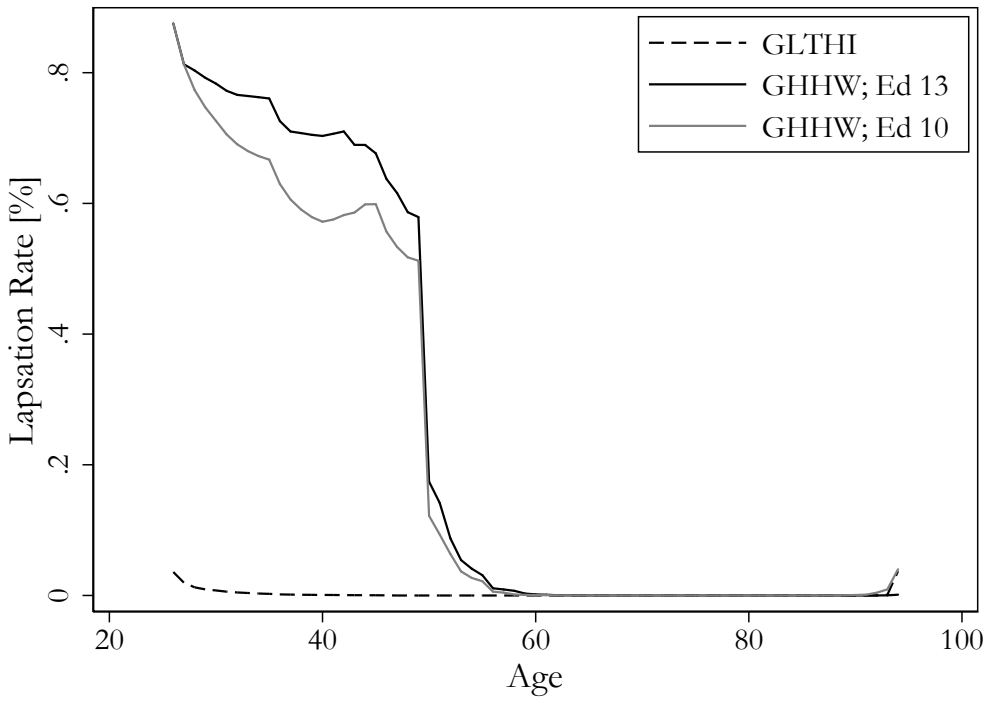


Figure 10: Laspation Rates by Type of Contract and Education

6.5 Savings and the Welfare Comparisons

Our main welfare calculations assume that individuals cannot save. This assumption may substantially underestimate the welfare under short-term contracts, and under the GLTHI. As noted above, the GLTHI contracts result in a consumption profile that closely tracks the hump-shaped life-cycle income profile. Moreover, under short-term contracts, individuals experience large premium shocks that could be smoothed with precautionary savings. Hence, this section allows for precautionary savings. We do so by solving a dynamic programming problem of optimal savings with mortality risk as in Yaari (1965). Individuals solve the following maximization problem:

$$\begin{aligned}
\max_{c_t} \quad & \mathbb{E} \quad \sum_{t=t_0}^{T} S_t \delta^t u(c_t) \Bigg) \Bigg(\\
\text{s.t.} \quad & a_{t_0} = 0 \\
& a_t \geq 0 \quad \forall t \\
& a_{t+1} = (1+r)a_t + y_t - c_t - P(\Xi_t)
\end{aligned}$$

where $P(\Xi_t)$ is the premium in period t as a function of an individual's medical history $\boldsymbol{\Xi_t} \equiv (\xi_1, \xi_2, ..., \xi_t)$, and a_t is the level of assets.

Different contracts result in different mappings between an individual's medical history up to period t and an individual's premium in t. Under a series of short-term contracts, only an individual's current health status matters since $P(\Xi_t) = \mathbb{E}(m_t|\Xi_t) = \mathbb{E}(m_t|\xi_t)$. In contrast, for a GLTHI contract, the entire medical history matters. Due to guaranteed-renewability, $P(\Xi_t)$ is defined recursively: In the first period, $\mathbf{\Xi_1} = \xi_1$ and $P(\mathbf{\Xi_1}) = P_1(\xi_1)$, where Equation (1) defines $P_t(\xi_t)$. In any period $t > 1$, $P(\mathbf{\Xi_t}) = \min\{P(\mathbf{\Xi_{t-1}}), P_t(\xi_t)\}$.[42] (Note that, in this optimal consumption problem with savings, there is uncertainty regarding net income $y_t - P(\Xi_t)$ and mortality risk.[43])

For a given lifecycle income profile, the dynamic program provides an optimal consumption policy $C_t^*(\xi_t, a_t)$ where a_t is the level of assets carried into period t. The certainty equivalent (CE) of the dynamic problem is equal to:

$$u(C_{SAV}) = \frac{\mathbb{E}\left(\sum_{t=t_0}^{T} S_t \delta^{t-t_0} u(C_t^*(\xi_t, a_t)\right)}{\mathbb{E}\left(\sum_{t=t_0}^{T} S_t \delta^{t-t_0}\right)} \Bigg(\tag{11}$$

Table 6: Welfare by Type of Contract with Savings

	C_{GHHW}	$CE_{GLTHI,SAV}$	$CE_{ST,SAV}$
Ed 10	21,945	21,177	741
Ed 13	26,093	25,088	4,879

Source: German Claims Panel Data, SOEP data. The distribution of initial health states at age 25 used in this table corresponds to that in Panel (i) of Table 5. All consumption certainty equivalents (welfare) are in 2016 USD per capita, per year.

Table 6 shows the welfare results when allowing for savings, assuming $r = 1/\delta - 1$. Allowing for precautionary savings substantially improves welfare under the series of short-term contracts. Consider the distribution of initial health state $\Delta_0 = \frac{1}{100}[89.11, 10.25, 0.47, 0.11, 0.04, 0.03, 0]$ as considered in Panel (i) of Table 5. The consumption certainty equivalent increases from $CE_{ST} = -10,119$ to $CE_{ST,SAV} = \$741$ for *Ed 10* individuals, and from $CE_{ST} = \$-2,223$ to $CE_{ST,SAV} = \$4,879$ for *Ed 13* individuals. On the other hand, savings do not significantly improve welfare under the GLTHI. Intuitively, the GLTHI contract already achieves substantial savings through highly front-loaded premiums. Moreover, as shown in Ghili et al. (2019), under GHHW, individuals have no incentives to

[42] The state variable in the dynamic program under GLTHI is the guaranteed-renewable premium; its law of motion is given by the probability of qualifying for a lower premium.

[43] Mortality risk implies that individuals may die with positive assets. Therefore, the expected net present value of consumption with optimal savings will be lower than the net present value of resources. Our calculations implicitly assume that individuals do not derive value from bequests.

engage in additional savings. Thus, introducing savings does not affect welfare under the optimal contract.

6.6 Implications for Reforms to the U.S. Health Insurance System

So far, we have contrasted welfare under the GLTHI, the optimal dynamic contracts of Ghili et al. (2019), and under a series of short term contracts. In each case, we assume that policyholders keep their contracts for their entire lives. This assumption is realistic for the GLTHI, because Germany has no special insurance program for retirees.

However, our findings also have implications for the U.S. health insurance system, which is a mixture of public and private health insurance. Among the working age population below 65, about 60 percent have employer-sponsored health insurance (ESHI) and about 40 percent have either short-term private health insurance or are uninsured (Claxton et al., 2017); Medicare covers people above 65 (and the disabled), financed by payroll taxes. Of course, this system differs from the German health insurance system (see Section 2). The U.S. ESHI is community-rated at the employee level and essentially long-term—provided that employers and employees do not separate—in which case it resembles the GLTHI. Prior to the Affordable Care Act (ACA) reform of 2010, the U.S. individual private health insurance market also closely resembled the individually risk-rated short-term contract as described in Section 3.3.[44] Thus, as a first order approximation, pre-ACA, the U.S. health insurance system can be thought of as a mixture of 60 percent GLTHI and 40 percent short-term health insurance contracts for workers up to age 65; followed by a Medicare pay-as-you-go system for those 65 and older.

The questions that we ask in this section are: If we were to reform the current U.S. health insurance system, as approximated by the contracts above, and all private insurance for the working age population were individual long-term contracts (either as GLTHI or GHHW contracts), followed by Medicare for those 65 and older, by how much could we improve welfare? And how would such a *hybrid system*, with long-term private insurance for the working population and public Medicare insurance for the elderly, compare with a system where individuals purchase long-term insurance that also provides coverage after 65 until they die (i.e., our baseline scenario with lifetime coverage)?

Implementing the Pre-ACA U.S. Health Care System. To implement the pre-ACA U.S. health care system in the German context, we consider a social insurance program where, at age 65, individuals

[44]However, post-ACA, individual private contracts are community rated—although the ACA still allows insurers to charge older people and smokers more—and thus differ from the short-term contracts described in our paper.

qualify for free health insurance that is financed by a proportional tax on income. Although this is a simplified version of the U.S. Medicare program, its structure captures the main effect of Medicare in the context of long-term contracts. The Medicare tax acts as an additional, front-loaded premium during working ages to fund free health insurance for all people above 65, regardless of their health status.

For each education group $Ed \in Ed\ 10, Ed\ 13$ separately, we assume that the proportional Medicare payroll tax τ_e^* is collected from individuals in this education group, and that it covers all health care expenses of their education group during the Medicare period (age 65 and above), such that

$$\tau_{Ed}^* \mathbb{E}\left(\sum_{t=25}^{64} S_t \delta^{t-24} y_t | Ed \right) = \mathbb{E}\left(\sum_{t=65}^{94} S_t \delta^{t-24} m_t \right) \tag{12}$$

where S_t is an indicator of survival until period t, y_t is income, m_t medical spending, and δ is the discount rate. In conducting this exercise separately for *Ed 10* and *Ed 13*, we do not allow for cross-subsidization and redistribution between high and low-income earners. By doing so, we can compare the hybrid system to our baseline scenario for the same net present value of resources. Consequently, all welfare consequences are due to intertemporal substitution and reclassification risk, and not due to transfers across individuals of different income levels. To evaluate welfare under the hybrid system, we separately compute a new set of GLTHI premiums, and the consumption guarantees under GHHW, *assuming that the terminal period is* $T = 64$.[45]

The consumption certainty equivalent is the constant consumption level that provides the same lifetime utility as those achieved under the hybrid system. Panel (a) of Table 7 shows the welfare results under the hybrid system, separately for *Ed 10* and *Ed 13* lifecycle income profiles. Panel (b) of Table 7 replicates the baseline results without Medicare (and thus the corresponding contracts apply over the entire lifecycle). For illustration purposes, the distribution of initial health states used in the calculations is the same as that of Panel (i) in Table 5, namely, $\Delta_0 = \frac{1}{100}[89.11, 10.25, 0.47, 0.11, 0.04, 0.03, 0]$.

Top row of Panel (a) shows the working age Medicare tax that is necessary to finance the Medicare system for those aged 65 and above. As explained, we separately calculate two separate tax rates according to Equation (12) for education groups *Ed 10* and *Ed 13*. As seen the payroll tax rates are 4.4% and 3.1% for *Ed 10* and *Ed 13*, respectively. The next three rows show the consumption

[45] For GLTHI, the Medicare payroll tax rates τ_{Ed}^* do not impact the calculation of the equilibrium premiums when $T = 64$ (see Equation (1)). The GHHW premiums, however, depend on the income paths (see Equation (2)); we assume that incomes of individuals in education group *Ed 10* and *Ed 13* are taxed at the respective rate τ_{Ed}^* calculated by Equation (12).

Table 7: Welfare of a Hybrid System of Private Contracts plus "Medicare-Like" Public Insurance

	Ed 10	*Ed 13*
Panel (a): Medicare Tax up to 64 + Medicare from 65		
Payroll Tax Rate (%)	4.36	3.12
CE_{GLTHI}	20,371	24,350
CE_{GHHW}	20,765	24,973
CE_{ST}	-11,080	-3,417
Panel (b): Baseline: Panel (i) in Table 5		
CE_{GLTHI}	21,168	25,088
CE_{GHHW}	21,945	26,093
CE_{ST}	-10,119	-2,223
Panel (c): Social Insurance Program		
$CE_{\text{w/o cross-subsidies}}$	22,608	28,536
$CE_{\text{w/ cross-subsidies}}$	23,168	27,838

Source: German Claims Panel Data, SOEP data. The distribution of initial health states used in the calculations is the same as that of Panel (i) in Table 5, namely, $\Delta_0 = \frac{1}{100}[89.11, 10.25, 0.47, 0.11, 0.04, 0.03, 0]$. All consumption certainty equivalents (welfare) are in 2016 USD per capita, per year.

certainty equivalents under three private health insurance contracts for individuals younger than 65: CE_{GLTHI} is the certainty equivalent when individuals purchase GLTHI contracts from age 25 until age 64; CE_{GHHW} is the certainty equivalent when individuals purchase GHHW contracts from age 25 until age 64; and finally, CE_{ST} is the certainty equivalent when individuals purchase short-term contracts from age 25 until 64.

As we argued, the U.S. system could be considered a 60/40 combination of CE_{GLTHI} and CE_{ST}, with welfare as reported in Panel (a) of Table 7. Hence, converting the 40 percent with CE_{ST} to CE_{GLTHI} would substantially improve the welfare of the whole population. Converting all individuals' current private insurance to the GHHW contracts would be even better. However, consistent with our previous findings, the difference in welfare gains between GLTHI and GHHW is relatively small. It is also instructive to compare a hybrid system, as implemented above, with a system where individuals hold long-term insurance contracts until they die, that is, our baseline scenario with lifetime coverage. Interestingly, theoretically it is *ambiguous* whether the hybrid system or the private system achieves higher welfare. The reason is that Medicare is a mandatory public system, and as such it does not suffer from the one-sided commitment problem that the GLTHI and GHHW contracts need to address. The baseline results are reported in Panel (b) of Table 7.

Comparing Panels (a) and (b) reveals that welfare under the hybrid system is always lower than under the baseline scenario with lifetime contracts. The reason is as follows: Compared to the optimal contract, the Medicare program reduces consumption at earlier ages (because of the payroll tax), with

no substantial changes in the reclassification risk. As seen in Figure 9, the optimal GHHW contract involves virtually no reclassification risk after age 65. For similar reasons, the Medicare program does not improve welfare when combined with the GLTHI contract. GLTHI has already *too much* front-loading and *too little* reclassification risk relative to GHHW.

What is more surprising is that the hybrid system also achieves a lower welfare when the private insurance is in the form of short-term contracts. Because the Medicare provision in the hybrid system substantially decreases consumption volatility at old ages, in principle, introducing a Medicare-like program could increase welfare in an economy with short-term contracts. However, the Medicare tax *decreases* consumption at early ages, when the marginal utility of consumption is high. As Table 7 shows, the latter effect dominates for both income groups. In both cases, introducing Medicare is also welfare decreasing in an economy with short term contracts.

Finally, Panel (c) explores welfare under a "Social Insurance Program." In this scenario, individuals are taxed during working ages with a linear tax. In exchange, they receive free health care during their entire lifetime. The first row of Panel (c) shows the certainty equivalent of each education group when each group is taxed separately, i.e., there is no cross-subsidization across income groups. The second row of Panel (c) shows the certainty equivalent of each education group when there is a unique tax rate that applies to both groups, i.e., there is cross-subsidization from the high earners to the low earners.[46] We find that this program achieves higher welfare than both, the long-term contracts *and* the hybrid programs. Although a linear tax on income does not achieve the optimal consumption smoothing over the lifecycle, this program fully eliminates reclassification risk. As we assume that taxes are fully enforceable, this program achieves welfare that is unfeasible with the participation restrictions embedded in the optimal contract.[47]

Robustness of the Findings. The results in Table 7 assume that the Medicare payroll tax during working ages fully covers all medical expenses for the population above 65. In reality, however,

[46] Without cross-subsidization, the tax for high-income earners and low-income earners would be 12.2 and 17.1 percent, respectively. With cross-subsidization, assuming a share of high-income earners relative to low-income earners consistent with Table A2, the uniform tax rate would be 14.8 percent. For comparison, consider that the tax rate in the German statutory SHI (which we briefly describe in Section 2) is about 16 percent of employee gross wages (up to a contribution cap) when adding both the employee and employer contributions.

[47] This direct comparison of welfare under the social insurance program and the private contracts does not take into account any possible efficiency costs from taxation. However, a back-of-the-envelope calculation suggests that the social insurance program is still preferable even after accounting for the excess burden of taxation: Let R be the net present value of the total tax revenue collected for an individual (which, by definition, is equal to the net present value of health expenditures). An "equivalent yearly tax burden" can be calculated as the constant dollar amount r such that the net present value of paying r every year is equal to R. We find $r = \$4,022$. Applying a marginal excess burden per dollar of tax revenue of 0.195 from Saez et al. (2012), we find that the tax of the social insurance program imposes a yearly cost of \$784. This deadweight loss of taxation is lower than the extra welfare of the social insurance program. Note also that the GHHW contract could in principle result in efficiency losses since premiums are tied to income.

Medicare Part B beneficiaries do pay a (subsidized) premium.[48] Premium-free Medicare coverage at old-age increases the tax rate needed to fund the entire program. Therefore, the degree of front-loading increases further. Because our simplified version of Medicare imposes *too much* front-loading, it is instructive to investigate the effect of introducing a Medicare premium with a corresponding decrease in the tax rate.

In Appendix D1, we illustrate the trade-off between charging a higher Medicare payroll tax for future beneficiaries vs. a higher Medicare premium for current beneficiaries. In conclusion, we find that a higher premium for current beneficiaries increases welfare because it increases consumption at early ages. However, even a very high Medicare premium (such that the Medicare tax is close to zero), combined with either the optimal contract or the GLTHI contract, would *not* achieve the same level of welfare as the optimal GHHW contract.

We also test the robustness of the results in Table 7 by allowing for *savings* in the Medicare environment. In this economy, individuals are offered the GLTHI premium profile up to age 65, and free Medicare coverage starting at age 65. Such an insurance structure creates incentives to save. As in Section 6.5, we calculate welfare under an optimal level of savings and find a certainty equivalent of \$20,672 (*Ed 10*) and \$24,656 (*Ed 13*) (detailed results available upon request). This level of welfare is higher than welfare without savings (see Table 7), but still lower than welfare under either a lifetime GLTHI contract or a lifetime GHHW contract.

7 Robustness

In this section, we investigate the robustness of our main findings in two dimensions. First, we investigate whether our results are robust to degree of risk aversion, i.e., the parameter γ in the CARA utility function specified by Equation (10); second, we investigate whether our results are robust to Epstein and Zin (1989)'s recursive preferences where risk aversion and intertemporal elasticity of substitution are separately parameterized.

7.1 The Degree of Risk Aversion

Under our parametric assumptions on preferences, the GLTHI contracts entail a small welfare loss relative to the optimal dynamic GHHW contracts as characterized by Ghili et al. (2019). Almost entirely eliminating reclassification risk basically compensates the welfare loss from heavier front-

[48] In addition, Medicare Part A imposes substantial cost-sharing, from which we have abstracted throughout in the paper.

loading in the GLTHI. Following Ghili et al. (2019), our main results assume a level of risk-aversion of $\gamma = 4 \times 10^{-}4$. With this level of risk aversion, an individual would be indifferent between (a) a gamble where she wins \$1,000 with a 50 percent chance and loses \$713 with a 50 percent chance and (b) no gamble, i.e., the status quo. This subsection investigates the robustness of our findings with respect to different levels of γ.

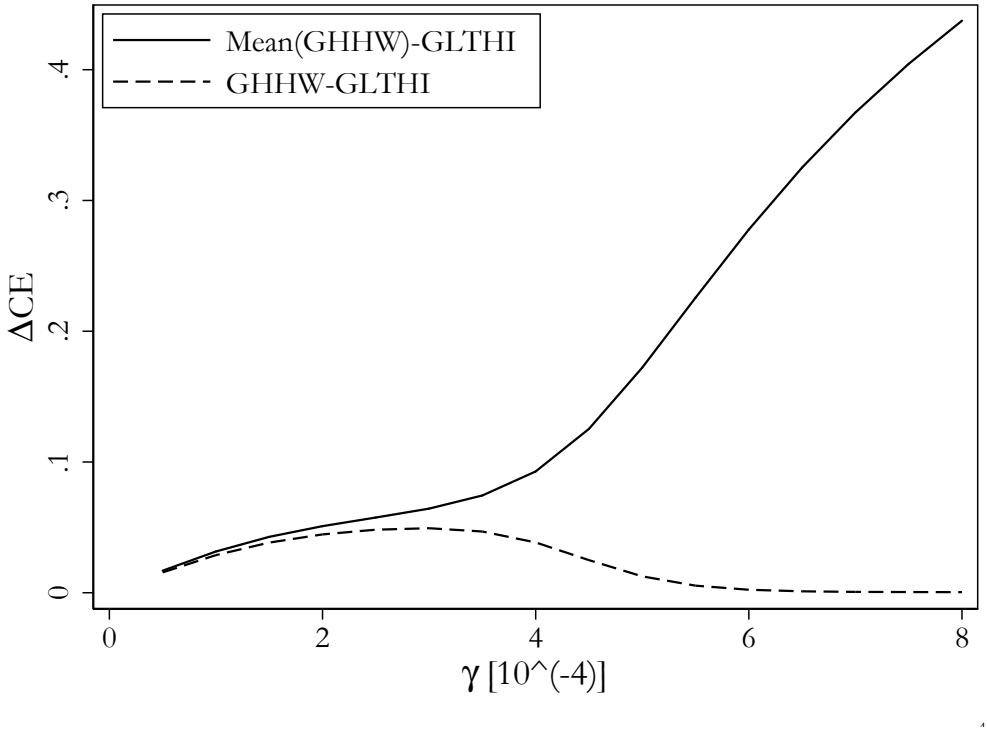


Figure 11: Difference in CE (GHLTI vs. GHHW) by Risk Aversion

Source: German Claims Panel Data, SOEP data. The x-axis shows the level of risk aversion γ. The y-axis shows differences in consumption certainty equivalents (CE) between GHHW and GLTHI as a fraction of total GHHW welfare, in other words, the welfare loss of GLTHI relative to GHHW. The dashed line shows total welfare differences, and the solid line shows only welfare differences due to differences in consumption.

Figure 11 shows the results graphically, where the x-axis spans values of $\gamma \in [5 \times 10^{-}5, 8 \times 10^{-}4]$. For each γ, the y-axis shows the corresponding difference in certainty equivalents as a fraction of the welfare under GHHW. The dashed line plots total welfare differences between GLTHI and GHHW. As seen, the difference is small when γ is either very low or very high. That is, our main qualitative finding—the simple GLTHI contract can basically achieve similar welfare as the optimal dynamic GHHW contract—is robust to the degree of risk aversion, γ.

To investigate the underlying reason for the robustness of the findings with respect to γ, the solid line plots the percentage point differences in welfare when we only focus on *differences in consumption* across the lifecycle. In other words, we eliminate the welfare differences that are due to differences in

reclassification risk. As seen, we then find that GHHW is superior to GLTHI and that the difference is increasing in γ.[49]

In summary, varying the levels of risk aversion affect the differences between GLTHI and GHHW via two underlying channels. The first is due to differences in lifecycle consumption, which clearly favors GHHW, and even more so the larger γ; the second is due to differences in reclassification risk, which clearly favors GLTHI, and even more so the larger γ. As we vary γ, these two opposing forces almost completely cancel out.

When risk aversion is close to 0, GLTHI and GHHW contracts coincide. In the extreme case of risk neutrality, the volatility of premiums and the lifecycle shape of expected consumption are irrelevant. For low levels of γ, the lifecycle path of expected consumption is the most relevant factor determining the welfare differences between the two contracts. However, when γ becomes large enough, the higher degree of reclassification risk in GHHW becomes increasingly relevant. Even though individuals with large γ strongly prefer the smoother consumption under GHHW, they also dislike the higher associated reclassification risk.

The dashed curve in Figure 11 shows total welfare differences between GLTHI and GHHW. The maximal welfare difference between the two contracts across all values of γ is five percent. This difference arises when $\gamma = 3 \times 10^{-}4$ and amounts to equals about ten percent of the welfare under GHHW.[50]

7.2 Epstein-Zin Recursive Preferences

When a single parameter governs both risk aversion and the intertemporal elasticity of substitution, the welfare differences between the GLTHI and the GHHW contract are small. In this section, we investigate the robustness of this result when breaking the parametric link between risk aversion, γ, and the intertemporal elasticity of substitution, ψ. In particular, we evaluate both contracts under Epstein-Zin (EZ) preferences (Epstein and Zin, 1989). Preferences are defined recursively as:

$$V_t = F(c_t, R_t(V_{t+1})),$$

[49] In practice, the line represents the CE of consumption after replacing the actual consumption under GHHW with the expected consumption at each age under GHHW, thus eliminating the reclassification risk component of the optimal contract. By contrast, the reclassification risk component of GLTHI is negligible.

[50] Under this level of risk aversion, an individual would be indifferent between (a) a gamble where she wins $1,000 with a 50 percent chance or loses $768 with a 50 percent chance, and (b) no gamble.

with

$$R_t(V_{t+1}) = G^{-1}(\mathbb{E}_t G(V_{t+1}))$$

As in Epstein and Zin (1989), will consider the CES aggregator

$$F(c,z) = \left((1-\delta)c^{1-1/\psi} + \delta z^{1-1/\psi}\right)^{\frac{1}{1-1/\psi}}$$

We embed the same CARA specification used in our main analysis into the EZ preferences by assuming $G(c) = u(c) = \frac{1}{\gamma}e^{-\gamma c}$. In Appendix C2, we show that the consumption certainty equivalent can be expressed as:

$$c = \left(\frac{\left(G^{-1}(\mathbb{E}_0(G(V_{t_0}(\xi_{t_0}))))\right)^{1-1/\psi}}{1-\delta}\right)^{\frac{1}{1-1/\psi}} \Bigg/ \left(\sum_{j=t_0}^{T}\delta^{t-t_0}S_{t_0}^{j}\right)^{\frac{1}{1-1/\psi}} \tag{13}$$

where $\mathbb{E}_0()$ takes expectations with respect to the "birth" state, ξ_{t_0} and S_t^j is the survival probability from t to j.

For each contract, we compute $V_{t_0}(\xi_{t_0})$ numerically *via* backwards induction.

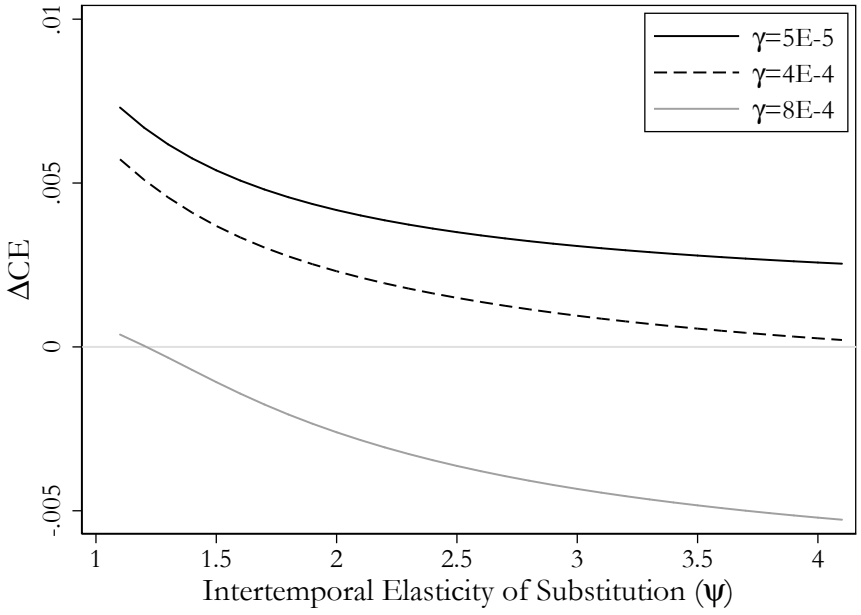


Figure 12: Difference in CE (GHLTI vs. GHHW) by Intertemporal Elasticity of Substitution

Source: German Claims Panel Data, SOEP data. The x-axis shows the level of intertemporal elasticity of substitution ψ. The y-axis shows differences in certainty equivalents (CE) between GHHW and GLTHI as a fraction of total GHHW welfare.

Varying γ and ψ, Figure 12 shows differences in certainty equivalents between GLTHI and GHHW

as a fraction of the welfare under GHHW. As seen, the welfare differences between the two contracts are small over all the entire range of parameter values considered. Notice that in Figure 12, when the risk aversion parameter $\gamma = 8E - 4$, the certainty equivalent of GHHW can be lower than that of GLTHI, when the intertemporal elasticity of substitution is relatively high. This can occur because the GHHW contract is not necessary optimal contracts under recursive preferences—recall that Ghili et al. (2019)'s theoretical characterization requires that preferences are *time separable*, which Epstein and Zin (1989)'s recursive preferences do not satisfy.

7.3 Income Profiles

Finally, to test the robustness of our results with respect to the income profile, we also estimate the lifecycle income pattern for the United States. To this end, we use the Cross National Equivalence Files (CNEF) of the Panel Study of Income Dynamics (PSID). The PSID is the oldest and longest-running panel survey in the world. It has been surveying U.S. families annually since 1968 and, since 1997, biannually (Panel Study of Income Dynamics, 2018). The CNEF harmonizes survey measures across countries and over time (Frick et al., 2007). We use the cleaned and generated variables of the CNEF-PSID project, which allows us to generate the exact same income concept (in 2016 USD) and implement the same estimation process as that for Germany. That is, we exclude respondents under 25, focus on the years 1984 to 2015, and estimate Equation (9). Figure A2 (Appendix) shows an increase in the post-tax equivalized income that is very close to the one observed in Germany between ages 25 and 60. However, the decrease in lifecycle income after age 60 is much steeper in the U.S. than in Germany, for both educational groups. Our calculations show that the main findings are robust to the US income profiles: compared to the GHHW contract, we find that the GLTHI contracts are able to achieve welfare that is only 5.8 and 3.5 percent lower for Americans with high school and college degrees, respectively.[51]

8 Conclusion

Pricing regulation in health insurance markets has to trade off reclassification risk, adverse selection, moral hazard as well as consumption smoothing over the lifecycle. Very few countries in the world have organized their health insurance based on private markets—e.g., the U.S., Chile, Switzerland and Germany. The U.S. and Switzerland have traditionally organized them in the form of short-

[51] The detailed results are available from the authors upon request.

term annual contracts and tight pricing regulation with a focus on community rating to insure against reclassification risk of all citizens. A fundamental alternative is private individual long-term health insurance which has the power to leverage individual, intertemporal lifecycle incentives to eliminate reclassification risk for most citizens. In this paper, we present, discuss and evaluate the basic principles of such a real-world market that has been largely overlooked as a fundamental alternative to community-rated short-term health insurance or government-run single payer markets: the German individual private long-term health insurance market (GLTHI).

First, we present the basic principles of the market and derive the theoretical lifecycle premiums and welfare effects of the market. We show that GLTHI almost fully eliminates health reclassification risk over the lifecycle. However, the low reclassification risk comes at the expense of high premium front-loading and limited intertemporal consumption smoothing. Second, we benchmark the welfare effects of GLTHI contracts against the optimal dynamic contract as derived by Ghili et al. (2019), using a unique database of one of the largest German private insurers.

Overall, we find that GLTHI contracts generate substantial welfare gains relative to short-term contracts. More importantly, the German-style long-term contracts achieve basically the same welfare as the optimal dynamic contract as derived by Ghili et al. (2019). We show that the elimination of reclassification risk almost fully compensates the welfare loss due to more front-loading relative to the optimal contract. We also show that this finding is robust to alternative degrees of risk aversion and that, for very low and and high degrees of risk aversion, welfare under the GLTHI contract converges to welfare under the optimal contract. Moreover, the findings are also robust to different degrees of intertemporal elasticities of substitution and Epstein-Zin preferences, as well as using lifecycle income profiles derived from representative U.S. surveys. Our calculations show that the GLTHI contract provides large welfare gains relative to a series of risk-rated short-term contracts as in the pre-ACA era of the United States. Moreover, we address the interaction of long-term contracts with a Medicare-like pay-as-you-go system. We show that combining long-term contracts during working ages with Medicare in old age is a superior alternative to the *status quo*, but inferior to long-term contracts for the entire lifetime.

Compared to the optimal contract, an unquantified advantage of the German long-term contract is its simple design, combined with low information requirements. Moreover, the market has been stable and providing insurance for millions of people for decades. We believe that our findings, coupled with these facts, strengthen the case of the German design as an appealing policy option.

We finish by acknowledging two important and general caveats of long term contracts. First, our

results show that neither the German design nor the optimal dynamic contract may be a desirable alternative for some population subgroups. In fact, as already pointed out by Ghili et al. (2019), long term contracts may be highly undesirable for people who are very sick in young ages. From a policy perspective, this result implies that, for those individuals, societies implementing long-term contracts must provide a public alternative—like the co-existing public insurance in the case of Germany.

Second, our theory abstracts from a couple of key features that may have relevant implications for welfare under long-term contracts. First, our model assumes time-consistent individuals. From the perspective of a present-biased consumer, front-loading may render the long-term contracts undesirable, particularly when front-loading is high.[52] In addition, our model abstracts from moral hazard. In the presence of moral hazard, using long-term contracts to decrease reclassification risk could induce inefficiencies in spending, which reduces the desirability of long-term contracts. Quantifying the role of moral hazard in long-term contracts is an important avenue for future research.

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[52] Still, Gottlieb and Zhang (2019) show that with a sufficiently large number of periods, the inefficiencies arising from time inconsistency vanish. With the long-term contract that emerges in the equilibrium with time-inconsistent agents, time-inconsistent agents may achieve the same level of welfare than time-consistent agents.

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Online Appendix: Not Intended for Publication

Appendix A

A1 Descriptive Statistics

Table A1: Summary Statistics: German Claims Panel Data

	Mean	SD	Min	Max	N
Socio-Demographics					
Age (in years)	45.5	11.4	25.0	99.0	1,867,465
Female	0.276	0.447	0.0	1.0	1,867,465
Policyholder since (years)	6.5	5.0	1.0	40.0	1,867,465
Client since (years)	12.8	11.0	1.0	86.0	1,867,465
Employee	0.336	0.473	0.0	1.0	1,867,465
Self-Employed	0.486	0.500	0.0	1.0	1,867,465
Civil Servant	0.132	0.338	0.0	1.0	1,867,465
Health Risk Penalty	0.358	0.480	0.0	1.0	1,867,465
Pre-Existing Condition Exempt	0.016	0.126	0.0	1.0	1,867,465
Health Plan Parameters					
TOP Plan	0.377	0.485	0.0	1.0	1,867,465
PLUS Plan	0.338	0.473	0.0	1.0	1,867,465
ECO Plan	0.285	0.451	0.0	1.0	1,867,465
Annual premium (USD)	4,749	2,157	0	33,037	1,867,318
Annual risk penalty (USD)	157	453	0	21,752	1,867,465
Deductible(USD)	675	659	0	3,224	1,867,465
Total Claims (USD)	3,289	8,577	0	2,345,126	1,867,465

Source: German Claims Panel Data. *Policyholder since* is the number of years since the client has enrolled in the current plan; *Client since* is the number of years since the client joined the company. *Employee* and *Self-Employed* are dummies for the policyholders' current occupation. *Health Risk Penalty* is a dummy that is one if the initial underwriting led to a health-related risk penalty on top of the factors age, gender, and type of plan; *Pre-Existing Conditions Exempt* is a dummy that is one if the initial underwriting led to exclusions of pre-existing conditions. The mutually exclusive dummies *TOP Plan*, *PLUS Plan* and *ECO Plan* capture the generosity of the plan. *Annual premium* is the annual premium, and *Annual Risk Penalty* is the amount of the health risk penalty charged. *Deductible* is the deductible and *Total Claims* the sum all claims in a calendar year. See Section 4.1 for further details.

Table A2: Summary Statistics: German Socio-Economic Panel Study

	Mean	SD	Min	Max	N
Socio-Demographics					
Female	0.5217	0.4995	0	1	530,228
Age	46.9119	17.4922	17	105	530,228
No degree yet	0.058	0.2338	0	1	530,228
Dropout of high school	0.0378	0.1908	0	1	530,228
Degree after 8/9 years of schooling (Ed 8)	0.3619	0.4805	0	1	530,228
Degree after 10 years of schooling (Ed 10)	0.2737	0.4459	0	1	530,228
Degree after 13 years of schooling (Ed 13)	0.1746	0.3796	0	1	530,228
Employment					
Civil servant	0.0393	0.1943	0	1	530,228
Self-employed	0.0624	0.2419	0	1	530,228
White collar	0.2736	0.4458	0	1	530,228
Full-time employed	0.4152	0.4928	0	1	530,228
Part-time employed	0.1402	0.3471	0	1	530,228
Income Measures in 2016 USD					
Monthly gross wage	2,940	2,506	0	215,093	310,460
Monthly net wage	1,921	1,527	0	134511.5	310,460
Individual annual total income	20,361	24,434	0	2,580,000	530,228
Equivalized post-tax post-transfer annual income	26,433	18,731	0	2,155,394	530,228
Insurance and Utilization					
Hospital nights in past calendar year	1.6652	8.3794	0	365	530,228
Doctor visits in past 3 months	2.4941	4.1436	0	99	461,971
Privately insured	1	0	1	1	57,558

Source: SOEP (2018), the long version from 1984 to 2016. Whenever the number of person-year observations is less than 530,228 the question was not asked in all years from 1984 to 2016. For example, *Doctor visits in past 3 months* has only been routinely asked since 1995. *Privately insured* indicates that 57,558/530,228=10.8% of all observations are by people who are insured on the GLTHI market. All income measures have been consistently generated and cleaned by the SOEP team; e.g., *Monthly gross wage* is labeled *labgro* and *Monthly net wage* is labeled *labnet* in SOEP (2018). See Section 4.2 for a detailed discussion of the variables.

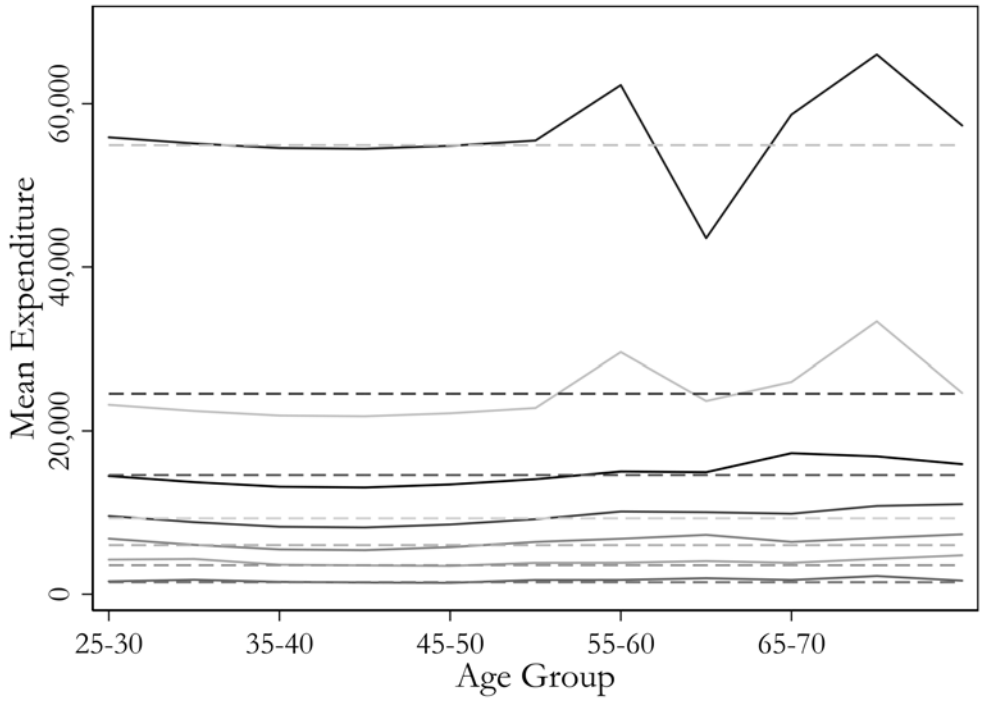


Figure A1: Predicted Health Expenditure

Note: Solid curves represent mean expenditure by age for each risk category λ_t, estimated according to Equation (8) in Section 5.2. The dashed lines represent the corresponding predictions assuming expenditure does not depend on age.

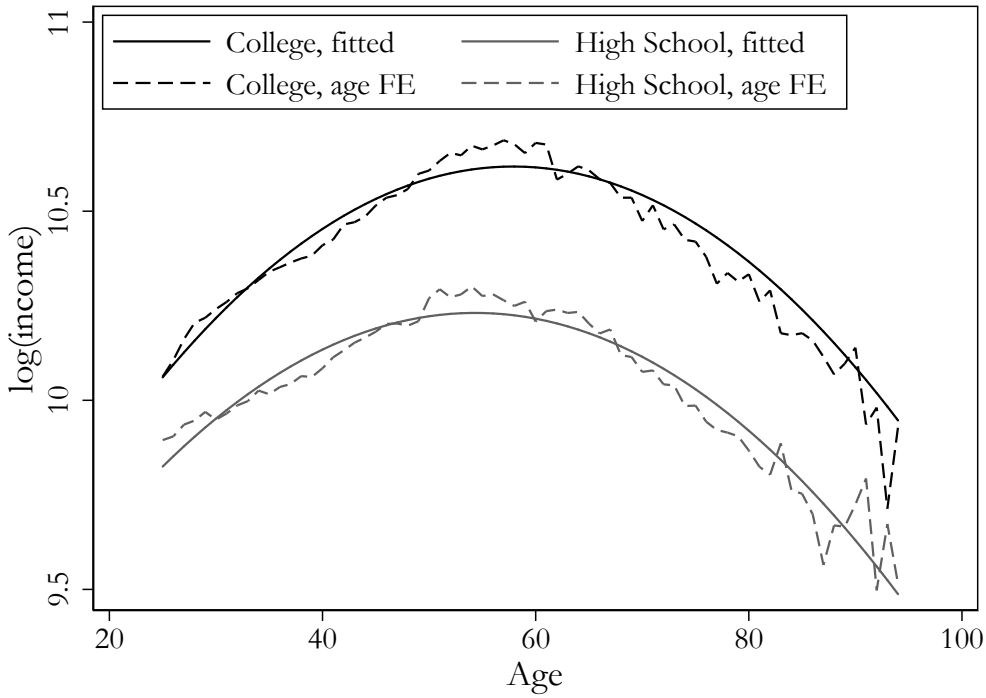


Figure A2: Lifecycle Income Paths for the United States, Nonparametric and Fitted.

Source: Panel Study of Income Dynamics (2018); Frick et al. (2007), years 1984 to 2015. All values in 2016 USD.

Appendix B

Switching from GLTHI to SHI

As mentioned in Section 2, the decision to enter the private market is essentially a "lifetime decision." The basic social insurance principle is: "Once private, always private[ly insured]." Below, we discuss the specific and very limited institutional exemptions for GLTHI enrollees to return to the public SHI system. We also provide empirical evidence on the switching rates.

First, for people above the age of 55, switching back to the public system is essentially impossible, even when their income decreases substantially or when they become unemployed. One of the few options for people above 55 would be to exit the labor force and enroll under the public family insurance of the spouse, if available. Rules for switching back to SHI have been very strict for older employees to avoid strategic switching to the private system when individuals are young and healthy and switching back to the public system when they are old, sick and have little income (and thus low income-dependent contribution rates).

Second, people below the age of 55 can only return to the public system if they become unemployed (and receive UI benefits), or if their gross wage from dependent employment permanently drops below the income threshold. However, assuming an average annual premium of €3,900 (as observed in our data), for an equally high SHI premium (15.5% of the gross wage), annual labor income would need to be as low as €25,000 which does not make sense from a stratical point of view for the overwhelming majority of cases. Moreover, switching to SHI entails loosing the entire old-age provisions which averaged about $33K per policyholder in 2018 (Association of German Private Healthcare Insurers, 2019c). Moreover, switching back to GLTHI in the future would imply risk reclassification.

Third, the self-employed below 55 can only switch to SHI if they give up their business and become an employee with a gross salary below the income threshold (see Social Code Book V, Para. 6 for details of the law, Büser, 2012; Cecu, 2018).

Official statistics show that the absolute number of people who switched from the private to the public system has been relatively stable at around 130,000 since the beginning of the 1990s, which corresponds to around 1.5 percent of the GLTHI market per year.[53] Figure B1 below uses SOEP

[53] As the total number of GLTHI enrollees has steadily increased over the last decades, this implies declining switching rates over time. Several reforms in the last decades are likely to be the cause of these declining switching rates over time: The *Gesundheitsreformgesetz* of December 20, 1988 substantially tightened the possibility of switching for pensioners; the *Gesundheitsstrukturgesetz*, passed on December 21, 1992, also likely affected switching between the systems as it introduced the free choice of SHI sickness funds, along with other provisions about the regulation of private insurers. Likely due to these and other reforms (e.g. the *GKV-Wettbewerbsstärkungsgesetz* of 2007), the rate as a share of all privately insured has declined in the last decades.

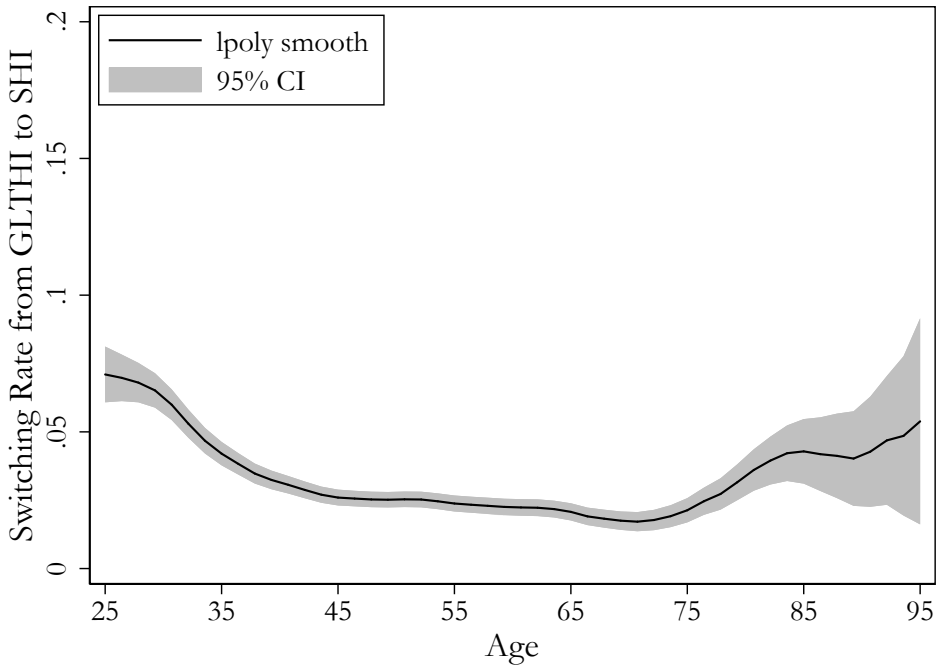


Figure B1: Likelihood to Return to SHI by Age

Source: SOEP (2018), the long version from 1984 to 2016. Epanechnikov kernel, degree 0, bandwidth 2.6.

data to plot switching rates by age. As seen, the likelihood to return to SHI decreases substantially between the age of 25 and 35. We conjecture that this is mostly because people who were privately insured as students enter the labor market and have to enroll in SHI if their gross salaries are below the income threshold. Switching rates remain stable at a low level between age 40 and age 75, and then slightly increase again. Using a fixed effects regression for the probability of switching to SHI among the universe of Germans who were at least once policyholder of a comprehensive private plan, we find very few significant determinants of switching back from the private to the public system. In particular, health care utilization measures (number of hospital nights and doctor visits) are not significant determinants and neither is the equivalized household income. The results of this analysis are available upon request.

Finally, we would like to point out that the historically grown institutional features of the German system induce advantageous selection into the GLTHI. The is almost the case by construction as private insurers have the right to deny coverage (or impose pre-existing condition clauses) to the sick. Hence, the sick basically remain publicly insured with SHI (Nuscheler and Knaus, 2005; Hullegie and Klein, 2010; Polyakova, 2016; Panthöfer, 2016).[54] While the main purpose of our paper is to

[54]When children of privately parents are also privately insured by their parents, under a family plan or a separately private plan, parents have to pay premiums for each child. These are typically relatively modest as no old-age provisions are built for children. Moreover, if parents sign a private GLTHI contract for their child within two months after birth, risk rating is prohibited. In addition, some insurers offer a relatively unknown "option insurance" (*Optionstarif*) which

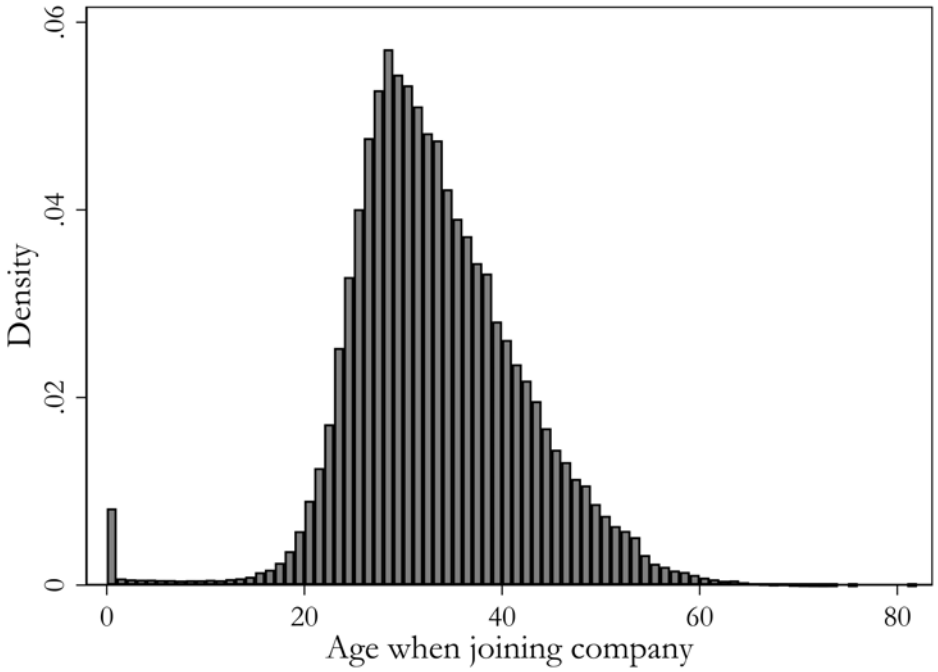


Figure B2: Age Distribution of Initial Plan Inception

Source: German Claims Panel Data.

present, discuss and evaluate the basic principles of the GLTHI market, it is a real-word possibility for sick people to have a public option in Germany. Confirmed by the welfare analysis, it is clear that GLHI only maximizes welfare when people are relatively healthy at the time of their application. This insight has policy implications, which we discuss in Section 8. If other countries would design a market after the GLTHI and allow insurers to deny coverage (or impose guaranteed issue at all stages but allow risk-rated premiums), then a public option (either direct provision of insurance of premium subsidies) for those who are sick in young ages is necessary to avoid uninsurance and underinsurance. Note that the uninsurance rate in Germany is around 0.1 percent—in 2015, only 69 thousand individuals were without health insurance coverage (German Statistical Office, 2016).

is mostly sold in combination with supplemental (to SHI basic coverage) private hospital, dental, or travel insurance for which insurers carry out risk ratings. This initial risk rating then purchases the policyholder the option to purchase a GLTHI contract with that specific insurer without another risk rating within 6 to 10 years (and once one becomes eligible to opt out). No official numbers on the practical relevance of this option insurance are available. However, Google Trends yields zero hits, Google Scholar only 17 total hits, and a keyword search in the German *Handelsblatt* (similar to the *Wall Street Journal*) yields only one single hit for the *Optionstarif*, whereas it yielded 152 for the *Basistarif* which covers 0.4% of privately insured (see footnote 6). As a very last point, a more widespread and commonly known option is to put the existing GLTHI contract on hold for a monthly fee (*Anwartschaftsversicherung*), for example, when temporarily moving abroad. When returning to Germany, people with that option can simply re-activate their contract under the old conditions (§ 204 VVG).

Appendix C

C1 Risk Classification: Robustness Checks

We expose the risk classification scheme derived in Section 5.1 to a number of robustness checks.

Winsorizing. First, we analyse the extent to which results are driven by outliers in m_{it}. It is of course desirable that outliers are considered in the classification, given their disproportionate contributions to means and variances; however, if the performance of the classification were widely different when they are not considered, it would cast doubt on how well the scheme performs with regard to less extreme risks. Therefore, we compared the performance of different classification schemes after the top percentile of expenditure had been been winsorized. Results are provided in Figure C1. As expected, the topcoding of outliers improves the predictive power of all schemes; however, their relative performance is unaffected by this change.

Lags of classes. Second, we compare two different ways of including a longer history of claims. Instead of expanding on the information set Λ_t before discretising, we consider an alternative based on $\Lambda_t^* = \lambda_t^*$ but where we consider the predictive power of the classification scheme interacted with its lags (i.e. a classification based on K^2 classes). Results are provided in Figure C2. It compares the two alternatives $q = 0$ and $q = 1$ from above, and in addition an interacted version, where the classification is based on $q = 0$ but this classification scheme is interacted with its lags in the regressions (leading effectively to K^2 classes). Clearly, this alternative has similar, actually even better, predictive power than $q = 1$. However, the variant with $q = 1$ thus achieves similar performance with a much smaller number of classes.

Sample selection. The results in Figure 4 are based on a sample of individuals who are observed over 4 years, since three lags are needed in Λ_{it}^*. In figure C3 we check how robust the finding is to varying the observation window required for sample selection. Sample 1 requires only that m_i and λ_t^* are observed, sample 2, also that λ_{t-1}^* is observed, and sample 3 in addition that λ_{t-2}^* is observed. The results provided in Figure C3 show that the predictive performance is sensitive to the sample used; however, the relative performance between schemes is the same regardless of the sample considered.

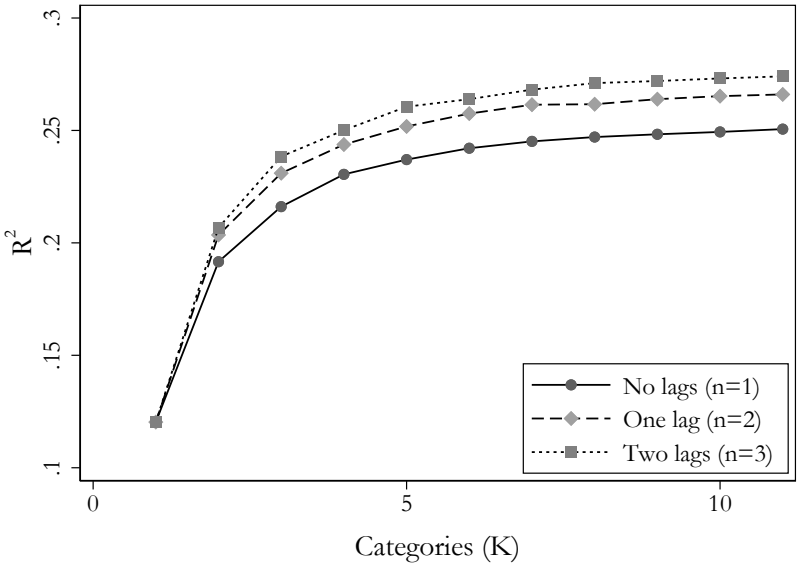


Figure C1: Performance of Alternative Risk Classifications: Winsorized Expenditure.

Note: Each specification includes 21 age times gender fixed effects, 5 year fixed effects and 79 plan fixed effects. Source: German Claims Panel Data.

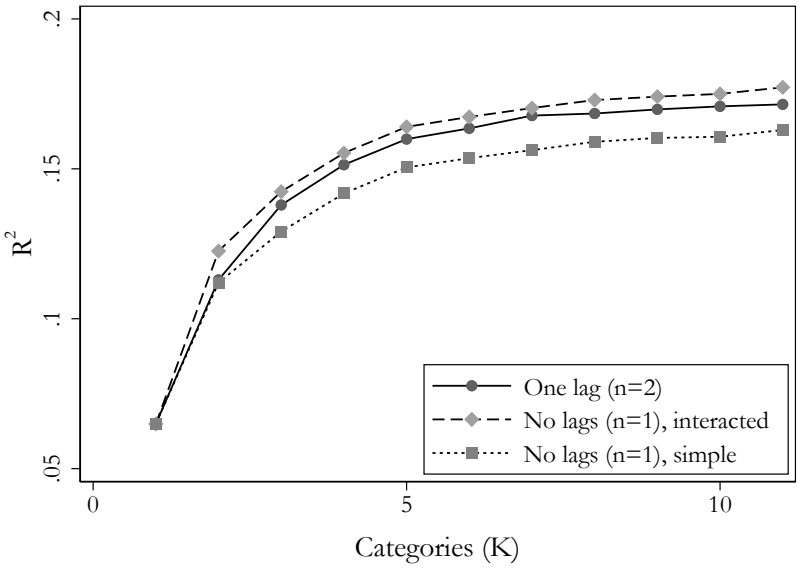


Figure C2: Performance of Alternative Risk Classifications: lags of classification.

Note: Each specification includes 21 age times gender fixed effects, year fixed effects and 79 plan fixed effects. Source: German Claims Panel Data.

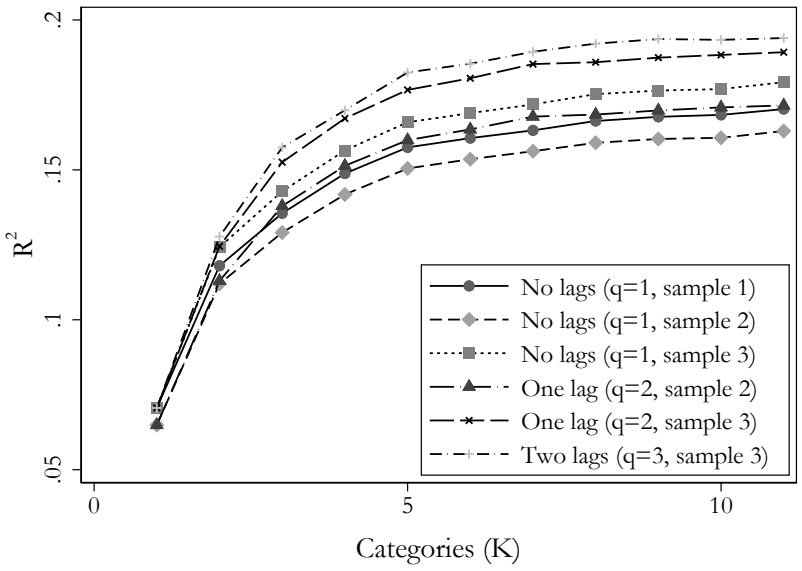


Figure C3: Performance of Alternative Risk Classifications: Different Samples.

Note: Each specification includes 21 age times gender fixed effects, year fixed effects and 79 plan fixed effects. Source: German Claims Panel Data.

Table C1: λ Risk Category Transitions by Age Group—Ages 25–54

		λ_{t+1}							
Age	λ_t	1	2	3	4	5	6	7	8 (†)
25-29	1	0.8907	0.1024	0.0047	0.0011	0.0004	0.0003	0.0001	0.0004
	2	0.3197	0.4257	0.2020	0.0432	0.0077	0.0011	0.0003	0.0003
	3	0.1242	0.2829	0.4104	0.1404	0.0378	0.0043	0.0000	0.0000
	4	0.0892	0.1688	0.2484	0.3917	0.0860	0.0159	0.0000	0.0000
	5	0.0938	0.1250	0.0625	0.3750	0.2917	0.0521	0.0000	0.0000
	6	0.0909	0.0000	0.0455	0.2273	0.3182	0.3182	0.0000	0.0000
	7	0.0000	0.0000	0.0002	0.0045	0.0240	0.1447	0.7619	0.0647
30-34	1	0.8767	0.1145	0.0055	0.0018	0.0009	0.0002	0.0001	0.0003
	2	0.3212	0.4347	0.1909	0.0438	0.0080	0.0006	0.0001	0.0007
	3	0.1241	0.3015	0.4080	0.1409	0.0229	0.0016	0.0000	0.0011
	4	0.1039	0.1640	0.2407	0.3739	0.1032	0.0115	0.0007	0.0021
	5	0.0734	0.0911	0.0506	0.2911	0.3747	0.1089	0.0025	0.0076
	6	0.0422	0.0438	0.0529	0.1678	0.3628	0.2450	0.0525	0.0329
	7	0.0128	0.0115	0.0083	0.0574	0.1545	0.1663	0.4524	0.1368
35-39	1	0.8427	0.1480	0.0055	0.0022	0.0009	0.0002	0.0001	0.0004
	2	0.2798	0.4635	0.2113	0.0360	0.0076	0.0013	0.0000	0.0005
	3	0.1177	0.2379	0.4850	0.1288	0.0275	0.0028	0.0001	0.0002
	4	0.0719	0.0967	0.3055	0.4085	0.0999	0.0158	0.0003	0.0014
	5	0.0743	0.0493	0.0691	0.3402	0.3629	0.0958	0.0039	0.0045
	6	0.0415	0.0331	0.0340	0.1180	0.2958	0.4009	0.0455	0.0312
	7	0.0127	0.0088	0.0054	0.0409	0.1276	0.2757	0.3975	0.1313
40-44	1	0.8514	0.1392	0.0050	0.0024	0.0010	0.0003	0.0001	0.0006
	2	0.2862	0.4666	0.2050	0.0329	0.0075	0.0014	0.0001	0.0003
	3	0.1137	0.2229	0.5134	0.1225	0.0241	0.0022	0.0001	0.0011
	4	0.0790	0.0769	0.2936	0.4213	0.1113	0.0157	0.0003	0.0018
	5	0.0640	0.0392	0.0759	0.3281	0.3763	0.1055	0.0038	0.0072
	6	0.0295	0.0382	0.0342	0.1605	0.2773	0.3613	0.0539	0.0450
	7	0.0081	0.0091	0.0049	0.0502	0.1079	0.2240	0.4247	0.1710
45-49	1	0.8148	0.1736	0.0059	0.0028	0.0012	0.0006	0.0002	0.0009
	2	0.2267	0.5059	0.2229	0.0329	0.0093	0.0013	0.0001	0.0010
	3	0.0653	0.2027	0.5708	0.1309	0.0258	0.0031	0.0001	0.0012
	4	0.0427	0.0712	0.2877	0.4655	0.1153	0.0140	0.0005	0.0029
	5	0.0303	0.0438	0.0475	0.3570	0.3964	0.1101	0.0058	0.0090
	6	0.0153	0.0266	0.0211	0.1118	0.2919	0.4163	0.0607	0.0563
	7	0.0038	0.0057	0.0027	0.0314	0.1021	0.2321	0.4298	0.1923
50-54	1	0.8117	0.1740	0.0056	0.0035	0.0020	0.0008	0.0004	0.0020
	2	0.2283	0.4979	0.2228	0.0377	0.0101	0.0016	0.0002	0.0015
	3	0.0602	0.1799	0.5727	0.1509	0.0317	0.0027	0.0001	0.0018
	4	0.0398	0.0648	0.2660	0.4930	0.1160	0.0155	0.0007	0.0041
	5	0.0274	0.0387	0.0426	0.3666	0.3866	0.1182	0.0075	0.0124
	6	0.0130	0.0222	0.0179	0.1084	0.2688	0.4220	0.0746	0.0732
	7	0.0028	0.0042	0.0020	0.0265	0.0819	0.2049	0.4600	0.2176

Source: German Claims Panel Data. Sample includes all years, 25-30 year old enrollees, and uses the ACG© score as λ.

Table C2: λ Risk Category Transitions by Age Group—Ages 55+

		λ_{t+1}							
Age	λ_t	1	2	3	4	5	6	7	8 (†)
55-59	1	0.7261	0.2537	0.0101	0.0037	0.0020	0.0013	0.0004	0.0027
	2	0.0932	0.6432	0.2123	0.0357	0.0110	0.0018	0.0004	0.0025
	3	0.0002	0.1739	0.6167	0.1690	0.0335	0.0044	0.0001	0.0024
	4	0.0001	0.0637	0.2426	0.5404	0.1287	0.0180	0.0007	0.0058
	5	0.0001	0.0356	0.0363	0.3758	0.4009	0.1282	0.0069	0.0163
	6	0.0000	0.0195	0.0145	0.1061	0.2662	0.4370	0.0650	0.0917
	7	0.0000	0.0037	0.0016	0.0260	0.0813	0.2126	0.4016	0.2732
60-64	1	0.7558	0.2147	0.0145	0.0044	0.0042	0.0019	0.0011	0.0033
	2	0.1023	0.6414	0.1981	0.0387	0.0120	0.0031	0.0004	0.0040
	3	0.0002	0.1612	0.6076	0.1836	0.0394	0.0053	0.0001	0.0028
	4	0.0001	0.0555	0.2243	0.5507	0.1419	0.0204	0.0008	0.0063
	5	0.0001	0.0292	0.0317	0.3610	0.4168	0.1370	0.0075	0.0168
	6	0.0000	0.0153	0.0122	0.0980	0.2660	0.4489	0.0686	0.0910
	7	0.0000	0.0028	0.0013	0.0235	0.0794	0.2136	0.4143	0.2651
65-69	1	0.3707	0.5949	0.0172	0.0076	0.0030	0.0015	0.0009	0.0042
	2	0.0624	0.6492	0.2407	0.0352	0.0065	0.0012	0.0004	0.0045
	3	0.0008	0.1058	0.6561	0.2082	0.0223	0.0013	0.0000	0.0056
	4	0.0002	0.0335	0.2013	0.6242	0.1261	0.0052	0.0005	0.0090
	5	0.0000	0.0128	0.0159	0.3546	0.4985	0.0763	0.0019	0.0400
	6	0.0000	0.0000	0.0107	0.0551	0.4067	0.3517	0.0195	0.1563
	7	0.0006	0.0066	0.0029	0.0264	0.0553	0.1690	0.5289	0.2103
70-74	1	0.3848	0.5793	0.0225	0.0060	0.0011	0.0003	0.0014	0.0048
	2	0.0070	0.6771	0.2554	0.0406	0.0105	0.0012	0.0000	0.0082
	3	0.0001	0.0810	0.6277	0.2599	0.0230	0.0014	0.0001	0.0068
	4	0.0002	0.0115	0.1625	0.6579	0.1404	0.0080	0.0002	0.0195
	5	0.0000	0.0015	0.0184	0.2829	0.5654	0.0736	0.0010	0.0572
	6	0.0000	0.0000	0.0000	0.0327	0.3039	0.4052	0.0065	0.2516
	7	0.0005	0.0056	0.0033	0.0184	0.0172	0.0263	0.7192	0.2094
75+	1	0.1770	0.5900	0.0442	0.0995	0.0598	0.0063	0.0083	0.0150
	2	0.0006	0.6237	0.2903	0.0471	0.0094	0.0012	0.0000	0.0277
	3	0.0000	0.0525	0.5876	0.2988	0.0254	0.0012	0.0000	0.0344
	4	0.0000	0.0029	0.1012	0.6668	0.1623	0.0055	0.0008	0.0605
	5	0.0000	0.0000	0.0060	0.2262	0.5581	0.0837	0.0028	0.1232
	6	0.0000	0.0000	0.0019	0.0206	0.3127	0.4064	0.0225	0.2360
	7	0.0000	0.0000	0.0000	0.0000	0.1111	0.1481	0.4630	0.2778

Source: German Claims Panel Data. Sample includes all years, 25-30 year old enrollees, and uses the ACG© score as λ.

C2 Sample Selection: Robustness Checks

This robustness section focuses on plans with low deductibles. We consider a stricter sample selection rule, where we only include plans with deductibles below \$400.[55] These plans have approximately full coverage and thus more reliable information on the universe of health care expenditures. Summary statistics for this subsample are provided in Table C3. A comparison with the numbers in Table A1 makes clear that the two samples are very similar in terms of age, gender and history with the company. On the other hand, the restricted sample has a greater share of employees and civil servants, but a smaller share of self-employed. The plan characteristics are also similar to a great extent—with the obvious exceptions of deductible size and average claims.

Table C3: Summary Statistics: Low-Deductible Plans

	Mean	SD	Min	Max	N
Socio-Demographics					
Age (in years)	44.8	11.8	25.0	99.0	879,468
Female	0.256	0.437	0.0	1.0	879,468
Policyholder since (years)	7.7	5.3	1.0	40.0	879,468
Client since (years)	13.9	11.7	1.0	84.0	879,468
Employee	0.414	0.493	0.0	1.0	879,468
Self-Employed	0.281	0.449	0.0	1.0	879,468
Civil Servant	0.280	0.449	0.0	1.0	879,468
Health Risk Penalty	0.338	0.473	0.0	1.0	879,468
Pre-Existing Condition Exempt	0.015	0.121	0.0	1.0	879,468
Health Plan Parameters					
TOP Plan	0.342	0.475	0.0	1.0	879,468
PLUS Plan	0.397	0.489	0.0	1.0	879,468
ECO Plan	0.261	0.439	0.0	1.0	879,468
Annual premium (USD)	5,208	2,005	0	33,037	879,374
Annual risk penalty (USD)	133	347	0	21,214	879,468
Deductible(USD)	154	164	0	395	879,468
Total Claims (USD)	3,868	9,064	0	2,345,126	879,468

Source: German Claims Panel Data. *Policyholder since* is the number of years since the client has enrolled in the current plan; *Client since* is the number of years since the client joined the company. *Employee* and *Self-Employed* are dummies for the policyholders' current occupation. *Health Risk Penalty* is a dummy that is one if the initial underwriting led to a health-related risk add-on premium on top of the factors age, gender, and plan; *Pre-Existing Conditions Exempt* is a dummy which equals one if the initial underwriting led to a coverage exclusion of services for some conditions. The mutually exclusive dummies *TOP Plan*, *PLUS Plan* and *ECO Plan* capture the generosity of the plan. *Annual premium* is the annual premium, and *Annual Risk Penalty* is the amount of the health risk penalty charged. *Deductible* is the deductible and *Total Claims* the sum all claims in a calendar year. See Section 4.1 for further details.

[55] This is the lowest cutoff for the deductible which gives us a sufficient number of observations to analyze health risk transitions within each age group.

Figure C4 compares the distributions of λ^* in the two samples. As expected, the zero-deductible plans have higher ACG© scores in general.

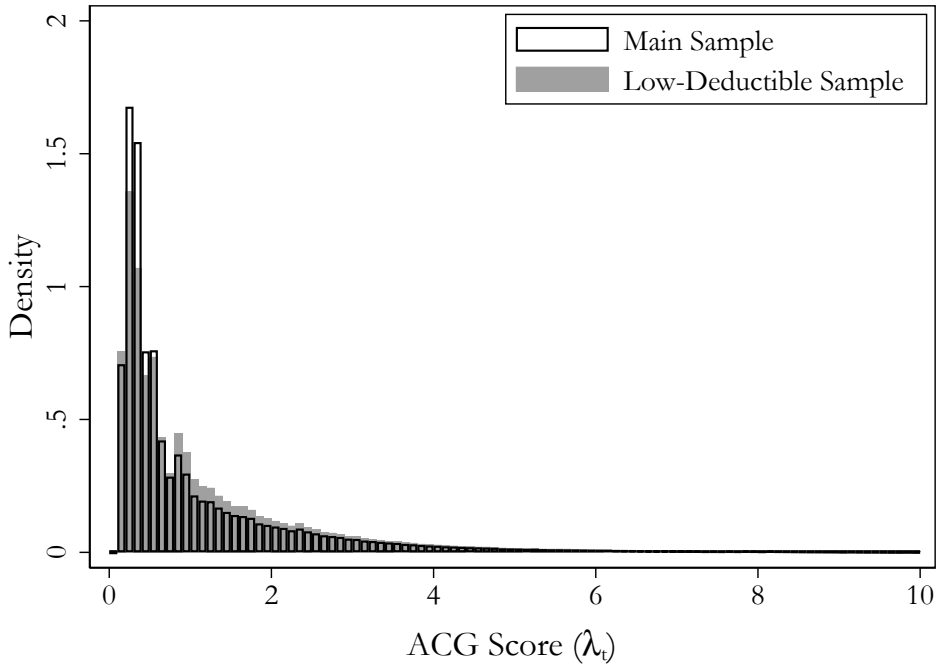


Figure C4: Distribution of λ^* for Main Sample vs. Low-Deductible Plans.

Table C4 shows how clients distribute over different risk categories by age in the low-deductible sample. A comparison with Table 2 confirms that the individuals in the low-deductible sample are in slightly worse health.

Table C4: Health Risk Categories λ by Age Group: Low-Deductible Sample

Age	1 (Healthiest)	2	3	4	5	6	7 (Sickest)
25-30	0.739	0.190	0.049	0.016	0.006	0.001	0.000
30-35	0.672	0.225	0.069	0.025	0.007	0.002	0.000
35-40	0.559	0.282	0.112	0.034	0.011	0.003	0.000
40-45	0.507	0.291	0.141	0.043	0.015	0.003	0.000
45-50	0.406	0.317	0.190	0.060	0.021	0.005	0.001
50-55	0.316	0.311	0.244	0.090	0.030	0.008	0.001
55-60	0.172	0.309	0.320	0.139	0.045	0.013	0.002
60-65	0.093	0.263	0.361	0.190	0.069	0.022	0.003
65-70	0.038	0.200	0.423	0.252	0.072	0.014	0.002
70-75	0.011	0.131	0.403	0.333	0.107	0.015	0.001
75+	0.000	0.055	0.286	0.453	0.179	0.024	0.003

Source: German Claims Panel Data. Sample includes all age groups and uses the ACG© score for the classification.

Table C5 shows the transition probabilities between different health states in the low-deductible sample. The probabilities are very similar to those reported in Table 3.

Table C5: Health Risk Category Transitions: Low-Deductible Sample

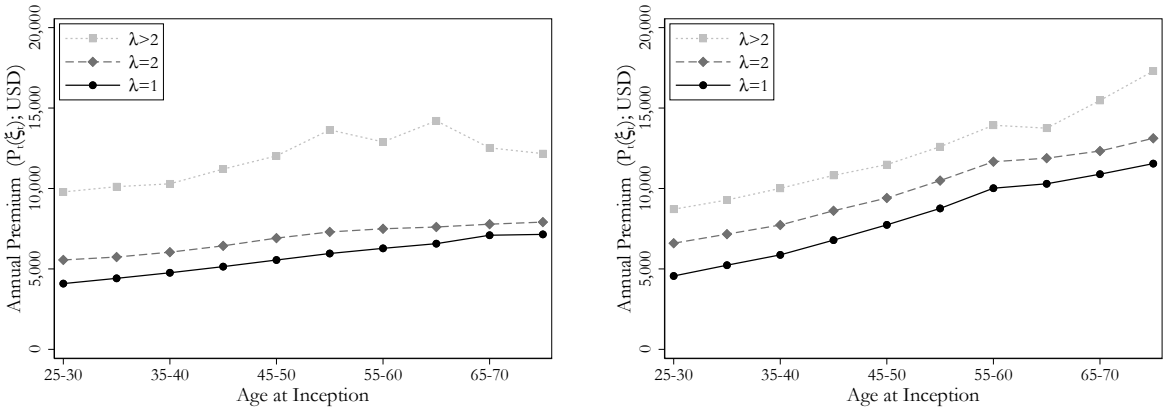
	λ_{t+1}							
λ_t	1	2	3	4	5	6	7	8 (†)
1	0.797	0.192	0.007	0.002	0.001	0.000	0.000	0.001
2	0.186	0.536	0.234	0.033	0.008	0.001	0.000	0.001
3	0.038	0.167	0.602	0.160	0.026	0.003	0.000	0.003
4	0.015	0.041	0.237	0.555	0.126	0.012	0.000	0.014
5	0.014	0.018	0.034	0.339	0.453	0.103	0.004	0.035
6	0.007	0.012	0.016	0.104	0.311	0.401	0.051	0.097
7	0.000	0.000	0.003	0.028	0.113	0.228	0.423	0.204

Source: German Claims Panel Data. Sample includes all years, all age groups, and uses the ACG© score for the classification.

Appendix D

D1 German LTHI Premium Profiles

Figure D1 compares the (a) calibrated and (b) observed premium profiles for individuals entering their plan at different ages. In both figures, the highest category ($\lambda_t > 2$) is a weighted average calculated according to the actual distribution of λ_t in the different age groups.



(a) Calibrated (b) Observed

Figure D1: Calibrated vs. Actual Starting Premiums $P_t(\xi_t)$ by Age at Inception

Source: German Claims Panel Data. In Figure D1 (b), the sample includes all years and all health plans, and clients who have been in their contract for 2 to 5 years. We adjusted premiums for the three benefit categories *TOP, PLUS, ECO* and deductible size.

Appendix E

E1 Trading Off the Medicare Payroll Tax and Medicare Premiums

In this section, we evaluate the welfare consequence of changing the timing of payments into Medicare. Our baseline scenario assumes that Medicare coverage is completely free without any premium. However, the actual Medicare program in the US entails a premium (Part B) and cost-sharing provisions (Part A and B). In the context of our lifecycle model, premiums and cost-sharing provisions backload Medicare expenses by reducing the Medicare tax rate required to fund Medicare.

As a first approach, we maintain the assumption of no cost-sharing, but vary the level of premiums charged during retirement. Specifically, we assume a Medicare premium p has to be paid, starting at age 65. The associated Medicare tax rate $\tau(p)$ is such that the revenue neutrality condition holds

$$\tau(p)\,\mathbb{E}\left(\sum_{25}^{64} S_t \delta^{t-24} y_t\right) = \mathbb{E}\left(\sum_{65}^{94} S_t \delta^{t-24}\,(m_t - p)\right)\Bigg($$

It is clear from this equation that a higher premium at old age is compensated by a lower tax rate at younger ages. Figure E1 shows this trade-off, where the x-axis depicts the tax rate that is needed for each premium level depicted on the y-axis.

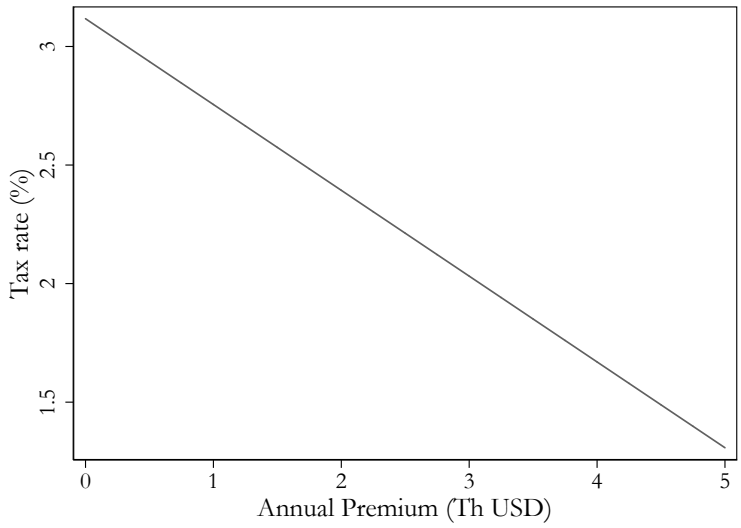


Figure E1: Tax Rate and Medicare Premium

Figure E2 shows welfare for the combined GLTHI + Medicare case, and when charging a Medicare premium in addition to the Medicare tax. The x-axis shows different premium levels, and the y axis shows the welfare consequences.

Three findings emerge from Figure E2: (1) a higher Medicare premium (and thus lower tax rate) is

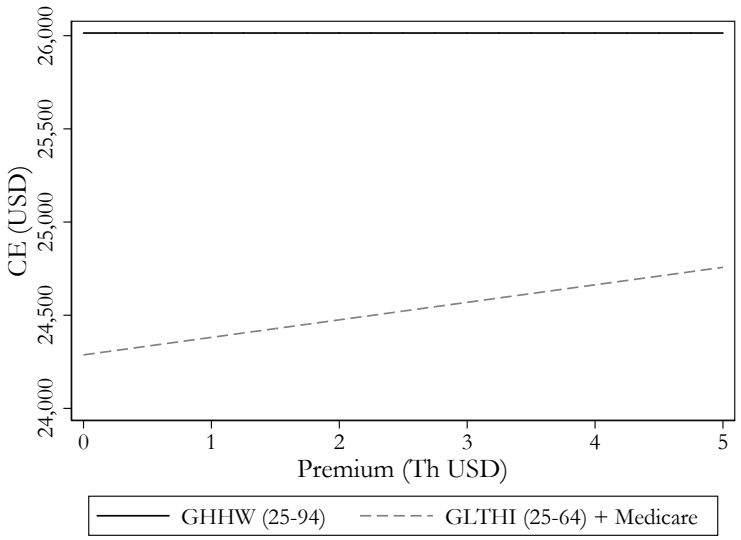


Figure E2: Welfare of GHHW and Medicare with different Premiums

desirable from a welfare perspective, and (2) at any premium level, GHHW does better than GLTHI.

To understand the intuition behind the welfare result in Figure E2, Figure E3 shows the expected lifecycle consumption profiles under (a) GHHW over the entire lifecycle, (b) GLTHI + Medicare with a zero premium and the corresponding tax rate in Figure E1, (c) GLTHI + Medicare with a premium of $5K and the corresponding tax rate in Figure E1.

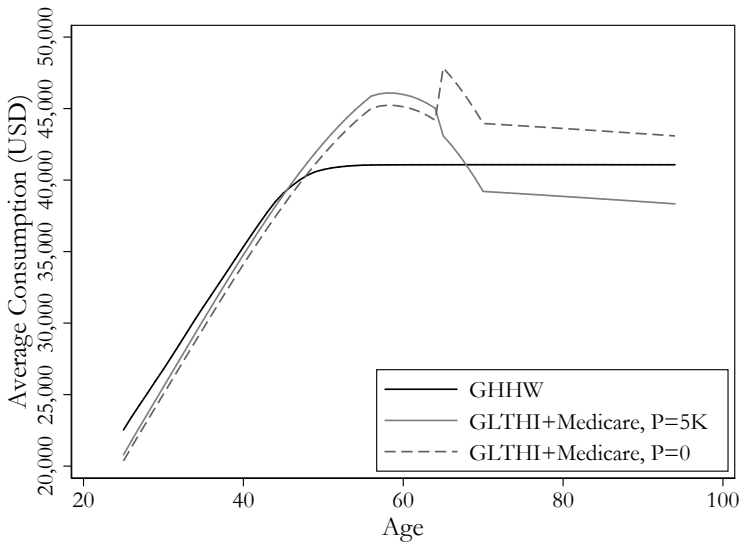


Figure E3: Expected Consumption Profile

Figure E3 illustrates that a higher Medicare premium increases consumption in early ages (because it decreases the tax rate). Under the GLTHI + free Medicare scencario, one observes a sharp increase in consumption at retirement, because individuals stop paying GLTHI premiums and stop

paying Medicare taxes. Under the GLTHI + Medicare with a $5K premium scenario, one observes a reduction in consumption at retirement because the Medicare premiums exceeds the GLTHI premium. Figure E3 also illustrates than even a very large Medicare premium (and almost zero Medicare tax) does not outperform GHHW because it fails to achieve the same level of consumption at early ages. Compared with the optimal contract, it still has too much frontloading.

Appendix F

We provide the derivation for the formula of the certainty consumption equivalent for Epstein-Zin preferences, provided in Equation (13). Preferences are defined recursively as

$$V_t = F(c_t, R_t(V_{t+1})),$$

with $R_t(V_{t+1}) = G^{-1}(\mathbb{E}_t G(V_{t+1}))$. As mentioned in the main text, we use the CES aggregator for $F(c,z) = \left((1-\delta)c^{1-1/\psi} + \delta z^{1-1/\psi}\right)^{\frac{1}{1-1/\psi}}$, and incorporate the CARA utility function as $G(c) = u(c) = \frac{1}{\gamma}e^{-\gamma c}$.

Throughout we have assumed that utility is zero if the individual is dead. We can re-interpret V_t as the value of being alive in period t. Under that interpretation, one can write preferences recursively as:

$$V_t = \left((1-\delta)\, c_t^{1-1/\psi} + s_t \delta R_t \left(V_{t+1}\right)^{1-1/\psi}\right)^{\frac{1}{1-1/\psi}} \tag{14}$$

where s_t is the probability of survival between t and $t+1$.

We now derive an expression for the certainty equivalent consumption c for any given value V_t under recursive preferences. Consider the situation in which consumption (while alive) is constant and equal to c. This means that $R_t\left(V_{t+1}\right) = V_{t+1}$, and therefore we can re-write

$$V_t = \left((1-\delta)\, c^{1-1/\psi} + s_t \delta \left(V_{t+1}\right)^{1-1/\psi}\right)^{\frac{1}{1-1/\psi}} \tag{15}$$

Replacing the V_{t+1} in Equation (15) as a function of V_{t+2} yields

$$\begin{aligned} V_t &= \left((1-\delta)\, c^{1-1/\psi} + s_t \delta \left(\left((1-\delta)\, c^{1-1/\psi} + \delta s_{t+1} \left(V_{t+2}\right)^{1-1/\psi}\right)\right)^{\frac{1}{1-1/\psi}}\right)^{\frac{1}{1-1/\psi}} \\ &= \left((1-\delta)\, c^{1-1/\psi} + s_t \delta \left(1-\delta\right) c^{1-1/\psi} + s_t s_{t+1} \delta^2 V_{t+1}^{1-1/\psi}\right)^{\frac{1}{1-1/\psi}} \end{aligned}$$

Iterating forward we can show that

$$\frac{V_t^{1-1/\psi}}{1-\delta} = \sum_{j=t}^{T} c^{1-1/\psi} \delta^{j-t} S_t^j$$

where $S_t^j \equiv \Pi_{k=t}^{j} s_k$ is the survival probability from t to j. Solving for c, we get an expression defining the certainty equivalent:

$$c = \left(\frac{\frac{V_t^{1-1/\psi}}{1-\delta}}{\sum_{j=t}^{T} \delta^{j-t} S_t^j} \right)^{\frac{1}{1-1/\psi}} \left(\right. \tag{16}$$

Equation (16) provides the certainty equivalent consumption to a program that provides value V_t.

We are interested in the certainty equivalent taking into account the uncertainty regarding the "birth state" ξ_{t_0}. Denote the value of this lottery V_b. It can be expressed as a function of V_{t_0} (the value at age 25):

$$V_b = G^{-1}(\mathbb{E}_0(G(V_{t_0}(\xi_{t_0})))) \tag{17}$$

where $\mathbb{E}_0()$ takes expectations with respect to the uncertain "birth" state, ξ_{t_0}.

For each contract, we can compute the value $V_{t_0}(\xi_{t_0})$, for each state ξ_{t_0}, *via* backwards induction. Plugging Equation (17) into Equation (16), applied to the initial period t_0 we get the expression in the text.

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ABSTRACT

Using a general equilibrium heterogeneous agent model featuring health production, we quantify the relative contribution of price distortions in the health market, TFP and other health risks in explaining cross-country differences in health expenditure (as a share of GDP) and health status. Estimated parameters reveal a substantial price wedge that explains at most 20% of the difference in health spending (as a share of GDP) and 30% of the difference in health status between Europe and the U.S. We estimate a one percentage point negative impact on the life-time cost-of-living of Americans from higher prices due to inefficiencies.

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1 Introduction

Large differences in health expenditures are observed across countries. In 2018, the U.S. spent 17% of its GDP on health while Germany spent 11.2% and Italy 8.8% (Health Statistics, OECD 2018).[1] This increasing share of resources devoted to health care is thus one of the largest fiscal challenges facing many OECD countries, and in particular, the United States. One could argue that these differences in health expenditures are the result of differences in wealth and that health is a luxury good: as Americans are richer, they devote a larger share of their wealth to healthcare services. Yet, the aggregate level of health expenditures does not appear to be strongly associated with health outcomes despite compelling evidence that healthcare services improve health. Americans have been repeatedly found to be in worse health than Europeans (Banks et al., 2006) and experiment higher incidence rates for various diseases (Solé-Auró et al., 2015). In this paper, we will argue that the cross-country relationship between health expenditures and health status does identify the marginal return of health services given that prices and quantities of healthcare services vary substantially across countries. Hence, an analysis of understanding why health care spending and health is different across countries needs to account for these differences.

There is compelling evidence of substantial cross-country variation in **prices** for the same services, a **health services wedge**.[2] For example, there is evidence showing that the cost of medical interventions, the price of drugs and physician compensation are significantly larger in the U.S. than European countries (Anderson et al., 2003, Danzon, 2018, Laugesen and Glied, 2011). Cutler and Ly (2011) argue that much of these differences in costs come from the administrative burden of managing a complex reimbursement system while the relationship between providers and payers (insurers) may lead to important wedges due to asymmetric information. At a macro level, Horenstein and Santos (2018) show that the large part of the U.S. gaps of health expenditures as a share of GDP may be driven by the markup increases in the U.S. health care sector. Hence, higher prices due to inefficiencies have the potential of leading to a higher share of income devoted to health, without improving health outcomes.

The **quantity** of health services may also vary across countries. First, due to higher prices

[1] https://www.oecd.org/health/health-statistics.htm

[2] The idea to use structural model in order to identify wedges to the efficient allocation has already been used by e.g. Ohanian et al. (2008) who explain cross-country differences in long-term changes in hours worked.

resulting from the health service wedge, even if evidence on the price elasticity of health services suggest a relatively inelastic demand curve (see Manning et al. (1987)). Second, differences in total factor productivity (TFP), an **efficiency wedge**[3], may explain differences in quantity of health services. The earlier literature on differences in health expenditures has identified income as a key source of differences. Nevertheless, Gerdtham and Jonsson (2000) conclude that the income elasticity of health expenditures is close to one which would suggest, as Newhouse (1992) points out, that income differences cannot explain large variation of the income share of health expenditures. However, Hall and Jones (2007) estimate life-cycle models yielding much higher income elasticities, which partially explains the rise in health expenditures in the U.S. These authors suggest that income elasticity may have been underestimated in previous studies.

As far as we know, there is no general equilibrium model recognizing the endogeneity of health expenditures, health and economic resources that allows to quantify heterogeneous wedges (health services and efficiency) across countries. Indeed, a vast majority of the literature has dealt with the impact of financial incentives on health expenditures or the role of rising income on these expenditures, while the impact of inefficiencies induced by health providers' behavior has received less attention. In order to separately identify health services and efficiency wedges, we build on the framework developed by Aiyagari (1994), augmented with health production as in Grossman (1972). This heterogeneous framework accounts for the well-known within country relationship between income/wealth and health (Avendano et al., 2009, Smith, 1999). We estimate structural parameters and the two wedges (the health services and efficiency wedges) using a Method of Simulated Moments (MSM), thereby exploiting cross-country disparity in economic resources, health expenditures and health outcomes as well as within country variation (the income-health gradient). Our estimation is performed on 8 countries (the U.S., Sweden, Denmark, the Netherlands, Germany, France, Italy, and Spain). Within this framework, we estimate welfare costs of these wedges using a new measure which can be interpreted as a life-time cost of living index which accounts for the immediate and long-run benefits of investing in health as well as general equilibrium effects.

We find that the U.S. are characterized by the highest health service wedge (ie. the highest price of health services), while its efficiency wedge is one of the lowest (ie. the highest TFP). Our

[3] Chari et al. (2007) build a macroeconomic model to show that this *efficiency wedge* can be generated by frictions that cause factor inputs to be used inefficiently. This inefficient factor utilization maps into efficiency wedges and thus a lower TFP.

estimation shows that the U.S. price of health services is 15% larger than the average price in European countries. In addition, we find that efficiency wedge cannot account for cross-country differences in health expenditures and health. Using counterfactuals, we show that, when health price distortions in the U.S. have the same order of magnitude as in Europe, the gap in health expenditures would be reduced by 20% while the gap in terms of health status would be reduced by 30%. Differences in terms of health dynamics, which could be the result of differences in underlying risk factors (obesity, smoking, etc) account for a large share of the difference in health spending and health outcomes across countries. Other differences, such as co-insurance rate or the income risks, can not explained the cross-country differences in health status and expenditures. Overall, given that health accounts for less than 15% of resources and Americans substitute away from health due to higher prices which leads to both partial and general equilibrium effects, we find that the extra-cost of living that Americans bear is equivalent to one percentage point in life-time expenditures. As for health inequalities, we show that health service wedge *i)* increases the income-health gradient by 30% and *ii)* makes high-income Americans bear the largest additional cost-of-living.

The paper is structured as follows. In section 2, we document substantial differences in health services prices across countries and discuss other sources of variation that can explain differences in health expenditures and health services across countries. In section 3, we present the general equilibrium model that will be used to fit the data. In section 4, we present the data and estimation method we use and report estimates of the model and its predictive performance. In section 5, counterfactual simulations allows us to decompose the cross-country differences in health indicators between the size of the wedges and the elasticities of aggregate to these wedges. We then explore welfare impacts (section 6). Finally, section 7 concludes.

2 Price and Quantity Differences Across Countries

Separating price and quantity and in particular constructing a comparable price index for health services is a difficult task. Information systems are different across countries and price information is not always available, in particular in health systems that do not impute all cost to episodes of care. One would also want to compare the same services or the same quantity of services. This is possible for some services but not for others. Finally, different countries use a different mix of

inputs to produce the same output. In Table 1, we report various price estimates that we have been able to gather from studies attempting to compare prices across countries. The International Federation of Health Plans (IFHP, 2013) collects data from private health insurance plans on cost for various procedures and drugs. An angiogram costs 914 dollars in the U.S. compared to 264 in France and 125 in Spain. Hence, the cost in Spain was 13.6% that of the same procedure in the U.S. and 28.8% for France. Similar numbers are obtained for a scan of the abdomen or a bypass surgery. Canada Patented Medicine Prices Review Board (2016) construct a price index for patented drugs in OECD countries (weighted by Canadian sales). The price index reveals substantially lower prices in European countries relative to the U.S. Laugesen and Glied (2011) report information on physician compensation for primary care and for hip replacement. Again, evidence points to higher prices in the U.S. compared to European countries. From OECD Statistics Health data, we find that hospital spending per discharge is also lower in Europe compared to the U.S. (from 27% to 73% of U.S. spending). All this evidence, although imperfect, suggest that prices in the U.S. appear to be larger than in Europe.

Cutler and Ly (2011) investigate administrative costs, given that the U.S. has a distinctive health care system: providers and insurers are typically distinct economic agents. In Figure 1 we report the share of administrative costs in health expenditures (OECD, 2013). In the European countries we consider, we observe lower administrative health care costs than in the U.S.

Price differences reflect both quality or quantity differences in health care services. If so, Americans would be in much better health than their European counterparts. In fact, some evidence suggest that this is unlikely to be the case. In Table 1, we report a measure of efficiency of health services by looking at 5-year cancer survival rates for 4 common cancers: colon, cervical, breast and leukemia. Relative to the U.S., the dispersion in cancer survival rates is very low. Most countries use best treatments and practices with limited dispersion in outcomes. For some cancers, survival rates are lower in Europe while for others, they are higher. On some measures, Americans are using less the health care system (Anderson et al., 2003) while, on others, it appears that the use of medical care is much more intensive in the U.S. (Cutler and Ly, 2011). However, the impact of this intense use of health care in terms of better health remains unclear.

Other factors can explain cross-country differences in health and health expenditures. First, the health insurance system can transfer health services from the richest to the poorest, thus improving

aggregate health status. Second, while higher expenditures may lead to better health, the causality may also run in the opposite direction. The rapid growth of obesity in the U.S. relative to other countries may also explain part of the differences in health expenditures across countries (Thorpe et al., 2004, 2007). According to Cutler et al. (2003), part of the differences in obesity between the U.S. and Europe could originate from differences in food production technology and regulation, which leads to higher relative price of less healthy food choices. Third, it is well known that the U.S. earning risks is larger in European labor markets. This risk has an ambiguous impact on health. A large earning risk may evict health expenditure because agents need to insure themselves against consumption fluctuations (using precautionary savings). However, at the aggregate level, capital accumulation increases output and thus average earnings, which affects the demand for health services and health expenditures as a share of GDP. Hence, in order to estimate the magnitude of health service and efficiency wedges from these observed cross country differences, our model will take into account country-specific co-insurance rate, health behaviors, income process and technology. Hence, we propose a parsimoneous heterogeneous agent general equilibrium model that accounts for these factors.

3 General Equilibrium Model

3.1 Households

Agents are heterogeneous with respect to their productivity level $e \in \mathcal{E}$, health status $h \in \mathcal{H}$ and asset holding $a \in \mathcal{A}$. Let us denote e^t and h^t the histories of respectively productivity levels and health status up and until time t.[4] A Markov process $\{e \in \mathcal{E}, \widetilde{\pi}(e'|e), \widetilde{\pi}_0(e_0)\}$ where $\widetilde{\pi}(e'|e)$ is the productivity's transition matrix, and $\widetilde{\pi}_0(e_0)$ its initial value. This Markov process induces distributions $\widetilde{\pi}_t(e^t)$ over time-t histories e^t and another Markov process $\{h \in \mathcal{H}, \pi(h'|h,m), \pi_0(h_0,m_0)\}$ induces distributions $\pi_t(h^t, m_t)$ over time-t histories h^t for an optimal choice for health service, m_t. The probability $\pi(h'=1|h,m)$ of being in good health ($h'=1$) next period, given the current health

[4] It is well known that health expenditures are related to age: older agents spend more on health services. However, in our sample of countries, the age structure cannot be at the heart of the explanation of health outcomes and health expenditures cross-country differences. Indeed, the U.S. have the lowest dependency ratio with the highest share of health expenditures, and Italy the largest dependency ratio, with the smallest GDP share of health expenditures. This leads us to build a parsimonious model that discard life-cycle features, unlike French and Jones (2011), Hugonnier et al. (2013) or De Nardi et al. (2016).

status h, depends on the choice of health services m. It can be interpreted as a health production function and probabilities are therefore endogenous. The probability of being in bad health is given by $\pi(h'=0|h,m) = 1 - \pi(h'=1|h,m)$, $\forall h, m$.

Preferences. Households value both their consumption and their health status. Households' preferences can be described by the following standard expected discounted utility

$$\sum_{t=0}^{\infty} \beta^t \sum_{e^t} \sum_{h^t} \widetilde{\pi}_t(e^t)\pi_t(h^t, m_t)u(c_t, h_t) \tag{1}$$

where $0 < \beta < 1$ is the time discount factor, $c \geq 0$ is consumption. As in De Nardi et al. (2010), health can be either good ($h = 1$) or bad ($h = 0$), therefore $\mathcal{H} = \{0, 1\}$. We assume that the instantaneous utility is additive in consumption c and health h:

$$u(c, h) = \frac{c^{1-\sigma}}{1-\sigma} + \phi h. \tag{2}$$

with $\phi > 0$ the utility benefit of good health, and σ is averse risk parameter.[5]

From health service expenditures to health status. Each agent can spend his resources on consumption c and health services m. Health services m improve the probability of being in good health next period. Next period's variables are denoted with a prime. In addition, we assume that the function that maps health services in health status is

$$\pi(h'=1|h,m) = 1 - \exp(-(\alpha_0 m + \alpha_{1h})). \tag{3}$$

Parameters α_{10} and α_{11} are exogeneous and govern both the level and persistence of health, conditional on m, while α_0 captures the productivity of m.

Resource Constraint. Labor income is affected by an idiosyncratic stochastic process e that determines the value of efficient labor.[6] e is the sum of an AR(1) permanent shock with parameters

[5] We pick an additive specification as in Hall and Jones (2007).

[6] Unlike Grossman (1972)'s model, health status does not affect agents' earnings in our model. Indeed, there are different views on the link between wage and health. Grossman favors the view that good health improves productivity and thus wages, but Rosen (1974) underlines that wages must be adjusted upwards to compensate for high health risks (compensating wage differential model). We chose here to be neutral.

(ρ_e, σ_e). Market incompleteness prevents agents from insuring against the idiosyncratic risk. In addition to labor income, agents collect capital income from asset holding a, with interest rate r. Next period's asset a' is then

$$a' = (1+r)a + we(1-\tau) - c - \mu pm. \tag{4}$$

Labor income is taxed at a flat-tax rate τ which will be used to finance public health expenditures. After-tax income and assets are allocated between consumption c, health services m and saving for next period. The relative price of health services with respect to consumption is denoted p while the co-insurance rate (the fraction of private expenditures in total health expenditures) is denoted μ. In addition, assets have to satisfy a borrowing constraint

$$a' \geq 0. \tag{5}$$

Demand for Health Services and Savings. For the agent, the state variables are the realizations of the stock of wealth, a, health status h, and the household-specific shock, e. The dynamic program solved by an agent in state (a, h, e) is

$$V(a,h,e) = \max_{m,c} \left\{ \frac{c^{1-\sigma}}{1-\sigma} + \phi h + \beta \sum_{e'} \widetilde{\pi}(e'|e) \left[\begin{array}{l} \pi(h'=1|h,m)V(a',h'=1,e') \\ +(1-\pi(h'=1|h,m))V(a',h'=0,e') \end{array} \right] \right\} \tag{6}$$

subject to equations (4) and (5). V denotes the agent's value function. The solution of this problem is a set of decision rules that maps the individual state into choices for consumption and health services. We denote these rules by $\{c(a,h,e), m(a,h,e)\}$.

3.2 The Supply of Health Services

The health sector consists of a provider and a payer. The provider (e.g. a hospital) buys inputs from the good-producing firm in order to transform goods into health services, which are sold to a payer (public and private insurers). The payer buys health services from the provider in order to sell them to households. We focus on two key differences across countries which may explain differences

in prices as suggested by Cutler and Ly (2011): informational frictions and administrative costs.[7] We formalize these differences in a simple framework.[8]

The provider transforms inputs b_h into health services though the production function $b = zb_h$ where z is the productivity of health service producers. Administrative costs in the health system are introduced through sunk costs ($\iota p_p b$), with a fraction $\iota > 0$ proportional to firm revenue $p_p b$, where p_p is the provider's price. For simplicity, assume that the output of the provider can have a high or a low quality: $q \in \{0; 1\}$. When quality is high, the provider supplies the adequate service to a patient and collects profit $\Pi_b^h = p_p(1-\iota)b - b_h$. When the quality is low ($q = 0$), the provider does not provide the adequate service (shirks) but bills to the payer (only incurs administrative costs). When the provider shirks, he collects profit $\Pi_b^s = p_p(1-\iota)b$. The payer can detect shirking behavior with probability $\zeta \in [0, 1]$. To maximize profits, the payer will propose an incentive contract such that $p_p = \frac{1}{\zeta(1-\iota)z}$.[9,10] In order to avoid the redistribution of the informational rent collected by providers through financial market, we assume that providers support entry costs to enter this market.[11]

The quantity of health services supplied to households is $m = q(p_p)b$. Using the equilibrium price contract $p_p = \frac{1}{\zeta(1-\iota)z}$ that ensures that $q = 1$ at the equilibrium, we get $m = q(p_p)b = b$. The total revenue of the payer is pm, where p is the price of health care services paid by households. We assume a competitive market for payers.

Property 1. *The price of health services p increases with administrative costs and informational frictions between providers and payers.*

Proof. The zero profit condition leads to $p = \frac{1}{\zeta(1-\iota)z} \equiv \mathcal{P}(\zeta, \iota)$ with $\mathcal{P}'_\zeta < 0$ and $\mathcal{P}'_\iota > 0$. □

Property 1 shows that the gap between US price p_{US} and the European price p_E increases from

[7] The possibility that information frictions lead to misallocation in the health market was first recognized by Arrow (1963).

[8] For more detailed discussions on this point, see the surveys of Newhouse (1996), Dranove and Satterthwaite (2000) and Gaynor and Vogt (2000), or Gaynor and Town (2012).

[9] As usual in the contract theory, this equilibrium price p_p is deduced from the equalization of the value of the provider providing high quality services and the one who shirks.

[10] Another way to generate a gap between the effective price and the reservation price $\frac{1}{z}$ (the production cost), is to introduce bargaining between the payer and the provider. The Nash product is then given by $(p - p_p)^{1-\zeta}(p_p z - 1)^{\zeta}$. In this case, the equilibrium price is $p_p = \zeta p + (1 - \zeta)\frac{1}{z}$. The larger the provider's bargaining power (ζ), the higher the price. See Gowrisankaran et al. (2015) or Ho and Lee (2017) for a detailed discussion on the bargaining between providers and payers, in a general framework where insurers bargain also with the consumers.

[11] These costs are paid in goods and are proportional, at the equilibrium, to the size of these firms, measured by their inputs quantities, ie. $C_I = c_I b_h$ leading to the restriction $c_I = \frac{1-\zeta}{\zeta}$.

$\zeta \approx 0$ (the extreme case with infinite informational frictions) to $\zeta \approx 1$: the larger the providers' informational rent, the higher the price in countries with informational frictions. The health wedge increases with frictions.[12,13] Moreover, when administrative costs increase, the price of health services increases. This can be the case when the number of operators/intermediaries is uselessly large in the market, perhaps due to the administrative burden of handling the insurance reimbursement process. On the other hand, it is possible that providers in Europe, being in the public sector, are less efficient at producing b (lower z) which would lead to higher prices. In our model, frictions on the supply side of health services generate the health services wedge, implying a price differential between countries.

3.3 Good-Producing Firm

Production Y is characterized by constant returns to scale using aggregate capital K and labor N as inputs:

$$Y = AK^{\alpha}N^{1-\alpha} \tag{7}$$

A captures technological factor productivity (TFP) and $0 < \alpha < 1$ the capital share in GDP. The firm operates under perfect competition such that profit maximization leads to

$$r = \alpha A \left(\frac{N}{K}\right)^{1-\alpha} - \delta_k \tag{8}$$

$$w = (1-\alpha) A \left(\frac{K}{N}\right)^{\alpha} \tag{9}$$

with w the wage rate, r the interest rate, and δ_k capital annual depreciation rate.

[12] We can interpret these informational frictions as the imperfectly observed physicians' effort at work by the hospital manager. Then, the larger the physicians' informational rent, the higher the price. This can be consistent with the findings of Cutler and Ly (2011) underlining that specialist U.S. physicians earn 5.8 times what the average worker does, compared to the non-U.S. average of 4.3 times.

[13] In the case where the markup price is determined by a bargaining between payers and providers, two cases can arise: the US system where the provider's bargaining power is large in a decentralized market, and the European case where, in all countries, a public system reduces the provider's bargaining power, by setting the price at its lowest level.

3.4 Health Insurance System

Health insurance reimburses medical expenditures using proportional taxes on labor income:

$$\tau w N = (1-\mu)p \sum_e \sum_h \sum_a m(a,h,e)\lambda(a,h,e) \tag{10}$$

where $\lambda(a,h,e)$ is the stationary distribution of individuals across individual states (a,h,e). Given the co-insurance rate μ, the tax rate τ must finance expenditures. Using equation (9), we get that tax rate is proportional to the GDP share of health expenditures.

3.5 Definition of Equilibrium

A steady-state equilibrium for this economy is a household value function, $V(a,h,e)$; a household policy, $\{c(a,h,e), m(a,h,e)\}$; a health insurance system, τ; a stationary probability measure of households, λ; factor prices, (r,w); and macroeconomic aggregates, K, N, such that the following conditions hold:

(a.) Factor inputs, tax revenues, and transfers are obtained aggregating over households:

$$K = \sum_e \sum_h \sum_a a\lambda(a,h,e), \quad N = \sum_j e_j N_j$$

(b). Given K, N, factor prices r and w are factor marginal productivity ((8) and (9)).

(c.) Given r, w and τ, the household policy solves the households' problem (6).

(d.) Tax rate τ adjusts such that health insurance budget constraint (10) is satisfied.

(e.) The goods market clears: $Y = \sum_e \sum_h \sum_a [c(a,h,e) + pm(a,h,e)]\lambda(a,h,e) + \delta_k K$, where the equilibrium on health services market implies

$$\sum_e \sum_h \sum_a pm(a,h,e)\lambda(a,h,e) = pb = (1+c_I)b_h \quad \text{with} \quad c_I = \frac{1-\zeta}{\zeta}$$

(f.) The price of health services is $p = \frac{1}{\zeta(1-\iota)z}$. This sector does not generate profit.[14]

[14] The zero-profit conditions on the health sector imply that only the consumption of health appears in Equation (4).

(g.) The measure of households $\lambda(a, h, e)$ is stationary.

4 Data and Estimation

We aim to estimate health services and efficiency wedges along with other parameters of the general equilibrium model for countries $g = 1, ..., G$. We follow a two-step method of simulated moments approach. In a first step, a set of common parameters $(\sigma, \phi, \beta, \alpha_0)$ and U.S. specific parameters $(\alpha_{10}, \alpha_{11})$ are estimated on U.S. data. In a second step, we estimate wedges (relative to the U.S.) using this set of common parameters, for seven European countries: Sweden, Denmark, the Netherlands, Germany, France, Italy, and Spain. We allow for variation in parameters $(\alpha_{10}, \alpha_{11})$ across countries to capture unobserved differences in health status (obesity, smoking, etc) and estimate them jointly with wedges. Finally, we allow for considerable heterogeneity in economic resources (income risk (ρ_e, σ_e) and the goods producing technology (α, δ)) as well as health insurance across countries (μ).

The assumption of common preferences is commonly made in macro models estimated across countries (Chari et al., 2007, Ohanian et al., 2008). The assumption that α_0 is also common across countries deserves some discussion. Given information frictions for the supply of health services, differences in the use of inputs (b_h) or productivity of medical care (z) is reflected in the price that was required in order to induce the provider to provide high quality care. Hence, the assumption that α_0 is common to all countries implies that the ability of any m to produce h is the same across countries. The marginal cost of producing good health is given by $\frac{p}{\pi'_m(h'|h,m)}$ which is country specific despite a common α_0. Evidence from Table 1 suggest that price dispersion is much larger than dispersion in outcomes (at least for cancer) which is consistent with the assumption of a common α_0 but country-specific p.

We first describe how auxiliary parameters are set using external information. Second, we use a method of simulated moments to estimate remaining parameters.

4.1 Auxiliary Parameters

We use different sources of data to obtain auxiliary parameters. These auxiliary parameters are country-specific.

Income Risk. Estimating income processes requires panel data. For the United States, we use eight years of the Panel Study of Income Dynamics (PSID) data (1990 to 1997). Data after 1997 is collected every two years, complicating the estimation of the income process. For European countries, we use eight years of the European Community Household Panel (ECHP) from 1994 to 2001.[15] We first net out the effect of age from income by regressing an household's total after-tax income on a flexible age polynomial and obtain residuals. We use after-tax household income as it allows for differences across countries in social programs that may mitigate income risk. For the error component, we assume the following process

$$\eta_t = e_t + u_t \quad \text{with} \quad e_t = \rho_e e_{t-1} + \nu_t$$

where ν_t is the innovation to the persistent component, distributed $N(0, \sigma_e^2)$, whereas the transitory component u_t is distributed $N(0, \sigma_u^2)$. Table 2 shows the estimates of the income process. Overall, the variances of the transitory component are similar. As in French and Jones (2011), we assume this transitory component reflects measurement error and fix it to zero in the model. The estimates of the stationary variance of the permanent component are larger in the U.S. than in European countries. We find considerable persistence in income, with autocorrelation coefficients ranging from 0.9697 (Netherlands) to 0.9798 (Spain). The main source of the difference in income risk is the scale of the innovation to permanent income. The variance of the permanent shock is roughly twice as large in the U.S. compared to Europe.

Co-insurance rates. We use average aggregate data from OECD Health Data over the period 1995-2015 to compute the co-insurance rate μ across countries and over the period. We define the co-insurance rate as private out-of-pocket household expenditures as a percentage of health expenditures. Table 3 shows estimates of μ across countries. Spain and Italy have large share of private (out-of pocket) over total health expenditures, while France and the Netherlands have the smallest shares. The U.S. ranks in the middle.

[15] Data for Sweden spans a few waves only. Hence, we assign Danish parameters to Sweden. The labor market and the extent of social programs are similar in both countries.

Technology of the good-producing firms. We use Penn World Table (Feenstra et al., 2015) in order to estimate the country-specific shares of capital (α) and the depreciation rates (δ_k). The values reported in Table 3 give the estimates for the period 1995-2015. The share of capital in production (α) is between 0.36 (Denmark) to 0.47 (Italy), the value for the US being 0.384. In the case of the depreciation rate (δ_k), the estimates range between 0.038 (Spain) to 0.048 (US).

4.2 Method of Simulated Moments

We have three groups of structural parameters to estimate. The vector of preference parameters is given by $\{\beta, \sigma, \phi\}$. Preference parameters are assumed identical across countries. Then, we need to estimate α_0, the parameter that governs the impact of health expenditures on the probability to be in good health. Finally, we have four country-specific parameters, $\{A_g, p_g, \alpha_{g,10}, \alpha_{g,11}\}$ for each country g, capturing *efficiency wedges*, measured by TFP gaps in producing goods (A_g), *health services wedges*, measured by price gaps of health services (p_g) and exogenous *health risks*, measured the constants $\{\alpha_{g,10}, \alpha_{g,11}\}$ in the health production function.

The structural parameter vector to estimate is given by

$$\Theta = \left\{\beta, \sigma, \phi, \alpha_0, \{\alpha_{g,10}\}_{g=1}^{G}, \{\alpha_{g,11}\}_{g=1}^{G}, \{A_g\}_{g=1}^{G}, \{p_g\}_{g=1}^{G}\right.$$

Method. Denote the set of country specific auxiliary parameter estimated earlier χ_g and $\chi = \{\chi_1, ..., \chi_G\}$. For each country, consider a set of M_g simulated moments denoted

$$m_g(\Theta_g, \chi_g) = \left\{m_{g,1}(\Theta_g, \chi_g), ..., m_{g,M_g}(\Theta_g, \chi_g)\right. \quad . \tag{11}$$

while moments from the data are denoted $m_{g,N}$. Denote $W_{g,N}$ a positive definite weighting matrix which depends on the data. We choose a diagonal matrix with elements equal to the inverse of the variance of each moment as a weighting matrix. For moments involving microdata, we use the bootstrap to find the variance while we use the time-series variation to compute the variance for aggregate moments.

We could stack moments of each country and estimate parameters jointly. This procedure is numerically difficult and does not exploit the fact that many parameters are country specific. Since

our objective is to estimate wedges relative to the U.S., we first estimate common parameters $(\beta, \sigma, \phi, \alpha_0)$, and $(\alpha_{US,10}, \alpha_{US,11})$ using a set of U.S. targets:

$$\Theta_{US} = \arg\min \left[m_{US}(\Theta_{US}, \chi_{US}) - m_{US,N}\right]' W_{US,N} \left[m_{US}(\Theta_{US}, \chi_{US}) - m_{US,N}\right] \tag{12}$$

We then estimate country specific wedges and health risks given these parameter estimates Θ_{US},

$$\Theta_g = \arg\min \left[m_g(\Theta_g, \chi_g) - m_{g,N}\right]' W_{g,N} \left[m_g(\Theta_g, \chi_g) - m_{g,N}\right], \quad \forall g \neq US. \tag{13}$$

where $\Theta_{US} = \{\beta, \sigma, \phi, \alpha_0, \alpha_{US,10}, \alpha_{US,11}\}$ and $\Theta_{g \neq US} = \{\alpha_{g,10}, \alpha_{g,11}, A_g, p_g\}$.

Denote by $D_{g,N}$ the matrix of derivatives of the moment vector relative to parameters for country g. This can be obtained numerically at the estimated value of the parameters. When using as weighting matrix the inverse of the covariance matrix of the data, the variance of estimates collapses to (Cameron and Trivedi (2005), page 174): $V_{g,N} = (D'_{g,N} W_{g,N} D_{g,N})^{-1}$.[16]

Choice of the moments and identification. In order to identify structural parameters, we combine a set of aggregate moments and moments derived from micro data. The vector of moments for each country g is given by

$$\begin{aligned} m_{US} &= \left\{C/Y, s, \tilde{p}_{1|0}, \tilde{p}_{1|1}, \overline{p}_2, \overline{p}_3, \overline{p}_4 \right. \\ m_{g \neq US} &= \left\{\tilde{Y}_g, s_g, \tilde{p}_{1|0,g}, \tilde{p}_{1|1,g}, \overline{p}_{2,g}, \overline{p}_{3,g}, \overline{p}_{4,g}\right\} \end{aligned} \tag{14}$$

where C/Y is the ratio of consumption to GDP, $\tilde{Y}_g$ the GDP per capita relative to US (this moment is not included for the U.S.), s_g the share of health expenditures as a fraction of GDP, $\tilde{p}_{1|0,g}$ and $\tilde{p}_{1|1,g}$ the transition rates from bad to good and good to good heath status, $\overline{p}_{2,g}$, $\overline{p}_{3,g}$ and $\overline{p}_{4,g}$ the relative probability of being in good health within income quartiles $i = 2, 3, 4$, using the first quartile as a base. We define those below.

In a first stage, we estimate the 5 parameters using 6 moments on US data. 3 of them, namely $\{\sigma, \phi, \alpha_0\}$, are assumed to be the same across countries. Given that it is notoriously difficult to identify β from σ in an heterogeneous agent model, we calibrate the discount factor β using U.S. data provided by Gomme et al. (2011): if we approximate β as $1/(1 + r/(1 - \tau_k))$ with the after-tax

[16] We have abstracted from first-step noise introduced by the estimation of common parameters in the U.S.

returns $r \approx 5.16\%$ and the tax rate on capital $\tau_k \approx 40.4\%$, we obtain $\beta = 0.92$.

The parameter σ is pinned down by targeting C/Y. Transition rates by health status, $\tilde{p}_{1|0,US}$ and $\tilde{p}_{1|1,US}$, help pin down $\alpha_{US,10}$ and $\alpha_{US,11}$. Parameters (ϕ, α_0) are pinned down by the share of health expenditures in GDP and health transition rates. Consider a simplified static version of the agent's problem to focus on identification of these two parameters: $m = \arg\max \{\log(y - pm) + \phi h\}$ s.t. $h = 1 - e^{-\alpha_0 m}$. Consider two moments, namely $\{s, h\}$ respectively the share of health expenditures in income and the fraction in good health. The FOC of this problem, $\frac{p}{y-pm} = \phi\alpha_0 e^{-\alpha_0 m}$ leads to $\frac{1}{1-s} = \phi\widetilde{\alpha}_0 y e^{-\widetilde{\alpha}_0 sy}$ with $\widetilde{\alpha}_0 \equiv \frac{\alpha_0}{p}$. Therefore, one can obtain estimates for $\{\phi, \widetilde{\alpha}_0\}$ using the two following restrictions: *i)* $h = 1 - e^{-\widetilde{a}sy}$ and *ii)* $\frac{1}{1-s} = \phi\widetilde{a}ye^{-\widetilde{a}sy}$. Normalizing $p = 1$, we can solve for $\{\phi, \alpha_0\}$. The same idea applies to the full model.

In the second step, we use cross-country information to pin down relative efficiency, relative health prices and exogenous country-specific health risks. The heath transition matrix allows to identify $(\alpha_{10,g}, \alpha_{10,g})$ in each country g. GDP per capita relative to US pins down A_g. As for p_g, the simplified static problem of the agent is $m_g = \arg\max \{\log(y_g - p_g m_g) + \phi h_g\}$ s.t. $h_g = 1 - e^{-\alpha_0 m_g}$. The FOC leads to the following restriction: $\frac{1}{1-s_g} = \phi\frac{\alpha_0}{p_g} y_g e^{-\frac{\alpha_0}{p_g} s_g y_g}$, which can be solved for p_g provided s_g and y_g and estimated ϕ and α_0 from the first-stage. Identification is similar in the full dynamic model. Finally, the health-income gradient provides additional information for identification and allows to check whether the model is able to replicate the variation in the gradient across countries.

Data. We use the ratio of consumption to GDP (C_g/Y_g) and GDP per capita relative to US $(\tilde{Y}_g = Y_g/Y_{US})$ from Penn World Table (Feenstra et al., 2015) over the years 1995 to 2015. We use real consumption and real GDP per capita at 2011 level National prices (in millions, 2011 US, PPP-adjusted US dollars) to compute C/Y over the same period. We use information from OECD Health Data for the GDP share of health expenditures $(s = \frac{pm}{Y})$.

We use two longitudinal aging surveys to estimate health state transitions. For the U.S., we use the Health and Retirement Study (HRS, waves 2004 and 2006) while for Europe we use the Survey of Health, Ageing and Retirement in Europe (SHARE, waves 2004 and 2006). We focus on middle age to elderly respondents (age 50 to 75). These surveys use very similar questionnaires and sampling frames. We also use those data to estimate the gradient of health status by levels of

income. We use the existence of limitations with activities of daily living (ADL), which is asked in both surveys. These limitations include whether someone has difficulty with dressing, bathing, getting in and out of bed, eating and walking across a room. Of course, one could be interested in considering multiple dimensions of health but the computational burden of doing this prohibits this possibility. Limitations with activities of daily living is a reliable overall health measure predictive of mortality and use of physician services. It is likely less affected by reporting scale bias than self-reported health (reported from poor to excellent). The probability of not having any ADL is given by $\tilde{p}_g$ where argument g denotes country g. Denote by $\tilde{p}_{k|j,g}$ the joint probability of being in state j at time t and k at time $t+1$.[17]

To compute the health gradient, we use the distribution of net household income in 2005 PPP adjusted U.S. dollars. We use the quartiles of the distribution within country. We compute the fraction without ADL within each quartile, $\tilde{p}_{q,g}$ for $q = 1, 2, 3, 4$. We use as moments the fraction relative to the first quartile as a base: $\overline{p}_{q,g} = \tilde{p}_{q,g}/\tilde{p}_{1,g}$ for $q = 2, 3, 4$.

Estimated moments. We report in Figure 2 moments from the data. GDP per capita is in general 10 to 35% lower in European countries relative to the U.S. ($\tilde{Y}_g$). The U.S. spends 14.7% of GDP on health (s_g) while only two countries rise above 10% in Europe (France and Germany). In terms of transition rates into good health, the U.S. ranks last in terms of transition rates to good health irrespective of the origin state (good or bad). Finally, the health gradient by income quartile is much steeper in the U.S. than in any European country.

4.3 Estimation Results

4.3.1 Structural Parameters

Estimation results are reported in Table 4. Three parameters are common to all countries $\{\sigma, \phi, \alpha_0\}$. Other parameters, prices, TFP and exogenous health risks are country specific.

The coefficient of relative risk aversion, σ, is estimated at 2.113 which lies within the range of estimates found in the literature for precautionary saving models. Hall and Jones (2007) found a very similar value in their study. The marginal utility of being in good health is found to be

[17] Given that surveys measure health every two years, we recompute annual transition rates, solving $\tilde{\Pi}_2 = \tilde{\Pi}_1^2$ for $\tilde{\Pi}_1$ where Π_q is the markov transition matrix for q year transitions.

0.834. Given the curvature of utility, it implies that health is very valuable. Indeed, the additional utility of being in good health represents 80% of average consumption.[18] The parameter governing the marginal productivity of health investment α_0 is found to be equal at 0.145. This implies an elasticity of health transition from bad to bad health to medical expenditures of -0.5. This lies within the range of micro studies on health production function (see e.g. Romley and Sood (2013)).[19]

In order to gauge the plausibility of our parameter estimates, we compute elasticity of health expenditures pm to the co-insurance μ generated by the model. For the U.S. this elasticity is -0.43 in partial equilibrium (wage, interest rate and taxation are kept constant). This estimate is slightly larger than the elasticity found in the RAND Health Insurance Experiment (-0.2) (Manning et al., 1987) but close to estimates reported by De Nardi et al. (2010) and Fonseca et al. (2020). Our income elasticity estimate of health expenditures pm is 0.85 which is in the middle of the range of elasticities reported in Gerdtham and Jonsson (2000). In particular, it is close to the value estimated by Acemoglu et al. (2013) which is 0.7 but much lower than Hall and Jones (2007)'s finding (higher than 2).[20] Hence, our estimates do not suggest that health is a luxury good: higher income can not lead to a higher GDP share of health expenditures.[21]

We estimate strong state-dependence in health transition probabilities with the probability of being in good health next period being much larger if one is already in good than in bad health ($\alpha_{11} > 0 > \alpha_{10}$). A similar picture is found across countries. To get an overall picture of the health production function, Figure 3 reports transition probabilities as a function of m for each country. The variation across countries is driven by exogenous health risks $(\alpha_{11}, \alpha_{10})$ (see Table 5) [22]. When in good health, the health production function estimates suggest that the U.S. has

[18] We compute this number as follows: the expected utility in good health equals the expected utility in bad health if consumption in good health is reduced by 75%. As consumption in good health 6.5% higher than average consumption, we obtain that additional utility of being in good health is 80% of average consumption.

[19] Large number of empirical studies report the impact of medical expenditures on survival rate. We assume that the closest equivalent in our model is the health transition from bad to bad health.

[20] We compute this income elasticity for a one percent change in the equilibrium wage.

[21] With our model, a large GDP share of health expenditures can only be explained by health service wedge ($\widehat{p}$). Indeed, simple decomposition of the GDP share of health expenditures s of the variation sources (income y or price p) is $\widehat{s} = (\epsilon_y - 1)\widehat{y} + (1 - \epsilon_p)\widehat{p}$, where $x \equiv \frac{x_{US} - x_{EU}}{x_{US}}$ and ϵ_x for $x = y, p$ refers to the elasticity of health expenditures to x. In the data, we observe $\widehat{s} > 0$ and $\widehat{y} > 0$. Given that the model estimates lead to $\widehat{p} > 0$, $\epsilon_y < 1$ and $\epsilon_p < 1$, we have $\widehat{s} > 0$ iff $\widehat{p} > 0$ when $\widehat{y} > 0$.

[22] In order to provide an economic interpretation to the estimated $(\alpha_{11}, \alpha_{10})$, we compute the probability of being in good health for the estimated model and for a counterfactual model in which heterogeneity in health risks is removed (with $(\alpha_{11}, \alpha_{10})$ set at the average European level). The gap between these probabilities captures the pure effect of health risk heterogeneity. The Spearman correlation between this gap and per-capita alcohol consumption is -0.43. The Spearman correlation between this gap and daily calories supply from OECD health data is -0.33. These correlations have the correct sign providing suggestive evidence of a connection between the exogenous health risk

the lowest probabilities of remaining in good health, for any level of m. As for the probability of transiting from bad to good health, the U.S. does better and countries such as Denmark do worst. Those transition rates also reveal a kink in the production function. For too low levels of m, transition probabilities would be negative (per the specification chosen) and so are constrained to zero. At some level of m, which differs across countries, the marginal productivity of m becomes positive.

4.3.2 Estimated wedges across countries

The estimation procedure allows to measure the cross-country inefficiencies in terms of health prices and TFP (see Table 5): the health service and the efficiency wedges.

In terms of health services wedges, some European countries have much lower prices than the U.S. For example, Italy (0.641), Germany (0.770) and the Netherlands (0.772) have prices which are more than 20% lower than in the U.S. France has prices which are 16.5% lower. Other countries have prices which are quite close to the U.S., Denmark, Sweden and Spain have prices that are statistically and economically similar to those in the U.S. Price differences are smaller than those reported in Tables 1.[23]

The efficiency wedge captures the heterogeneity in economic development across countries. Only Denmark and Germany are statistically more productive (respectively 1.289 and 1.021) while the Netherlands (0.999) appears as efficient as the U.S. The other European countries suffer from a significant lack of efficiency but this gap is small (except for Italy, 0.710).[24]

4.3.3 Model fit

Figure 4 shows that the model succeeds in fitting the share of health expenditures ($s = pm/y$, the Spearman correlation is 0.93). The model slightly overestimates the transition rate from good to good health (p_{11}). In the data, p_{11} is very similar across countries, which makes it more difficult for the model to fit this dimension. The model still provides a satisfactory fit with a Spearman

and measures of health risky behaviors.

[23]The Spearman correlation between our measure of price and OECD health price index is 0.31. If we exclude Spain, the correlation goes up to 0.61. Indeed, ASPE (2018) reports that Spain displays the highest price within a set of Medicare drugs in several instances, but Spain never appears as the country offering the cheapest price for these drugs. The Spearman correlation excluding Spain is consistent with this view.

[24]The Spearman correlation between our estimates of the efficiency wedge (relative TFP) with the estimates by the Penn World Tables is 0.43, and goes up to 0.64 with Bergeaud et al. (2016)'s TFP.

correlation between the model's p_{11} and its empirical counterpart of 0.69. The model also provides a good fit of the transition from bad to good health (the Spearman correlation is 0.79 for p_{10}). The model matches the fact that the U.S. is the country where health inequalities are the largest, whereas the Netherlands is the country where they are the lowest. The income-health gradient at quartile 4 is satisfactory (the Spearman correlation is 0.5). With respect to the other income-health gradients, the data does not display enough heterogeneity, which makes it more difficult for the model to fit this dimension. Finally, the GDP differences are well reproduced (the Spearman correlation is 0.97 for Y).

5 Explaining Variation in Health Expenditures and Health Across Countries

The price of health services is approximately 15% larger in the U.S. than in Europe while technological efficiency is 5% higher in the U.S. than in Europe. Our estimation results also reveal that heterogeneity in exogenous health risks is important.

To quantify the effect of these differences, we focus on the GDP share of health expenditures (s), the fraction of individuals in good health ($p(h = 1)$) and health inequalities (income-health gradient) measured by the relative fraction of individuals in good health within the fourth income quartile ($\overline{p}_4$). We simulate counterfactual general equilibrium scenarios where we neutralize each of heterogeneity sources in turn. Table 6 reports results. We consider four scenarios: *i)* a baseline scenario where all country specific heterogeneity is accounted for, *ii)* a scenario where we remove price heterogeneity, setting the health price wedge equal to the European average, *iii)* a scenario where efficiency heterogeneity is removed, setting the efficiency wedge equal to the European average, *iv)* a scenario where exogenous health risks heterogeneity (α_{11}, α_{10}) is removed, setting exogenous health risks equals to their European averages.[25] In order to highlight the U.S.-Europe differences, we report the European averages of these indicators.

The baseline differences (Δ) between the U.S. and the E.U countries are 0.064 for s and -0.059

[25]Given that the characteristics of the production function of the U.S. goods (α, δ), as well as the co-insurance rate (μ), are close to the average of their European counterparts, they can not explain why our model can explain the differences between the U.S. and the European countries. In addition, the experiment in which we remove heterogeneity in income process (ρ_e,σ_e) yields results that are similar to the removal of heterogeneity in TFP. For the sake of brevity, we will not report them below.

for $p(h=1)$. The U.S. spends more but has lower health. As for inequalities, they are also higher than in Europe, with a difference in the health gradient ($\overline{p}_4$) equal to 0.212.

5.1 The impact of macroeconomic wedges: health service prices and efficiency

When heterogeneity in the health service wedge is removed ("price" scenario), the gap in expenditures is reduced by 20.3%, going from 0.064 to 0.051, and the gap in the fraction of individual in good health is reduced by 28.8%, going from 0.059 to 0.042. Beyond its estimated size, the health service wedge has a quantitatively sizeable effect on health expenditures and health status differences across countries. This wedge has also a sizeable impact on health inequalities: by removing this wedge, the gap in income-health gradient is reduced by 29.25%, going from 0.212 to 0.15.

When the efficiency wedge heterogeneity is removed ("efficiency" scenario), the GDP share of health expenditures increases marginally in the U.S. by 0.003. But, it also increases marginally in European countries by 0.004. This last result is driven by the large decline in TFP in Denmark, the only country where the TFP is higher than in the U.S. Without this country, the gap between a high-TFP country (the U.S.) and a group of countries characterized by a low-TFP (all the E.U. countries except Denmark) unambiguously increases. This result is in line with our result that the income elasticity of health expenditures is below one. The GDP share of health spending is declining in TFP. The U.S. is found in this study, but also in others (e.g. Ohanian et al. (2008)), to have higher TFP (except for Denmark). Therefore, technological efficiency cannot explain why the U.S. has a higher GDP share of health expenditures in this model. With a homogeneous efficiency wedge, health inequality increase by 10%, from 0.212 to 0.233, suggesting that this wedge cannot explain differences in health inequalities between the U.S. and Europe.

5.2 The impact of microeconomic risks: health

Worse health status in the U.S., for example due to higher prevalence of risky behaviors, could also explain differences in expenditures and health status (Thorpe et al., 2004, 2007). For example, the rapid growth of obesity in the U.S. relative to other countries could play a role (Cutler et al., 2003). In the model, these are captured by exogenous health risks (α_{10}, α_{11}). When the heterogeneity in exogenous health risks is removed ("health risks" scenario), differences across countries in health expenditures, health status and health inequalities decrease sharply. The gaps in expenditures

virtually disappears, going from 0.064 to 0.002. At the same time, the gap in the fraction of individual in good health is reduced by 79.6%, going from -0.059 to -0.012 and the gap in income-health gradient is by 66.5%, from 0.212 to 0.071. This country-specific health risks play a sizeable role in accounting for differences between the US and Europe due to a simple mechanism. A large proportion of Americans are in good health. However, they face a high probability of getting sick (relative to Europe), so they spend more on medical care than their European counterparts, which leads to a high U.S. GDP share of health expenditure. This additional spending on health care does not compensate for the larger U.S. exogenous health risk, which leads the model to fit the larger U.S. GDP share of health expenditures without better health outcomes.

This decomposition of differences between the U.S. and the E.U. countries with respect to GDP share of health expenditures, fraction of individuals in good health and income-health gradient suggests that both the health services wedge and exogenous health risks explain most of the cross-country gap while TFP differences cannot rationalize these gaps.

6 Welfare Consequences of the Health Services Wedge

6.1 Lifetime Cost-of-Living Index

We perform a counterfactual exercise in which Americans pay the average European health price.[26] We then ask the question: What would Americans be willing to pay to switch to the average European price? We can compute the Willingness-to-pay (WTP) for each agent (a, h, e) for accessing an economy where the health services wedge is the same than in Europe. Using the model, we compute the welfare of each (a, e, h)-type agent in the U.S. economy $V(a, h, e|p_Z, \Omega^X_{US})$, which depends on wedge values $(p_{Z=US,EU})$ and on $\Omega = \{\Omega^X_{US}\}_{X=US,EU}$, a set of two vectors regrouping *(i)* all US-specific characteristics (income risk, risky health behaviors, co-insurance rate) and *(ii)* equilibrium factor prices $(r(p_X),\ w(p_X))$ and tax rate $(\tau(p_X))$.[27] When $Z = EU$, if $X = US$, the values are evaluated in partial equilibrium (PE), whereas if $X = EU$, they take into account general equilibrium (GE) adjustments of interest rate, wage rate and taxation. Therefore, the state

[26] To simplify the presentation, we present computations of welfare cost of price wedges. The welfare computations related to the efficiency wedge (A) is identical, except for the index of the cost-of-living which is not defined without endogenous labor supply.

[27] With Ω^{US}_{US}, input prices (w, r) and tax rate τ are taken at their general equilibrium values with p_{US}. This implies that we restrict the analysis to partial equilibrium approach when $p = p_{EU}$ but $\Omega = \Omega^{US}_{US}$.

contingent transfers $\mathcal{P}^X(a_t, h_t, e_t)$ that keep agents indifferent between two price regimes, p_{US} vs. p_{EU}, is given by:[28]

$$V(a_t + \mathcal{P}^X(a_t, h_t, e_t), h_t, e_t | p_{US}, \Omega_{US}^{US}) = V(a_t, h_t, e_t | p_{EU}, \Omega_{US}^{X}) \quad X = US, EU.$$

The transfer $\mathcal{P}^X(a_t, h_t, e_t)$ can be spent as agents choose in time and across goods. While this transfer is informative about the welfare effect of a change in price, it does not convey much information on the additional cost-of-living of an agent paying the price $p = p_{US}$, after controlling for the same welfare as in an economy where $p = p_{EU}$. To see this, let us define the lifetime expenditure function $\mathcal{E}$ as follows

$$\mathcal{E}\left(p_{US}, \overline{V}_t | h_t, e_t\right) = \min a_t \quad \text{s.t.} \quad V(a_t, h_t, e_t | p, \Omega) \geq \overline{V}_t$$

where $\overline{V}_t$ is some reference value of utility. For an optimal sequence of choices (consumption and health expenditures), the intertemporal budget constraint allows us to obtain $\mathcal{E}\left(p_{US}, \overline{V}_t | h, e\right)$ as follows

$$\begin{aligned}
& \sum_{\tau=0}^{\infty} \sum_{e^{t+\tau}} \sum_{h^{t+\tau}} \widetilde{\pi}_t(e^{t+\tau}) \pi_t(h^{t+\tau} | p_{US}) \mathcal{R}_{US}^{\tau} \left[c(h^{t+\tau}, e^{t+\tau} | p_{US}) + \mu p_{US} m(h^{t+\tau}, e^{t+\tau} | p_{US}) \right] \\
= \; & a_t + \mathcal{P}^{EU}(a_t, h_t, e_t) + \sum_{\tau=0}^{\infty} \sum_{e^{t+\tau}} \widetilde{\pi}_t(e^{t+\tau}) \mathcal{R}_{US}^{\tau} (1 - \tau(p_{US})) w(p_{US}) e(e^{t+\tau}) \\
\Leftrightarrow \quad & \mathcal{E}\left(p_{US}, V(a_t, h_t, e_t | p_{EU}, \Omega_{US}^{EU}) | h_t, e_t\right) = a_t + \mathcal{P}^{EU}(a_t, h_t, e_t) + \mathcal{G}_{US}(e_t) \qquad (15)
\end{aligned}$$

where $\mathcal{R}_{US} = \frac{1}{1+r(p_{US})}$ is the discount rate, $\mathcal{G}_{US}(e_t)$ the human wealth[29] and $\mathcal{E}\left(p_{US}, \overline{V}_t, \Omega_{US}^{EU}) | h_t, e_t\right)$ the lifetime expenditures allowing to reach the targeted welfare $\overline{V}_t = V(a_t, h_t, e_t | p_{EU}, \Omega_{US}^{EU})$ in an economy where $p = p_{US}$. When the agent faces price $p_{EU} < p_{US}$, her optimal lifetime expenditures

[28] A change in the price of health services leads to a new value function: $V(a, h, e | p_{EU}, \Omega_{US}^{EU})$ in general equilibrium, and $V(a, h, e | p_{EU}, \Omega_{US}^{US})$ in partial equilibrium. Notice that $p_{US} > p_{EU}$ implies $V(a, h, e | p_{US}, \Omega_{US}^{US}) < V(a, h, e | p_{EU}, \Omega_{US}^{EU})$. Indeed, in partial equilibrium, input prices do not change and we trivially have $V(a, h, e | p_{US}, \Omega_{US}^{US}) < V(a, h, e | p_{EU}, \Omega_{US}^{US})$. In general equilibrium, a lower health price wedge reduces the tax rate ($\tau(p_{US}) > \tau(p_{EU})$). This increases the capital-output ratio and thus the wage rate w, thereby magnifying the increase in value functions following the health price change.

[29] Let $\overrightarrow{e}$ be the vector of productivity. The human wealth $\mathcal{G}_X(e)$ is defined by

$$\mathcal{G}_X(e) = (1 - \tau(p_X)) w(p_X) e + \mathcal{R}_X \Pi_e \mathcal{G}_X(e') \quad \Rightarrow \quad \mathcal{G}_X = (1 - \tau(p_X)) w(p_X) [Id - \mathcal{R}_X \Pi_e]^{-1} \overrightarrow{e}$$

required for her to reach the same welfare $\overline{V}_t = V(a_t, h_t, e_t|p_{EU}, \Omega_{US}^{EU})$ is $\mathcal{E}(p_{EU}, \overline{V}_t|h_t, e_t)$. We can deduce this second lifetime expenditures function from the agent's budget constraint:

$$\begin{aligned} & \sum_{\tau=0}^{\infty} \sum_{e^{t+\tau}} \sum_{h^{t+\tau}} \widetilde{\pi}_t(e^{t+\tau}) \pi_t(h^{t+\tau}|p_{EU}) \mathcal{R}_{EU}^{\tau} \left[c(h^{t+\tau}, e^{t+\tau}|p_{EU}) + \mu p_{EU} m(h^{t+\tau}, e^{t+\tau}|p_{EU}) \right] \\ = \; & a_t + \sum_{\tau=0}^{\infty} \sum_{e^{t+\tau}} \widetilde{\pi}_t(e^{t+\tau}) \mathcal{R}_{EU}^{\tau} (1 - \tau(p_{EU})) w(p_{EU}) e(e^{t+\tau}) \\ \Leftrightarrow \quad & \mathcal{E}\left(p_{EU}, V(a_t, h_t, e_t|p_{EU}, \Omega_{US}^{EU})|h_t, e_t\right) = a_t + \mathcal{G}_{EU}(e_t) \end{aligned} \tag{16}$$

Equation (16) provides the cost of lifetime expenditures at general equilibrium when $p = p_{EU}$, whereas equation (15) pins down the cost of lifetime expenditures at general equilibrium when $p = p_{US}$, given that the agent enjoys the same welfare in the two cases. The gap between these two expenditure functions provides a measure of the lifetime cost-of-living in the U.S. Indeed, using (15) and (16), we can define a lifetime cost-of-living index as follows:

$$I_{LT}(a, h, e) \equiv \frac{\mathcal{E}(p_{US}, \overline{V}(a, h, e)|h, e)}{\mathcal{E}(p_{EU}, \overline{V}(a, h, e)|h, e)} 100 = \frac{a + \mathcal{G}_{US}(e) + \mathcal{P}^{EU}(a, h, e)}{a + \mathcal{G}_{EU}(e)} 100 \tag{17}$$

where the numerator measures the total resources needed to reach $\overline{V}$ in a economy where $p = p_{US}$ and the denominator measures the total resources needed to reach the same welfare ($\overline{V}$) but in an economy where $p = p_{EU}$. When $I_{LT} > 1$, the lifetime cost-of living is higher in the economy where $p = p_{US}$ than in an other where p_{EU}.

This index is different from the Laspeyres index which would be defined in the case of our experiment as follows $I_L = \frac{c_{US} + \mu p_{US} m_{US}}{c_{US} + \mu p_{EU} m_{US}}$ where c_{US} and m_{US} are the average values of consumption and health expenditures. This index suffers from several limitations: *i)* it is valid only in a static environment, *ii)* does not allow for substitution and hence does not keep utility constant, *iii)* assumes a representative agent and *iv)* an economy without uncertainty. Moreover, one also needs to account for general equilibrium adjustments: a change in health price induces changes of other equilibrium prices (wages, interest rate).[30] Berndt et al. (2001) discuss various of these shortcomings in the context of constructing a price index for medical services. As Berndt et al. (2001) discuss, a theoretically grounded cost-of-living index would account for the production of health (health

[30] After the health price reduction of 15%, the tax rate is reduced by 0.7 pp, inducing a increase in after-tax wage of 0.5% (less distortions), even if the wage is reduced. Remark that the interest rate increases by 0.04pp.

market services, health insurance and ability of individuals to use care for being in good health) and consumption of health services (preferences and budget). Using Hicksian measures of cost-of-living, first proposed by Konüs (1924), our measure provides a simple monetary metric that measures the welfare costs of inefficient health services as a cost-of-living index in a general equilibrium model with heterogeneous agents faced with idiosyncratic uncertainty. We aggregate the lifetime cost-of-living index by using the agents' distribution obtained in general equilibrium for the benchmark economy, here the US economy with p_{US}. Therefore, the average ideal price index is given by

$$I_{LT} = \sum_{a} \sum_{e} \sum_{h} \lambda(a, e, h | p_{US}, \Omega_{US}^{US}) I_{LT}(a, e, h)$$

6.2 Quantitative results

Table 7 reports lifetime cost-of-living indices in the U.S. induced by the health service wedge. We do these calculations both under partial (PE) and general equilibrium (GE) and report the indices for agents in bad and good health as well as for three different levels of income (e_0 lowest income, e_4 middle income and e_9 highest income level). We also report the average lifetime cost-of-living index.

Our estimates of the average lifetime cost-of-living index are respectively 101 with GE adjustments and 100.39 at PE. The cost-of-living index using GE effects is larger than the Laspeyres index (100.36).[31] Because the fall in the health service wedge can generate GE adjustments with a reduction in the tax needed to finance health insurance, but also an increase in the after-tax incomes, the cost-of-living impact of lower prices is underestimated by a PE approach. Indeed, in PE, the WTP measured as a fraction of the initial total wealth is equivalent to $I_{LT} - 100$. In contrast, when input prices and tax adjustments raise households' purchasing power (in GE), a high health service wedge increases the cost of living in the U.S. by reducing all market opportunities: with GE effects, the impact on the U.S. lifetime cost-of-living is twice as large than in PE or with the Laspeyres index.

[31] A measure of the cost of living with U.S. health price versus the European health price is provided by the Laspeyres index:

$$\frac{c_{US} + \mu p_{US} m_{US}}{c_{US} + \mu p_{EU} m_{US}} 100 = \frac{\frac{c_{US}}{y_{US}} + \mu \frac{p_{US} m_{US}}{y_{US}}}{\frac{c_{US}}{y_{US}} + \mu \frac{p_{EU}}{p_{US}} \frac{p_{US} m_{US}}{y_{US}}} 100 = \frac{0.79 + 0.13 \times 0.15}{0.79 + 0.13 \times 0.85 \times 0.15} 100 = 100.36$$

where s is 0.15, 0.79 is the observed consumption share of GDP in the U.S. over the period 1992-2008 and 0.85 is the average relative price of health services in Europe. This index would suggest that inefficient health services impose an additional cost-of-living in the U.S. of 4 tenth of a percentage point.

Table 7 also shows that low-income agents are the least impacted by the health services wedge. They consume less health than high-income agents. On the other hand, high-income agents are less affected by GE adjustments. As a result, a larger portion of their gain come from behavioral responses in PE.[32] In contrast, the low-income agents benefit from the health service wedge reduction only through tax reduction and wage increase.[33] We find strong effects of GE adjustments which redistribute resources to financially constrained agents.

In Table 7, we also disaggregate by health status to quantify heterogeneous effects. We estimate that the health service wedge leads to an additional cost-of-living of 1.01 % (0.85 %) for low-income agents (high-income agents) in good health while it increases by 1.07 % (1.39 %) for a low-income agents (high-income agents) in poor health. These additional costs supported by agents in poor health are amplified by GE adjustments: in PE, the costs paid by an individual in poor health are equal to those paid by agents in good health, whereas they are six percents larger when GE adjustments are accounted for.

Figure 5 shows the willingness to pay for reducing the health services wedge in the U.S. for each type of agent (a, h, e). The concavity of the value function implies that the WTP increases with the level of agent's asset (see panels (a)-(c) of Figure 5): a positive gap in the welfare must be compensated by a larger wealth increase when the asset level is large. The WTP is higher for agents with a higher propensity to consume medical care. Because the high-income agents have the highest propensity to consume higher medical care, they also have the highest WTP. For each asset level, the WTP is larger for agents in poor health, underlying their need for health services and therefore their larger willingness to pay for a reduction in health prices. Finally, by reducing the taxation needed to finance less expensive health care, the general equilibrium adjustments make it possible to increase the resources of all agents. However, these variations in labor incomes are all the more profitable as agents have low labor income, since labor income represent a much larger fraction of their total income. In general equilibrium, the reduction of the health services wedge leads to a reduction in welfare inequalities.

As a point of comparison, we compare the monetary impact of the two wedges (health services

[32] In PE, only the health service wedge change. Low-paid workers, with a small level of asset, are not willing to pay for the price change because they do not consume health services and face low earning mobility.

[33] In GE, even if low-income agents do not consume health services, they are willing to pay for a change in the U.S. health service wedge because they will benefit from the tax reduction and the wage increase.

and efficiency) by looking at the willingness-to-pay (WTP) for each agent for accessing an economy where the health service wedge **or** the efficiency wedge are the same than in Europe. In Figure 6, we show that the impact of reducing TFP in the U.S. by 5% (the European average of the efficiency wedge), is much larger and implies a negative WTP (willingness-to-receive) of more roughly 3 consumption units, 1.5 times larger than the impact of the health services wedge (see Figure 5). This larger impact of the efficiency wedge comes from the large direct impact of TFP on goods consumption of all agents. But adjusting for the budget share of health expenditures, the health services wedge has a quantitatively sizeable impact.

7 Conclusion

Health expenditures as a share of GDP and health status vary significantly across countries. In this paper, we evaluate the contributions of two inefficiency wedges on the cross-country differences in the GDP share of health expenditures and health status: *(i)* the efficiency wedge measuring the delay in adoption new technology in the producing goods sector (TFP gaps), and *(ii)* the health service wedge capturing the inefficiencies on the health service market.

To this end, we extend a general equilibrium framework à la Aiyagari (1994) by including health production (Grossman, 1972). Beyond to estimate structural parameters (preferences and health production) using the method of simulated moments based on macro and micro data from the U.S. and seven European countries, our structural approach allows us to identify these country-specific wedges, after taking into country-specific risks (income risk and production function, health risk and co-insurance rate).

If the U.S. is the one of the most efficient for producing goods, is is also the country where the distortions of the health services price are the largest. We estimate than the unit cost of health expenditures is 15% larger for an American than a European. We show that efficiency wedge cannot account for cross-country differences in health expenditures and health outcomes. Using counterfactuels, we find that when health price distortions in the U.S. have the same order of magnitude as in Europe, the gap in health expenditures is reduced by 20%, accompanied by a reduction in gap for the fraction of individuals in good health by 30%. Reducing the price distortion would result in a fall in US income-health gradient by 30% at quartile four.

When we consider welfare, we estimate that the extra cost-of-living induced by the U.S. health service wedge is 1 percentage point in life-time expenditures on average. The willingness-to-pay of Americans to access European healthcare prices is only one and a half times smaller than the transfer that we should give them so that they accept to live with the European technological level. Our general equilibrium approach also underlines that the reduction of the inefficiency on the health market allows the high-income agents to be the largest winners because they are the largest consumers of health services. Low-income agents still benefit from the fall in health prices through general equilibrium effects, with the lower taxation and increase in after-tax wage. This result underlines that low-income agents pay for the current U.S. health system, through taxation and large price distortions, while they are the ones who use less health services.

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A Solving the General Equilibrium Model

Step 1: Households' decision rules. In step 1, we compute the household optimal policies. Given r, w, τ, μ, p, we determine, for each state (a, h, e), consumption, savings and medical expenditures $\{c(a,h,e), a'(a,h,e), m(a,h,e)\}$ that solve the households' decision problem described in (6). We rely on a discrete approximation of the state space. h takes 2 values (good or bad), the number of e ability level is N_e and the asset grid is captured by a discrete set of points N_k. We then compute $2 \times N_e \times N_k$ value functions. Let us make several comments on the asset grid. First, we use piecewise linear interpolation, so that next period's asset choice can lie outside the initial grid on asset. Secondly, as it is standard in the literature (Castaneda et al. (2003)), the asset grid is not equally spaced. For very low values of asset holdings, the distance between grid points is small. This is done to allow financially constrained individuals to increase their savings by small increments.

With respect to Aiyagari (1994)'s model, the complexity lies in the computation of two optimal choices c and m (a' being determined by the household's budget constraint) that are related through a dynamic first-order condition. We rely on value function iteration. Starting from a guess on optimal choices of c and m, for a given state (a, h, e), using Nelder-Mead optimization, we compute values of c and m that maximize the value function (6), using a guess on next period's value function. The new values for V, c and m are compared to the initial guess. If they are not close, replace the guess by the new values of c, m, V and repeat the optimization procedure. If they are close enough, the household's policy was found for the given state (a, h, e). We then repeat the whole process for all possible values of state (a, h, e).

Step 2: Stationary distribution. We compute the invariant wealth and health distribution over a blown-up grid using interpolation. The vector of state probabilities over the states (a, h, e) is updated using optimal policies and transition probabilities for shocks. The process is repeated until the vector of state probabilities becomes invariant.

Step 3: General Equilibrium. We compute the general equilibrium factor prices (r mentioned in (b.) in Section 3.5) then w is inferred from equation (9)) and the equilibrium tax rate τ (mentioned in (d.) in Section 3.5). As a result, Steps 1 and 2 must be repeated until the interest rate r clears

the asset market and the tax rate τ ensures that health insurance budget constraint is satisfied. When performing estimation, we omit the tax loop. Since we target s and hit it consistently across countries, the tax rate can be set at the value consistent with the target. This speeds up the estimation algorithm. When simulating counterfactuals, we allow taxes to adjust.

The steps of the algorithm are then

i. Compute the stationary level of employment N

ii. Make an initial guess of the interest rate r and tax rate τ

iii. Compute the wage rate w using equation (9)

iv. Compute the household's decision rules (Step 1)

v. Compute the invariant distribution (Step 2)

vi. Calculate aggregate variables using the agents distribution. Check market clearance on the asset market. Check that health budget constraint is satisfied. If these conditions do not hold, update the guess of the interest rate r and tax rate τ. If not, go back to ii.

vii. Check for convergence and update the guess

Figures

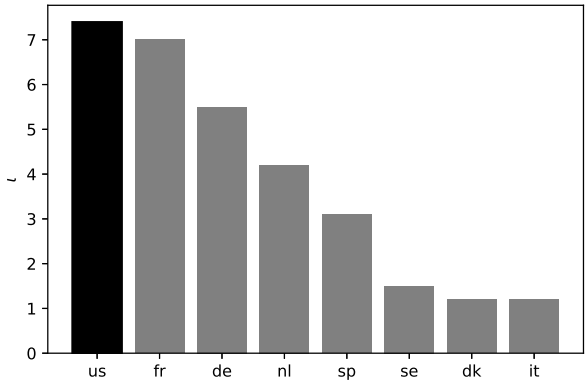
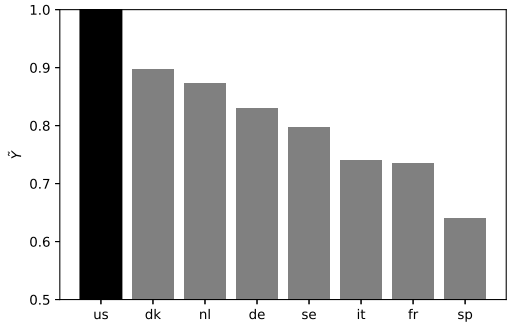
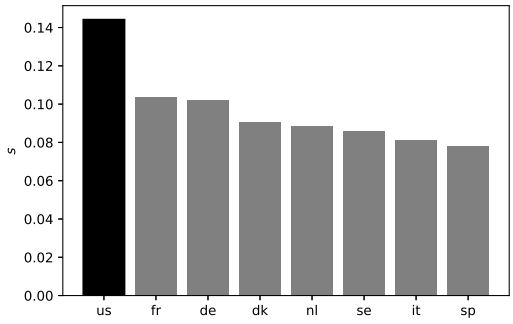


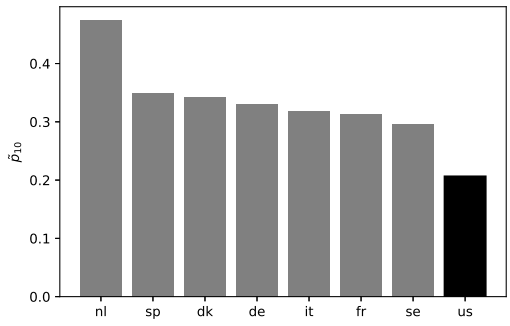
Figure 1: **Share of administrative costs in health expenditures**: (OECD, 2013).



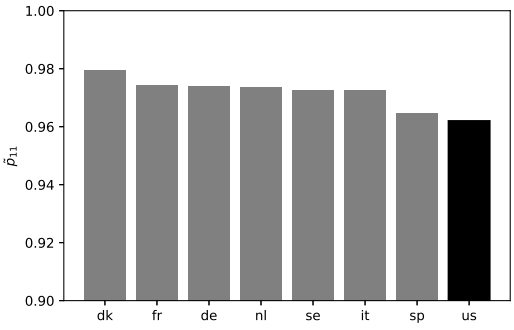
(a) Relative GDP per capita



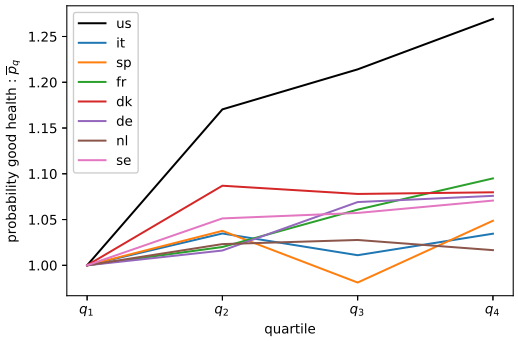
(b) GDP share health expenditures



(c) Transition from Bad to Good Health

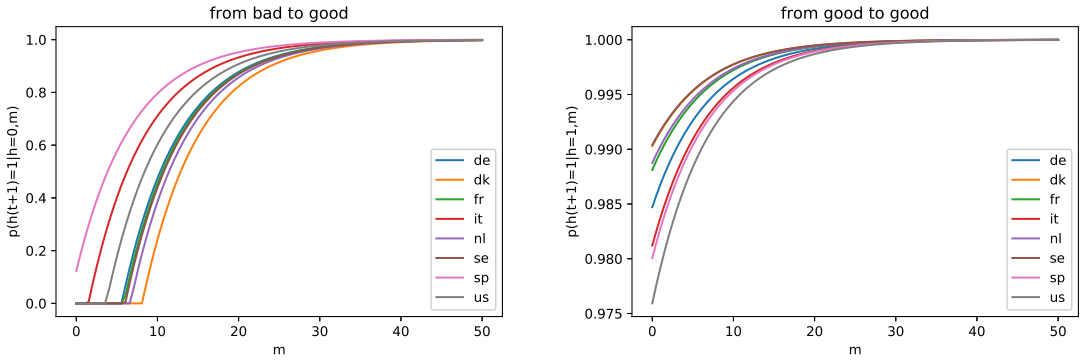


(d) Transition from Good to Good Health



(e) Health-Income Gradient

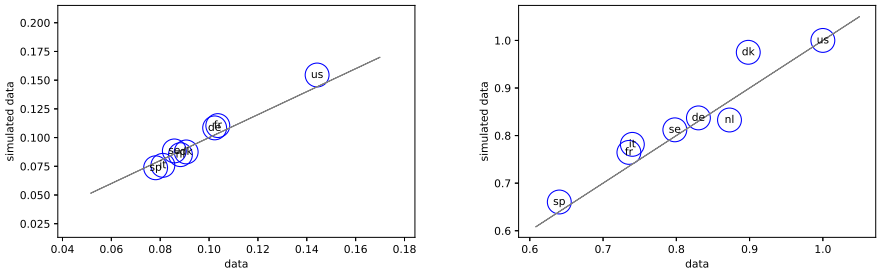
Figure 2: **Moments used in Estimation**: See text for description of how each moments was constructed.



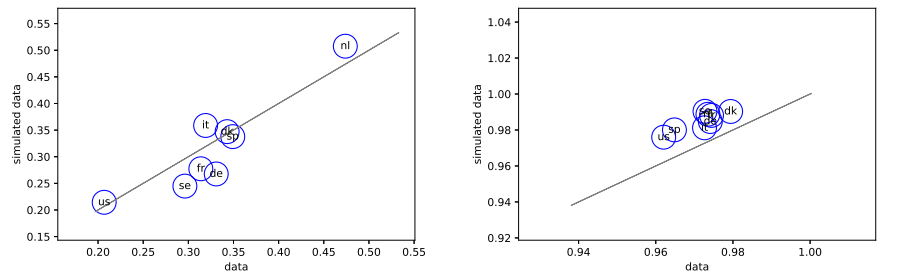
(a) From good to good health

(b) From bad to good health

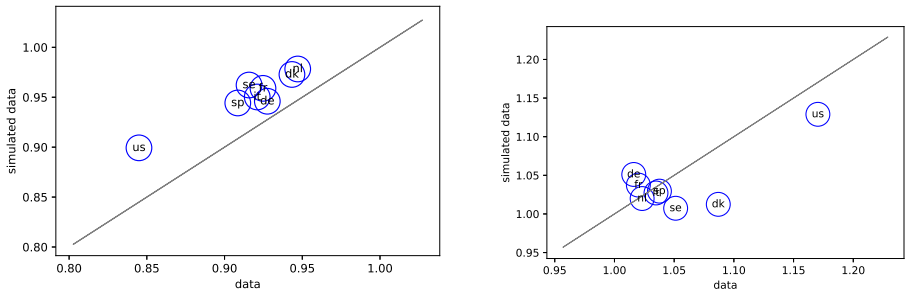
Figure 3: **Kinks in the production function**: Estimation results for the health production function across countries. Estimates produced conditional on being in good (left panel) and bad health (right panel).



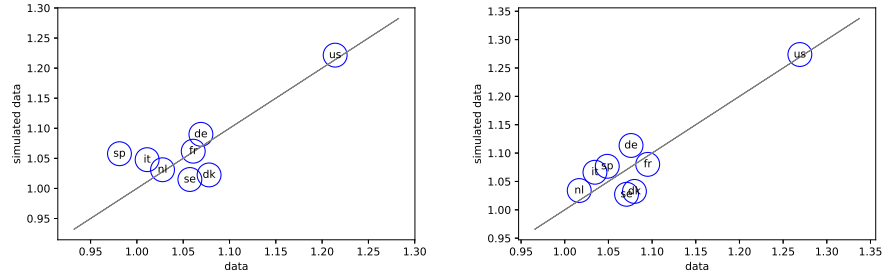
(a) GDP share of health exp. $s = \frac{pm}{Y}$ (b) Relative GDP per capita $\tilde{Y}$



(c) Transition bad to good health $\tilde{p}_{10}$ (d) Transition goog to good health $\tilde{p}_{11}$

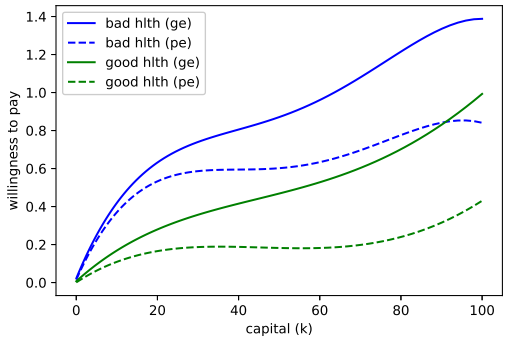


(e) Fraction in good health $\tilde{p}_1$ (f) Income-health gradient $\overline{p}_2$

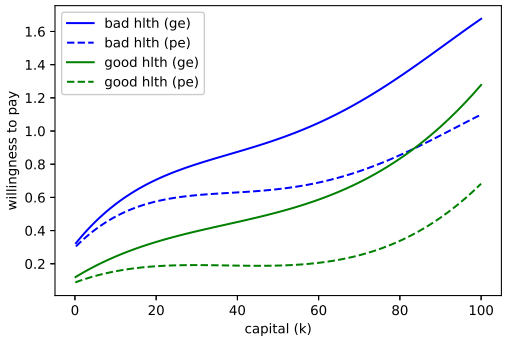


(g) Income-health gradient $\overline{p}_3$ (h) Income-health gradient $\overline{p}_4$

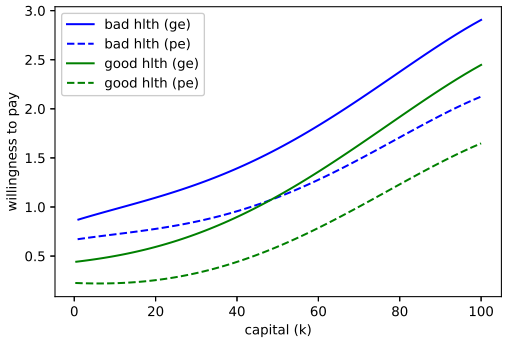
Figure 4: **Comparison of Simulated Moments and Data**: The Y axis measures the simulated moments and the X axis moments from the data. The 45 degree line indicates a perfect fit. Each circle denotes the pair of simulated and data moments for each country.



(a) Low-income

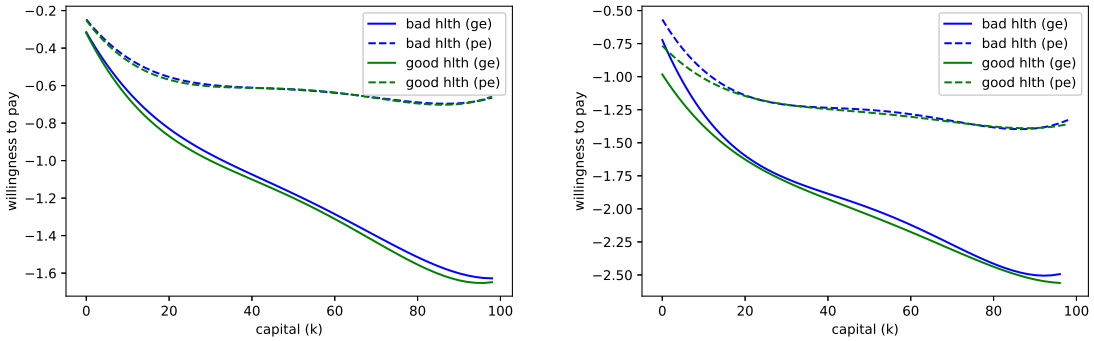


(b) Middle-income



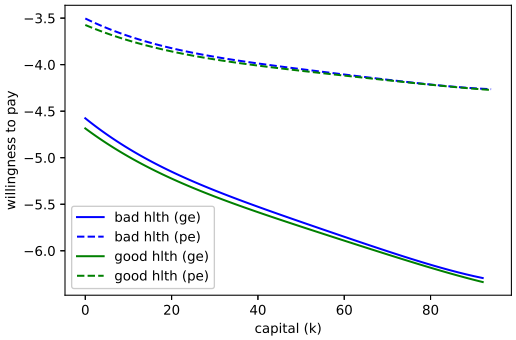
(c) High-income

Figure 5: **Willingness-to-Pay for a Reduction in the Health Services Wedge**: For the U.S., we report the willingness-to-pay for a reduction in the price of health services. We do this for three types of agents: low-income ($e = 0$), middle-income ($e = 4$) and high-income ($e = 9$). For each, we compute the willingness-to-pay as a function of health status ($h = 0$ for bad health and $h = 1$ for good health) and assets a. The willingness-to-pay is reported in consumption units in partial equilibrium (dotted line) and general equilibrium (solid line).



(a) Low-income

(b) Middle-income



(c) High-income

Figure 6: **Willingness-to-Pay for a Reduction in the Efficiency Wedge**: For the U.S., we report the negative willingness-to-pay (willingness-to-receive) for a reduction in the TFP. We do this for three types of agents: low-income ($e = 0$), middle-income ($e = 4$) and high-income ($e = 9$). For each, we compute the willingness-to-pay as a function of health status ($h = 0$ for bad health and $h = 1$ for good health) and assets a. The willingness-to-pay is reported in consumption units in partial equilibrium (dotted line) and general equilibrium (solid line).

Tables

	US	DE	DK	FR	IT	NL	SE	SP
Prices								
Angiogram	914			264				125
relative US	1			0.288				0.136
Scan abdomen	750	319		248		258		161
relative US	1	0.425		0.33		0.344		0.214
Bypass surgery	73420			22344		14061		17437
relative US	1			0.304		0.191		0.275
Drug price index	1	0.34		0.268	0.285	0.272	0.306	0.275
relative US								
Primary care physician fee								
Public payer	60	46		32				
relative US	1	0.76		0.53				
Private payer	133	104		34				
relative US	1	0.78		0.25				
Physician fee for hip replacement								
Public payer	1634	1251		614				
relative US	1	0.76		0.41				
Private payer	3996			1340				
relative US	1			0.33				
Hospital spending per discharge	18142	5072	11112	5201		13244	9870	
relative US	1	0.27	0.61	0.28		0.73	0.54	
Efficiency								
Five-year survival rates (cancer)								
Colon	0.649	0.648	0.616	0.637	0.641	0.63	0.649	0.633
relative US	1	0.998	0.949	0.982	0.988	0.971	1	0.975
Cervical	0.626	0.652	0.695	0.650	0.668	0.675	0.683	0.645
relative US	1	1.042	1.110	1.038	1.067	1.078	1.091	1.030
Breast	0.902	0.860	0.861	0.867	0.860	0.866	0.888	0.854
relative US	1	0.953	0.955	0.961	0.953	0.960	0.984	0.947
Leukemia	0.895	0.911	0.940	0.886	0.878	0.904	0.890	0.847
relative US	1	1.018	1.050	0.990	0.981	1.010	0.994	0.946

Table 1: **Price and Efficiency Differences Across Countries**: Price information (2013 dollars) for angiogram, scan and bypass surgery from International Federation of Health Plans (IFHP (2013)) while the drug price index is taken from Danzon (2018). Fee information for physicians from Laugesen and Glied (2011) in 2008 dollars. Hospital spending per discharge for 2009 from OECD Health Data in 2011 dollars. Five-year cancer survival rates (2010-2014) from OECD Health Data

	Country							
	DE	DK	FR	IT	NL	SE	SP	US
ρ_e	0.9436	0.9182	0.9588	0.9433	0.9697	0.9182	0.9798	0.959
σ_e^2	0.0285	0.0150	0.0191	0.0303	0.0108	0.0150	0.0111	0.0396
σ_u^2	0.0967	0.0751	0.1143	0.0806	0.1192	0.0751	0.1364	0.1257
$\frac{\sigma_e^2}{1-\rho_e^2}$	0.26	0.0956	0.2367	0.275	0.181	0.0956	0.2776	0.493

Table 2: **Covariance Structure of Income Process**: Parameter estimates by minimum distance as outlined in text. ρ_e refers to the persistence of permanent shocks, σ_e^2 the variance of permanent shocks and σ_u^2 the variance of transitory shocks (assumed measurement error in model and set to zero).

	Country							
	DE	DK	FR	IT	NL	SE	SP	US
μ	0.127	0.149	0.088	0.237	0.097	0.162	0.228	0.136
α	0.372	0.360	0.379	0.470	0.393	0.461	0.373	0.384
δ	0.039	0.043	0.04	0.039	0.041	0.046	0.037	0.048

Table 3: **Calibration of Auxiliary Parameters**: μ refers to the co-insurance rate of health insurance, α refers to the expenditure share of capital while δ refers to the depreciation rate on capital. Refer to text for sources for these data.

σ	ϕ	α_0
2.113	0.834	0.145
(0.035)	(0.034)	(0.030)

Table 4: **Common Parameters**: Estimates by method of simulated moments on U.S. data. standard errors in parenthesis.

	US	DE	DK	FR	IT	NL	SE	SP
α_{10}	-0.533	-0.813	-1.180	-0.851	-0.215	-0.970	-0.877	0.131
	(0.015)	(0.027)	(0.067)	(0.066)	(0.004)	(0.382)	(0.048)	(0.005)
α_{11}	3.727	4.180	4.634	4.432	3.974	4.486	4.644	3.915
	(0.033)	(0.040)	(0.075)	(0.066)	(0.019)	(0.066)	(0.067)	(0.044)
$\frac{p}{p_{US}}$	1	0.770	0.965	0.835	0.641	0.772	0.958	1.022
	-	(0.006)	(0.069)	(0.010)	(0.022)	(0.058)	(0.006)	(0.026)
$\frac{A}{A_{US}}$	1	1.021	1.289	0.939	0.710	0.999	0.870	0.877
	-	(0.006)	(0.052)	(0.009)	(0.012)	(0.020)	(0.085)	(0.128)

Table 5: **Country-Specific Parameters**: Estimated by method of simulated moments. Standard errors in parenthesis.

	GDP share of health expenditures s			Fraction good health $p(h=1)$			Income-Health gradient $\overline{p}_4$		
	U.S.	Europe	Δ	U.S.	Europe	Δ	U.S.	Europe	Δ
baseline	0.154	0.090	0.064	0.9	0.959	-0.059	1.273	1.061	0.212
price	0.141	0.09	0.051	0.92	0.962	-0.042	1.212	1.062	0.15
efficiency	0.157	0.094	0.063	0.894	0.958	-0.064	1.288	1.055	0.233
health risks	0.1	0.098	0.002	0.918	0.93	-0.012	1.221	1.149	0.071

Table 6: **Decomposition of the Differences between U.S. and Europe**: s is the GDP share of health expenditures, $p(h=1)$ is the fraction of individuals in good health and $\overline{p}_4$ is the relative probability to be in good health within fourth income quartile (Income-health gradient). For each scenario, Δ measures the percentage difference between the U.S. and the average over the countries in the E.U.

		e_0	e_4	e_9	Aggregate
GE	Bad health	101.07	101.61	101.39	101
	Good health	101.01	101.02	100.85	
PE	Bad health	100.1	101.02	100.83	100.38
	Good health	100.1	100.41	100.35	

Table 7: **Lifetime Cost-of-living in the U.S. Induced by Wedges**: We compute the lifetime cost-of-living index (multiplied by 100) in the U.S. for a change in health service wedge (p) to European levels. We report indices in partial equilibrium (PE) and accounting for general equilibrium effects (GE) for individuals in bad and good health as well as for three levels of income (lowest e_0, middle e_4, and e_9 highest).

NASHP

States Use Federal Waivers to Expand Health Care Resources to Confront COVID-19

March 24, 2020 / by NASHP Staff

Across the nation, states are responding to the coronavirus (COVID-19) pandemic using flexibility permitted by federal waivers and maximizing their resources as they work collaboratively with municipalities, health plans, hospitals, and marketplaces to address the severity of the COVID-19 epidemic within their borders.

The federal government has offered Medicaid waivers to give states critically-needed flexibility to quickly increase their health care workforces by relaxing licensing requirements and expanding their practice sites to serve more patients.

Medicaid Waivers Help States Expand Workforces and Care Sites

Under the recent federal national and public health emergency declarations made to address COVID-19, the Department of Health and Human Services (HHS) Secretary has the authority [https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertEmergPrep/1135-Waivers] under Section 1135 of the Social Security Act to waive or modify certain Medicare, Medicaid, and Children's Health Insurance Program (CHIP) requirements to ensure access to health care items and services for enrollees during the emergency time period. For a more detailed summary of the "blanket" waivers [https://www.cms.gov/newsroom/press-releases/cms-takes-action-nationwide-aggressively-respond-coronavirus-national-emergency] of certain provider requirements that CMS is allowing, view this fact sheet [https://www.cms.gov/files/document/covid19-emergency-declaration-health-care-providers-fact-sheet.pdf] .

States can also seek additional Medicaid and CHIP flexibilities by applying for state-specific Section 1135 waivers. Generally, waivers allow states to rescind certain administrative requirements in order to quickly increase their health care workforce

and practice sites. Florida and Washington State have received federal approval for 1135 waivers last week, and yesterday the Centers for Medicare & Medicaid Services (CMS) approved 1135 waivers in 11 additional states — Alabama, Arizona, California, Illinois, Louisiana, Mississippi, New Hampshire, New Jersey, New Mexico, North Carolina, and Virginia. Some examples of the key components of the approved waivers include:

- Florida received approval [https://www.medicaid.gov/state-resource-center/downloads/fl-section-1135-appvl.pdf] for a Section 1135 waiver to provide flexibilities in Medicaid provider screening, forgo certain pre-admission screening and annual resident review assessments, lift prior authorization requirements, allow the provision of facility services in alternative settings, and extend fair hearing timelines.
- Washington State received the green light to modify its Medicaid rules [https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/?entry=54022] and is now able to allow providers to bill Medicaid even if they aren't enrolled with another state Medicaid agency. Normally these health care providers would have to undergo screening, site visits and licensing requirements. The state will also forgo prior authorization requirements as long as COVID-19 is a national emergency.
- North Carolina's 1135 waiver [https://files.nc.gov/ncdma/covid-19/NCMedicaid-COVID19-CMS-1135-Flexibilities-20200317.pdf] application would allow it to quickly increase its health care providers, expand facility access and length of stay limits, and allow alternative settings to deliver care, such as providing services at home. It also asked for authority to modify Medicaid benefits and cost sharing, cover housing, and provide healthy meals to families who don't have access.
- California's 1135 waiver requests [https://www.dhcs.ca.gov/Documents/COVID-19/CA-1135-Waiver-COVID-19-031620.pdf] permission to ease prior authorization rules to allow providers to be paid for services provided at sites where Medi-Cal (Medicaid) services aren't typically offered, granting expenditure authority related to temporary housing for homeless individuals impacted by COVID-19, and expanding presumptive eligibility to people over age 65 or who are disabled.

The waiver would also increase flexibility for telehealth and virtual communications.

Other states are in the process of seeking 1135 waivers:

- Nevada is seeking an 1135 waiver to streamline and accelerate access to vital services to build in more flexibility for its long-term care and possibility allowing care in alternative settings, and an and "Appendix K" waiver to target the needs of home and community-based health services.
- Indiana's application [https://www.in.gov/fssa/files/Indiana%201135%20Submission.pdf] asks for permission to waive several Medicaid and CHIP requirements to streamline provider enrollment and prior authorization requirements for some providers and allow health care to be delivered in alternative settings, including unlicensed facilities if necessary. It requested a total of eight specific program flexibilities in addition to the available blanket waivers.

In Tennessee, a state that did not expand Medicaid under the Affordable Care Act, Gov. Bill Lee said he is in negotiations with the federal government to use TennCare (Medicaid) funds to pay for targeted COVID-19 treatment for residents who lacked health insurance or did not qualify for Medicaid.

Some states have also implemented these innovative actions to increase hospital and health care workforce capacity:

- New York ordered its hospitals to increase capacity by at least 50 percent and recruited 30,000 retired providers to immediately begin caring for patients, bypassing onerous administrative credentialing.
- Washington State increased its ability to respond to health care surge demands by reducing credentialing delays for health care workers and allowing managed care organizations to fill positions with substitute heath care providers.
- The Texas governor granted [https://www.nbcdfw.com/news/coronavirus/gov-abbott-activates-national-guard-grants-waiver-to-add-hospital-bed-capacity/2332781/] waivers to allow hospitals to increase the number of unused beds without having to apply or pay additional fees and directed

[https://gov.texas.gov/news/post/governor-abbott-waives-certain-regulations-for-telemedicine-care-in-texas] the Department of Insurance to issue an emergency rule regarding telemedicine care for patients.

- Rhode Island's Department of Health announced [https://www.ri.gov/press/view/37961] that out-of-state health care providers can obtain a temporary 90-day license to practice in the state,
- South Carolina's Board of Medical Examiners and its Board of Nursing implemented [https://governor.sc.gov/news/2020-03/south-carolina-medical-and-nursing-boards-issue-emergency-licenses] procedures to broaden licensure requirements for out-of-state health professionals to practice in the state during the emergency.

CMS also released [https://www.cms.gov/newsroom/press-releases/trump-administration-releases-covid-19-checklists-and-tools-accelerate-relief-state-medicaid-chip] new resources to help state CHIP and Medicaid programs respond to the COVID-19 outbreak, including four checklists designed to help states develop new program flexibilities through waivers.

- The 1135 Medicaid and CHIP waiver checklist [https://www.medicaid.gov/state-resource-center/downloads/1135-checklist-template.pdf] provides states with a pre-packaged checklist template of commonly requested 1135 authorities.
- The 1115 waiver opportunity and checklist [https://www.medicaid.gov/medicaid/section-1115-demonstrations/1115-application-process/index.html] helps states with enrolling and covering beneficiaries in Medicaid and to focus agency operations on addressing the COVID-19 pandemic.
- The 1915(c) Appendix K waiver template [https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/hcbs/appendix-k/index.html] assists states in making changes or emergency amendments to their 1915(c) home- and community-based services waivers for flexibilities during the COVID-19 outbreak. CMS has approved [https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/hcbs/appendix-k/index.html] three Appendix K applications from Pennsylvania, Washington State, and West Virginia that waive restrictions on community-based organizations, individual and family services, and

populations with disabilities. Appendix K waivers allow states to increase the number of people served under a waiver and the pool of providers who can render services. States also can modify service, scope or coverage requirements, exceed service limitations, and add services to the waiver, among other moves.

- The Medicaid Disaster State Plan Amendment template [https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/state-plan-flexibilities/index.html] allows states to submit a request for temporary changes in their Medicaid programs, such as temporarily increasing provider reimbursement or broadening temporary coverage.

States can also submit a disaster relief State Plan Amendment for their CHIP programs [https://www.medicaid.gov/medicaid-chip-program-information/by-topics/childrens-health-insurance-program-chip/downloads/chip_disaster_relief_spa_sample_01102012.pdf] to implement temporary adjustments to cost-sharing requirements or enrollment and redetermination processes. CMS also has a specific COVID-19 webpage on Medicaid.gov [https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/covid19/index.html] that contains resources and other information for states.

State-Based Marketplaces Offer Special Enrollment Periods

State-based marketplaces (SBM) in California [https://www.coveredca.com/uploads/032020-coveredca-covid-19-sep-final.pdf], Colorado [https://connectforhealthco.com/glossary/special-enrollment-period/], Minnesota [https://www.mnsure.org/new-customers/enrollment-deadlines/special-enrollment/covid19-sep.jsp?utm_medium=email&utm_source=GovDelivery], and Vermont [https://portal.healthconnect.vermont.gov/VTHBELand/welcome.action] joined Connecticut, [https://agency.accesshealthct.com/access-health-ct-announces-a-new-special-enrollment-period-for-uninsured-connecticut-residents] Maryland [https://www.marylandhbe.com/wp-content/uploads/2020/03/Coronavirus-Press-Release.pdf], Massachusetts [https://www.mahealthconnector.org/wp-content/uploads/AdminBulletin02-20.pdf], Nevada [https://d1q4hslcl8rmbx.cloudfront.net/assets/uploads/2020/03/SSHIX-ECSEP-Press-Release-FINAL-3.17.20.pdf], New York

[https://www.health.ny.gov/press/releases/2020/2020-03-16_nysoh_special_enrollment_period.htm] , Rhode Island [https://healthsourceri.com/coverage-through-healthsource-ri/] , and Washington [https://www.wahbexchange.org/washington-healthplanfinder-announces-special-enrollment-period-in-response-to-growing-coronavirus-outbreak/] State to open temporary special enrollment periods (SEP) to allow uninsured individuals to enroll in health insurance coverage.

While SEP dates vary by state, each provides a very limited window to help ensure that more individuals in a state are covered in the case the individuals need treatment or services. SBMs also continue to serve as a resource for consumers by sharing relevant resources, such as education about which relevant services are covered under their insurance plans. The federal government has not opted to open a SEP in states that use the federally-facilitated marketplace, despite calls from state leaders [https://www.nj.gov/governor/news/news/562020/20200315a.shtml] and major industry groups [https://www.ahip.org/wp-content/uploads/AHIP-and-BCBSA-Legislative-Recommendations-03.19.2020.pdf] to do so.

Quickly Expanding Medicaid Eligibility as an Urgent Response to the Coronavirus Pandemic

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Economists believe that a global recession is unavoidable amidst the coronavirus crisis, and there are already reports of large spikes in unemployment.[1] Because many Americans' health insurance is tied to their employment, the US will also likely see large increases in uninsured people with newly lower incomes. In states that expanded Medicaid under the Affordable Care Act (ACA), many workers losing their jobs and health insurance will be eligible for Medicaid. Medicaid enrollment is not limited to a narrow open enrollment period (as is the case with most private insurance), so eligible people can enroll at any time during the year. But 15 states have yet to expand eligibility, and many of their newly and soon-to-be uninsured residents will not be eligible for any assistance in buying private health insurance. Subsidized Marketplace insurance is limited to those with incomes between 100 and 400 percent of the federal poverty level, meaning that losing a job and family income in a state that has not expanded Medicaid eligibility will leave many with no affordable or accessible insurance options. This situation may be sufficient impetus for at least some of the remaining states to expand Medicaid eligibility. If so, how would they do it, and how long would it take a new state to get expanded eligibility operational? What are the stumbling blocks that these states face if they want to put a program in place?

How Long Have Other States Taken to Expand Medicaid Eligibility?

We looked at how long it took late-expanding states (those that expanded eligibility after the initial implementation of ACA reforms in January 2014) to start enrollment. Though the length of time from state authorization (legislation or executive order) to enrollment varied considerably across states, once a state secured federal approval, some states began implementation very quickly. Maine's governor signed an executive order to implement Medicaid expansion on January 3, 2019 (her first day in office), and enrollment began just a week later.[2] The governor of Indiana and the federal government agreed to an alternate Medicaid expansion plan on January 27, 2015,[3] and enrollment began on February 1, 2015.[4] Alaska's governor used executive authority to expand Medicaid eligibility, announcing it on July 16, 2015;[5] the expansion was implemented a month and a half later on September 1.[6] Though these fast turnarounds were not typical of late expansion states, they demonstrate an ability to implement these programs expeditiously.

Potential Stumbling Blocks to Fast Implementation

Once a current nonexpansion state decides to expand, there are a number of potential barriers to getting their new programs up and running quickly.

First, each state's plan must go through an approval process with the Centers for Medicare & Medicaid Services (CMS). At this point—after years of experience working through approvals with states—the approval process can be quick, particularly if a state expands through its "state plan" authority rather than through a waiver. If a state chooses to also rely on waiver authority to add features to the expansion that cannot be accommodated through the simpler route, those features could be added later. Several states, including New Hampshire and Virginia, have done this. Though CMS has not always approved state plan authorities quickly for newly expanding states, given the importance of coverage in this time of crisis, CMS can expedite the process as part of its extensive response to the pandemic.

Two states' expansion paths illustrate where quick action by CMS could move the typical process to completion without delay. In Virginia, the Department of Medical Assistance Services submitted its expansion special plan amendment to CMS within 24 hours of Governor Northam signing into law the budget bill containing Medicaid expansion. CMS approved the amendment five months later, and Virginia began accepting Medicaid applications only one month after that. In contrast, CMS approved the Louisiana eligibility expansion special plan amendment just three weeks after it was submitted by the state. CMS's ability to expedite its process, as demonstrated by the Louisiana experience, shows the agency can move at the speed called for during the current crisis. Of course, states need to keep their initial request simple to get quick CMS action.

Second, any state expanding eligibility will need to ensure system readiness to enroll larger numbers of applicants. In the short term, states can rely on Healthcare.gov to process applications

(both Louisiana and Virginia did so). In addition to modifying IT systems, given the crisis, states will want to consider simplified enrollment procedures, virtual enrollment assistance, and public service announcements and aggressive efforts to connect people receiving or seeking other benefits (e.g., the Supplemental Nutrition Assistance Program, Temporary Assistance for Needy Families, or other more limited health coverage) to Medicaid. Most hospitals are already set up to help with enrollment, and states have options to enhance that avenue to reach people in and outside the four walls of a hospital. In addition, states must develop contract amendments and payment rates for the health plans contracting with the state to provide Medicaid benefits to enrollees, and those plans may need to expand their provider networks to accommodate more enrollees. The state may also want to increase the number of managed care plans with which it contracts. However, given the current levels of sheltering in place and social distancing, many people are not going into doctors' offices, potentially reducing the pressure on provider networks in the near term. Providing Medicaid coverage to ensure financing for COVID-19 treatment and other emergency care for those needing it is the highest immediate priority.

Some states have gone to great lengths to enroll many additional people with limited staff. Louisiana is an example of this,[7] and the state likely has important lessons to impart to others. Additionally, CMS could allow a state to phase in eligibility with the enhanced matching rate to ease the increasing enrollment burden on a state's system. Conceivably, a state could phase in enrollment starting with geographic areas hardest hit by the virus, increased unemployment, or by income group, age, or some other categorization.

Third, states may be reluctant to expand coverage for financial reasons. Just as the need for additional coverage is peaking, state revenues are expected to plummet because of rising unemployment and depressed economic activity. Late-expanding states are required to contribute 10 percent of the costs associated with the expansion population, whereas early-expanding states had three years of full federal funding for their expansion costs. A number of analyses have shown that Medicaid expansion should result in savings for states,[8] but states cannot deficit spend, and the additional financial commitment to contribute 10 percent will likely be a continuing barrier for some. The federal government, recognizing the need to get funding to the states and the central role of insurance coverage in protecting the stability of the health care system amidst the current situation, has already boosted the federal matching rate for "regular" Medicaid by 6.2 percentage points during this public health emergency, but it could do more; the federal government could eliminate or lower the state contribution for expansion for at least three years, phasing up to 10 percent in subsequent years. This would provide the late-expanding states with the same financial deal the ACA provided to early-expanding states. Legislation would likely be required to make such a change, but it could be considered part of the stimulus efforts.

Ramping Up Coverage

Detailed data on monthly enrollment through the Medicaid expansions in Louisiana and Virginia, two late-expanding states, provide clues as to the speed at which enrollment could grow in states expanding eligibility in the future. Table 1 shows that in the first month of expansion, Louisiana enrolled about 288,600 people through the Medicaid expansion. Six months later, enrollment had increased by another 40 percent, to over 404,000 people. In Virginia, enrollment was just under 200,000 people in the first month after expansion, and this figure climbed by about 50 percent (to almost 300,000 enrollees) six months later. Both states saw continued enrollment in the subsequent months. Given the public health crisis and that many people who would be newly eligible for Medicaid under an expansion have had insurance coverage recently but would lose that coverage because of a job loss or other drop in income, the ramp-up could be larger and faster in newly expanding states. This likely larger enrollment as a percentage of state population and in a shorter period suggests that full federal support for expansion, for at least a limited period, may be critical to states' ability to take on such a move.

TABLE 1

Ramp-Up of Medicaid Expansion Enrollment over First 12 Months of Implementation

	Louisiana		Virginia	
Enrollment month	Enrollment	Percent increase since month 1	Enrollment	Percent increase since month 1
1	288,584		198,653	
2	310,936	8	220,580	11
3	324,122	12	237,165	19
4	342,075	19	255,592	29
5	360,197	25	271,023	36
6	376,668	31	284,466	43
7	404,079	40	298,277	50
8	411,341	43	312,446	57
9	417,416	45	326,961	65
10	429,511	49	341,808	72
11	435,946	51	356,972	80
12	438,048	52	372,435	87

Sources: Data for Louisiana are from "Medicaid Enrollment – New Adult Group," Data.Medicaid.gov, accessed March 24, 2020, https://data.medicaid.gov/Enrollment/Medicaid-Enrollment-New-Adult-Group/pfrt-tr7q/data. Data for Virginia are from "Expansion Dashboard," Virginia Department of Medical Assistance Services, accessed March 24, 2020, http://dmas.virginia.gov/#/dashboard.

Conclusion

The US is poised to experience an unprecedented increase in the number of people losing jobs and incomes—and with them, their health insurance coverage—as the novel coronavirus paralyzes broad swaths of the economy. The period over which this crisis will persist is unknown. States that expanded Medicaid eligibility to their residents with incomes up to 138 percent of the federal poverty level under the ACA are in a much stronger position to provide insurance coverage and access to necessary medical care than are states that have, up until this point, resisted such expansions.[9] More people are likely to

fall into this income group in a much shorter period than the country has experienced heretofore. For many of those losing their employment-based insurance or federally subsidized Marketplace coverage in nonexpansion states at the same time their incomes crater, there will be no affordable coverage alternative.[10] Simultaneously, the nation's public health depends on people being able to receive treatment for the virus, and this large, newly low-income population will be at risk for not seeking or receiving necessary care. Coverage is also the most direct way to provide payment to hospitals and other health providers already under extraordinary financial strain because of the crisis.

The pandemic facing the nation poses new considerations for states that have not expanded Medicaid. It is not costless for states to continue to resist Medicaid expansion, particularly given the current situation. Many uninsured people will go to health centers or hospitals when they are infected and need care, and states and localities will be left to pay for much of the ensuing uncompensated care. Others without insurance will not receive needed treatment, increasing the spread of the virus and imposing the economic consequences of a continuing health crisis, including lost state revenue.

CMS has demonstrated an ability to quickly approve state plan amendments to implement Medicaid expansions. They can inform the remaining nonexpansion states of their willingness to do so in an effort to stem the potentially immense implications of the pandemic for insurance coverage. Permitting states to access full federal funding for their new expansion populations for at least three years, consistent with the funding provided to early expanders, could be the assistance many of these states need to change policy and provide additional protection to their residents.

Notes

[1] Nelson D. Schwartz, "Coronavirus Recession Looms, Its Course 'Unrecognizable,'" *New York Times*, March 20, 2020, https://www.nytimes.com/2020/03/21/business/economy/coronavirus-recession.html; Steve Matthews, "US Jobless Rate May Soar to 30%, Fed's Bullard Says," *Bloomberg*, March 22, 2020, https://www.bloomberg.com/news/articles/2020-03-22/fed-s-bullard-says-u-s-jobless-rate-may-soar-to-30-in-2q; Mohamed A. El-Erian, "The Coming Coronavirus Recession and the Uncharted Territory Beyond," *Foreign Affairs*, March 17, 2020, https://www.foreignaffairs.com/articles/2020-03-17/coming-coronavirus-recession.

[2] Joe Lawlor, "Mills' 'Executive Order 1' Makes 70,000 More Mainers Eligible for Health Insurance," *Press Herald*, January 4, 2019, https://www.pressherald.com/2019/01/03/mills-signs-executive-order-to-implement-medicaid-expansion/; "Status of State Action on the Medicaid Expansion Decision," Henry J. Kaiser Family Foundation, March 13, 2020, https://www.kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D.

[3] Shari Rudavsky, "Gov. Pence Gets Federal OK for Medicaid Alternative," *Indy Star*, January 27, 2015, https://www.indystar.com/story/news/politics/2015/01/27/gov-pence-gets-federal-ok-medicaid-alternative/22396503/.

[4] "Status of State Action on the Medicaid Expansion Decision," Henry J. Kaiser Family Foundation.

[5] Nathaniel Herz, "Walker Says He'll Use Executive Authority to Expand Medicaid in Alaska," *Anchorage Daily News*, September 28, 2016, https://www.adn.com/politics/article/walker-says-he-ll-go-ahead-medicaid-expansion/2015/07/16/.

[6] "Status of State Action on the Medicaid Expansion Decision," Henry J. Kaiser Family Foundation.

[7] "Becoming Healthy Louisiana: An Overview of Planning Efforts to Implement the Medicaid Expansion," Henry J. Kaiser Family Foundation, accessed March 24, 2020, http://files.kff.org/attachment/fact-sheet-Becoming-Healthy-Louisiana-An-Overview-of-Planning-Efforts-to-Implement-the-Medicaid-Expansion.

[8] See, for example, Ayanian and colleagues (2017), Bachrach and colleagues (2016), and Sommers and Gruber (2017).

[9] People not legally residing in the US are not currently eligible for Medicaid, even in expansion states. As a result, Medicaid eligibility expansion under current rules would not address the needs of undocumented residents.

[10] In addition, some people will lose income and become newly eligible for subsidized Marketplace coverage. We have not analyzed the implications of that change here.

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About the Authors

Linda Blumberg is an Institute fellow in the Health Policy Center at the Urban Institute. She is an expert on private health insurance (employer and nongroup), health care financing, and health system reform. Her recent work includes extensive research related to the Affordable Care Act (ACA); in particular, providing technical assistance to states, tracking policy decisionmaking and implementation at the state and federal levels, and interpreting and analyzing the implications of particular policies. Examples of her work include analyses of the implications of congressional proposals to repeal and replace the ACA, delineation of strategies to fix problems associated with the ACA, estimation of the cost and coverage potential of high-risk pools, analysis of the implications of the *King v. Burwell* case, and several studies of competition in ACA Marketplaces. In addition, Blumberg led the quantitative analysis supporting the development of a "Road Map to Universal Coverage" in Massachusetts, a project with her Urban colleagues that informed that state's comprehensive health reforms in 2006.

Blumberg frequently testifies before Congress and is quoted in major media outlets on health reform topics. She serves on the Cancer Policy Institute's advisory board and has served on the *Health Affairs* editorial board. From 1993 through 1994, she was a health policy adviser to the Clinton administration during its health care reform effort, and she was a 1996 Ian Axford Fellow in Public Policy.

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Cindy Mann has more than 30 years of experience in federal and state health policy. At Manatt, she works with clients to develop and implement strategies around federal and state health reform,

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Before joining Manatt, Mann was deputy administrator at the Centers for Medicare & Medicaid Services (CMS) and director of the Center for Medicaid and CHIP Services, where she led the administration of Medicaid, CHIP, and the Basic Health Program for more than five years during the implementation of the Affordable Care Act. Mann set and oversaw the implementation of federal policy relating to all aspects of the Medicaid program, including delivery and payments, eligibility, benefits, waiver policy, and long-term services and supports. Throughout her time at CMS, she was deeply involved in supporting state program implementation and innovation and coordinating policy and program operations with the Marketplace.

Prior to her appointment at CMS, Mann was a research professor at the Georgetown University Health Policy Institute. Before that, Mann was a senior advisor at the Kaiser Commission on Medicaid and the Uninsured. She also was director of the Family and Children's Health Program group at the Health Care Financing Administration (HCFA), now CMS, and directed federal and state health policy work at Center on Budget and Policy Priorities. Previously, she worked on these issues in Massachusetts, New York, and Rhode Island.

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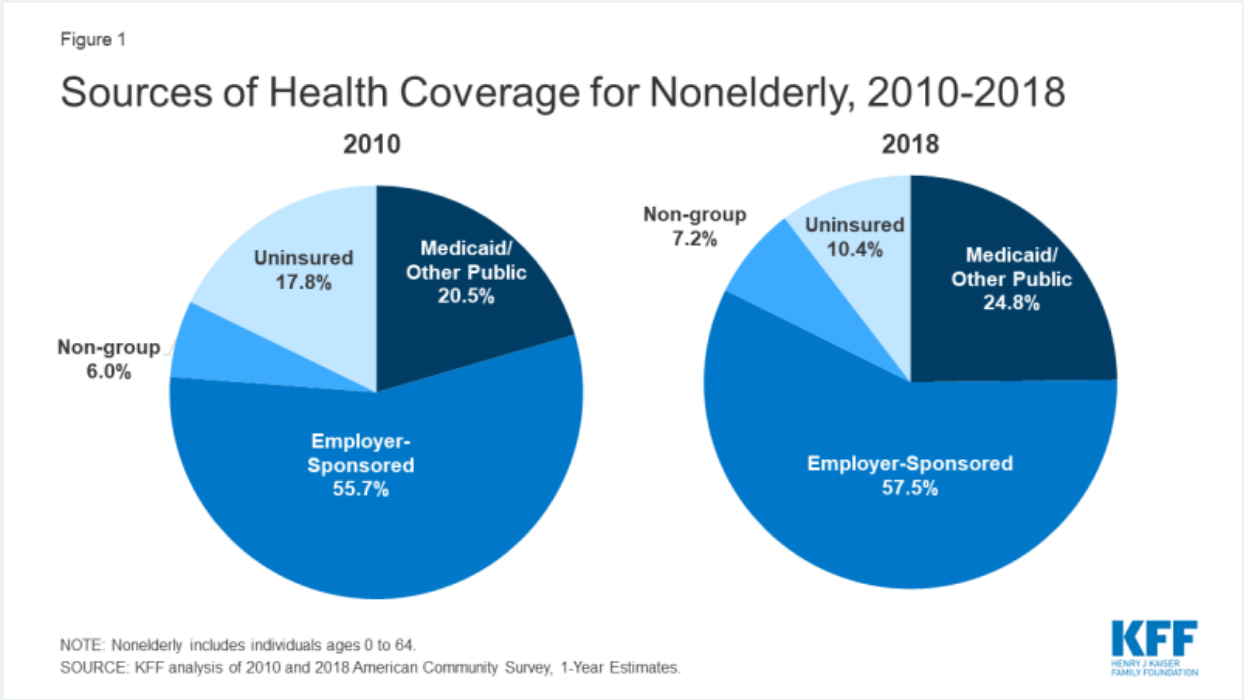
Coronavirus Response and the Affordable Care Act

Karyn Schwartz (https://www.kff.org/person/karyn-schwartz/) (https://twitter.com/KarynLSchwartz)

Published: Mar 23, 2020

At a moment when anxiety over coronavirus is paramount, it is worth noting on the Affordable Care Act's tenth anniversary that it will provide important coverage and access protections in this pivotal moment. The ACA still has its critics and challenges, but this would be the worst time to pull out a substantial health care safety net or consider a replacement.

The ACA has increased coverage through an expansion of Medicaid eligibility and new subsidies and standards for private insurance (Figure 1) that have led to about 19 million fewer people lacking coverage in 2018 compared to 2010. As the coronavirus outbreak puts pressure on the economy and there is likely a coming recession,[1] the ACA will provide additional coverage options for those losing their jobs or experiencing large declines in income. This would be the first recession since the ACA was implemented, and the health law will provide a safety net that never existed before for those losing job-based health insurance. The ACA also includes new private insurance standards that were designed to ensure that health insurance provides meaningful access to care. At the same time, gaps in the U.S. health insurance system remain. While the number of uninsured has declined, 27.9 million people in the United States still lack health insurance.



(https://www.kff.org/wp-content/uploads/2020/03/9424-Figure-1.png)

Even as the ACA has reshaped the health insurance coverage landscape and a clear majority (55%) of the public now views the law favorably (https://www.kff.org/health-reform/poll-finding/kff-health-tracking-poll-february-2020/), the law's future is still uncertain. Later this year the Supreme Court is scheduled to hear arguments in California v. Texas (https://www.kff.org/health-reform/issue-brief/explaining-texas-v-u-s-a-guide-to-the-case-challenging-the-aca/)[2] (known as Texas v. U.S. in the lower courts). This ongoing litigation, supported by the Trump administration, challenges the ACA's individual mandate and raises questions about the entire law's survival.

If all or most of the law ultimately is struck down, it will have complex and far-reaching consequences and potentially eliminate many of the ACA provisions that would otherwise help some individuals avoid becoming uninsured due to the economic upheaval caused by the coronavirus pandemic.

For now, the ACA is the law of the land and is poised to help many people remain insured. However, access and affordability challenges remain for those with private insurance, including high deductibles, and some will be unable to qualify for Medicaid because they live in a state that has not expanded the program. Nationally, more than two million poor uninsured adults (https://www.kff.org/medicaid/issue-brief/the-coverage-gap-uninsured-poor-adults-in-states-that-do-not-expand-medicaid/) fall into the "coverage gap" that results from state decisions not to expand Medicaid, meaning their income is above current Medicaid eligibility but below the lower limit for Marketplace premium tax credits.

Gaps in private coverage remain as well, and deductibles and high coinsurance and copays are a hurdle for many and could lead to substantial out-of-pocket costs from a serious illness resulting from coronavirus infection. Additionally, balance billing from out of network claims—including surprise medical bills—can leave patients facing thousands in unexpected costs and do not count towards the annual maximum on out-of-pocket costs included in the ACA. A new analysis (https://www.healthsystemtracker.org/brief/potential-costs-of-coronavirus-treatment-for-people-with-employer-coverage/) finds that nearly one in five (18%) patients hospitalized at in-network hospitals for pneumonia (one complication that can arise from COVID-19) incurred at least one out-of-network charge. Also, short-term health insurance (https://www.kff.org/health-reform/fact-sheet/aca-open-enrollment-for-consumers-considering-short-term-policies/) and health sharing ministries are exempt from the ACA's insurance standards and may not offer the comprehensive coverage that patients will need if they have complications from coronavirus. If affordability or coverage challenges lead to people delaying or forgoing care, it could have consequences for all of us.

However, despite the gaps, the ACA has led to improved access to care for millions in the United States. For a refresher on specific aspects of the law that will influence access and insurance coverage as our nation faces this new pandemic, see below for a link to a KFF resource on each topic.

- Medicaid expansion (https://www.kff.org/medicaid/report/the-effects-of-medicaid-expansion-under-the-aca-updated-findings-from-a-literature-review/)
- Individual Market Reforms, including marketplace subsidies (https://www.kff.org/health-reform/issue-brief/explaining-health-care-reform-questions-about-health/) and an end to medical underwriting (https://www.kff.org/health-reform/issue-brief/pre-existing-conditions-and-medical-underwriting-in-the-individual-insurance-market-prior-to-the-aca/)
- Essential health benefit standard (https://www.kff.org/health-reform/press-release/analysis-before-aca-benefits-rules-care-for-maternity-mental-health-substance-abuse-most-often-uncovered-by-non-group-health-plans/)
- Dependent coverage up to age 26 (https://www.kff.org/report-section/the-coverage-provisions-in-the-affordable-care-act-an-update-health-insurance-market-reforms/)
- No lifetime or annual dollar limits (https://www.kff.org/report-section/the-coverage-provisions-in-the-affordable-care-act-an-update-health-insurance-market-reforms/)
- Coverage of preventive services (https://www.kff.org/health-reform/report/preventive-services-tracker/)

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1. P.F. Gruenwald et al., "Economic Research: COVID-19 Macroeconomic Update: The Global Recession Is Here And Now," S&P Global (March 17, 2020).

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2. No. 19-840, https://www.supremecourt.gov/search.aspx?filename=/docket/docketfiles/html/public/19-840.html (https://www.supremecourt.gov/search.aspx?filename=/docket/docketfiles/html/public/19-840.html). The case has been consolidated with *Texas v. California*, No. 19-1019, https://www.supremecourt.gov/search.aspx?filename=/docket/docketfiles/html/public/19-1019.html (https://www.supremecourt.gov/search.aspx?filename=/docket/docketfiles/html/public/19-1019.html).

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Health Coverage of Immigrants

Published: Mar 18, 2020

Summary

In 2018, there were 22 million noncitizens in the United States, accounting for about 7% of the total U.S. population. Noncitizens include lawfully present and undocumented immigrants. Many individuals live in mixed immigration status families that may include lawfully present immigrants, undocumented immigrants, and/or citizens. One in four children has an immigrant parent and the majority of these children are citizens.

Most of the uninsured are citizens, but noncitizens are significantly more likely than citizens are to be uninsured. In 2018, more than three-quarters (76%) of the nearly 28 million nonelderly uninsured were citizens. However, among the nonelderly population, 23% of lawfully present immigrants and more than four in ten (45%) undocumented immigrants were uninsured compared to less than one in ten (9%) citizens**.** Moreover, among citizen children, those with at least one non-citizen parent are more likely to be uninsured compared to those with citizen parents (8% vs. 4%).

Growing research suggests that recent changes to immigration policy are contributing to growing fears among immigrant families about their and their children participating in Medicaid and CHIP. In particular, changes to public charge (https://www.kff.org/disparities-policy/issue-brief/estimated-impacts-of-final-public-charge-inadmissibility-rule-on-immigrants-and-medicaid-coverage/) policy that allow federal officials to newly consider use of certain non-cash programs, including Medicaid for non-pregnant adults, when determining whether to provide certain individuals a green card or entry into the U.S. are leading to growing fears that will likely lead to coverage declines. Coverage declines would have important implications for the health and well-being of families and the health care system.

Coverage declines would have important implications for the health and well-being of families and the health care system. Research (https://www.kff.org/uninsured/issue-brief/key-facts-about-the-uninsured-population/) shows that health insurance is important for enabling families to access needed care,

protecting families from unaffordable medical care costs, and promoting the healthy growth and development of children. Stable health insurance and affordable access to care also is important for supporting the response to growing health care needs stemming from the COVID-19 public health crisis. U.S. Citizenship and Immigration Services issued an alert in March 2019, encouraging all individuals with symptoms that resemble COVID-19 to seek necessary medical treatment or preventive services and noted that such treatment or services will not negatively affect future public charge tests.[1]

Overview of Immigrants

In 2018, there were 22 million noncitizens and 22 million naturalized citizens residing in the U.S., who each accounted for about 7% of the total population (Figure 1). About six in ten noncitizens were lawfully present immigrants, while the remaining four in ten were undocumented immigrants.[2] Many individuals live in mixed immigration status families that may include lawfully present immigrants, undocumented immigrants, and/or citizens.

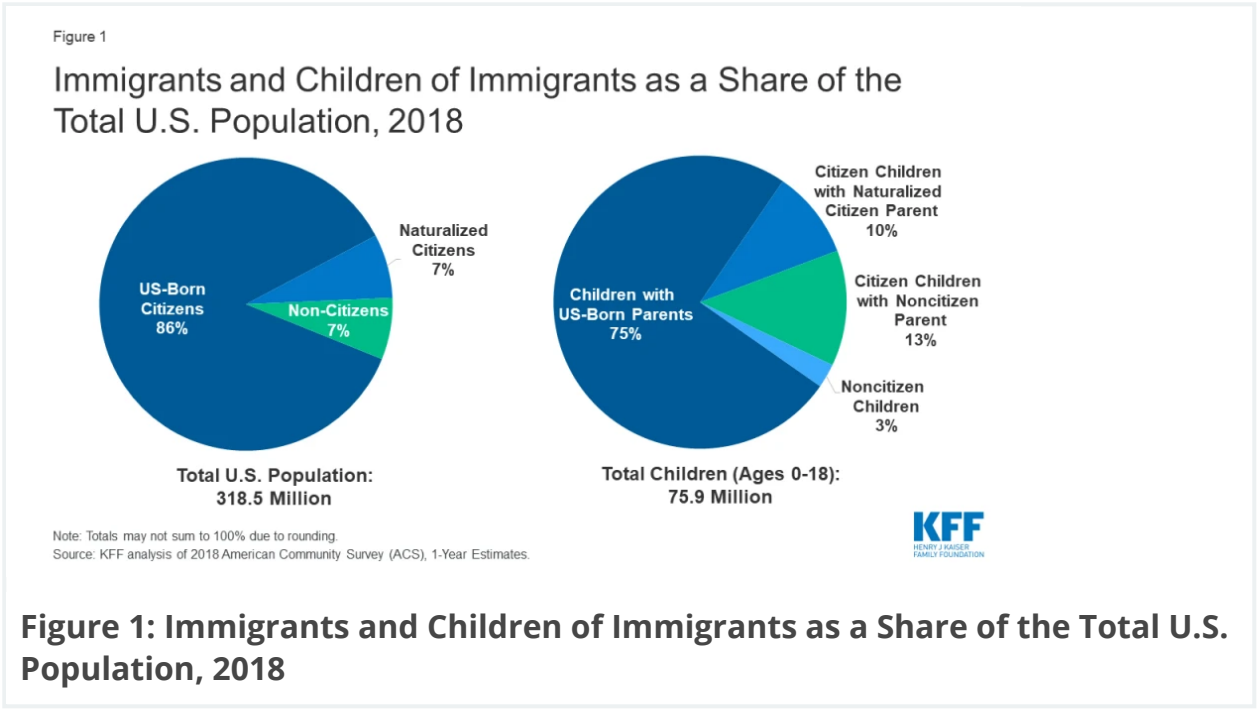

Figure 1: Immigrants and Children of Immigrants as a Share of the Total U.S. Population, 2018

- **Lawfully present immigrants are noncitizens who are lawfully residing in the U.S.** This group includes legal permanent residents (LPRs, i.e., "green card" holders), refugees, asylees, and other individuals who are authorized to live in the U.S. temporarily or permanently.
- **Undocumented immigrants are foreign-born individuals residing in the U.S. without authorization.** This group includes individuals who entered the country without authorization and individuals who entered the country lawfully and stayed after their visa or status expired.

Nearly 19 million or 25% of children had an immigrant parent as of 2018, and the large majority of these children were citizens. About 10 million or 13% were citizen children with a noncitizen parent.

Health Coverage for Nonelderly Noncitizens

In 2018, more than three-quarters of the 27.9 million nonelderly uninsured were U.S.-born and naturalized citizens (Figure 2). The remaining 24% were noncitizens.

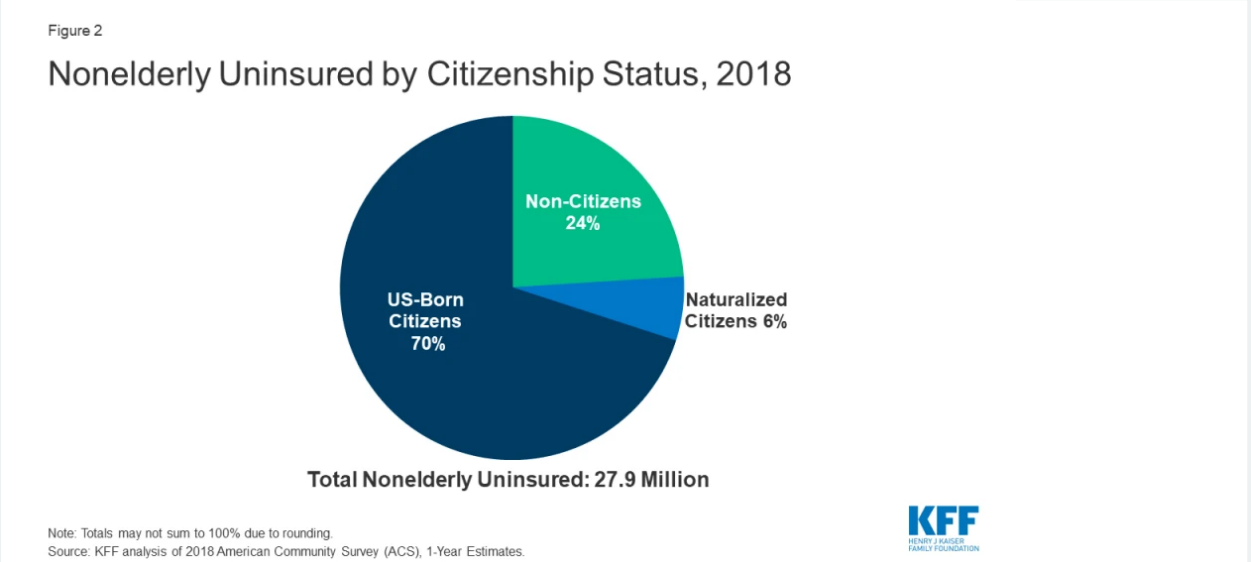

Figure 2: Nonelderly Uninsured by Citizenship Status, 2018

However, noncitizens, including lawfully present and undocumented immigrants, were significantly more likely to be uninsured than citizens. Among the nonelderly population, 23% of lawfully present immigrants and more than four in ten (45%) undocumented immigrants were uninsured compared to less than one in ten (9%) citizens (Figure 3)**.**

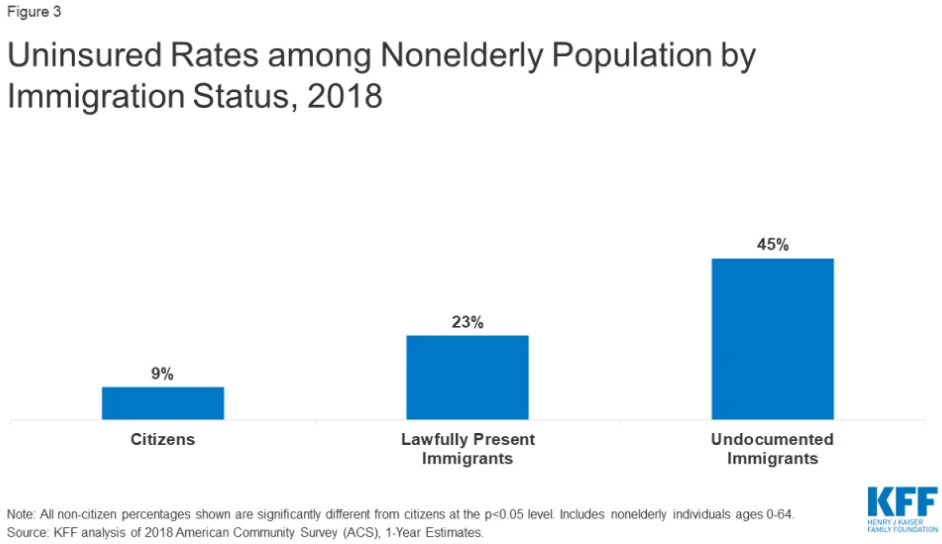

Figure 3: Uninsured Rates among Nonelderly Population by Immigration Status, 2018

These differences in coverage also persist among children, with noncitizen children more likely to lack coverage compared to their citizen counterparts. Moreover, among citizen children, those with at least one noncitizen parent were significantly more likely to be uninsured as those with citizen parents (Figure 4).

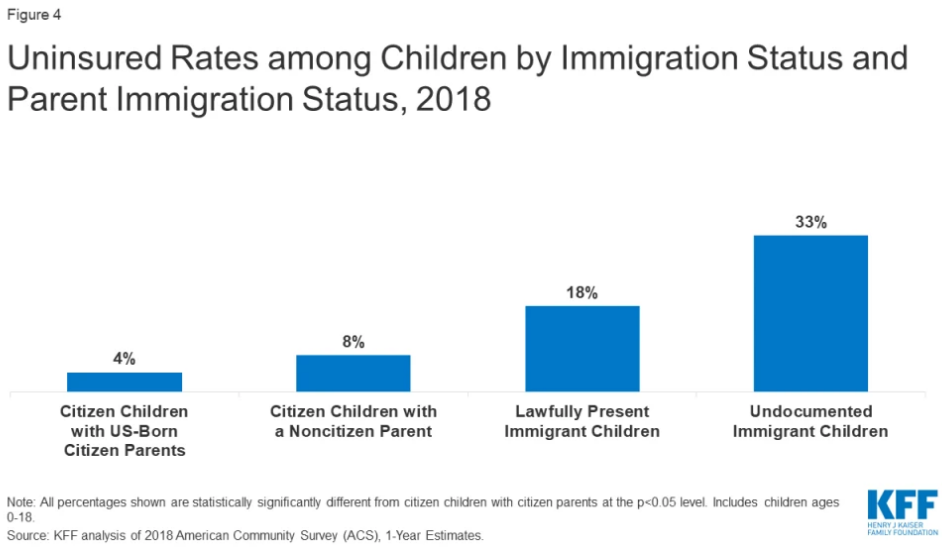

Figure 4: Uninsured Rates among Children by Immigration Status and Parent Immigration Status, 2018

Barriers to Health Coverage for Noncitizens

The higher uninsured rate among noncitizens reflects limited access to employer-sponsored coverage; eligibility restrictions for Medicaid, CHIP, and ACA Marketplace coverage; and barriers to enrollment among eligible individuals.

Limited Access to Coverage

Although most nonelderly noncitizens live in a family with a full-time worker, they face gaps in access to private coverage. Nonelderly noncitizens are more likely than nonelderly citizens to live in a family with at least one full-time worker, but they also are more likely to be low-income (Figure 5)**.** They have lower incomes because they are often employed in low-wage jobs and industries that are less likely to offer employer-sponsored coverage. Given their lower incomes, noncitizens also face increased challenges affording employer-sponsored coverage when it is available or through the individual market.

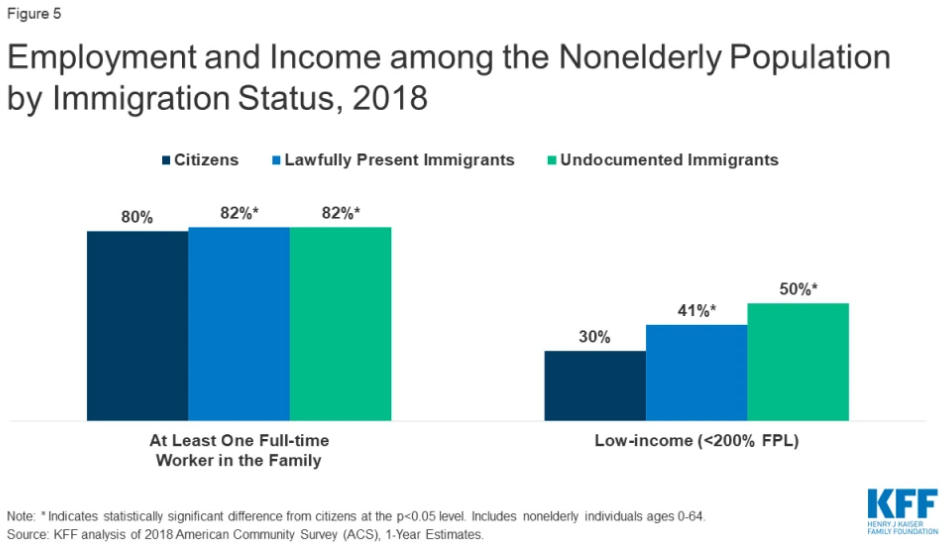

Figure 5: Employment and Income among the Nonelderly Population by Immigration Status, 2018

Lawfully present immigrants may qualify for Medicaid and CHIP, but are subject to certain eligibility restrictions. In general, lawfully present immigrants must have a "qualified" immigration status to be eligible for Medicaid or CHIP, and many, including most LPRs or "green card" holders, must wait five years after obtaining qualified status before they may enroll. Some immigrants with qualified status, such as refugees and asylees, do not have to wait five years before enrolling. Some immigrants, such as those with temporary protected status, are lawfully present but do not have a qualified status and are not eligible to enroll in Medicaid or CHIP regardless of their length of time in the country (Appendix A). For children and pregnant women, states can eliminate the five-year wait and extend coverage

to lawfully present immigrants without a qualified status. Over half of states have taken up this option for children and nearly half have elected the option for pregnant women.[3]

Lawfully present immigrants can purchase coverage through the ACA Marketplaces and may receive subsidies for this coverage. These subsidies are available to people with incomes from 100% to 400% FPL who are not eligible for other coverage. In addition, lawfully present immigrants with incomes below 100% FPL may receive subsidies if they are ineligible for Medicaid based on immigration status. This group includes lawfully present immigrants who are not eligible for Medicaid or CHIP because they are in the five year waiting period or because they do not have a "qualified" status.

Undocumented immigrants are not eligible to enroll in Medicaid or CHIP or to purchase coverage through the ACA Marketplaces. Medicaid payments for emergency services may be made on behalf of individuals who are otherwise eligible for Medicaid but for their immigration status. These payments cover costs for emergency care for lawfully present immigrants who remain ineligible for Medicaid as well as undocumented immigrants. Since 2002, states have had the option to provide prenatal care to women regardless of immigration status by extending CHIP coverage to the unborn child. In addition, some states have state-funded health programs that provide coverage to some groups of immigrants regardless of immigration status. There are also some locally-funded programs that provide coverage or assistance without regard to immigration status. Under rules issued by the Centers for Medicare and Medicaid Services, individuals with Deferred Action for Childhood Arrivals (DACA) status are not considered lawfully present and remain ineligible for coverage options.[4]

Enrollment Barriers among Eligible Individuals

Many uninsured lawfully present immigrants are eligible for coverage options under the ACA but remain uninsured, while uninsured undocumented immigrants are ineligible for coverage options. In 2018, nearly three-quarters of uninsured lawfully present immigrants were eligible for ACA coverage, including 27% who were eligible for Medicaid and 47% who were eligible for tax credit subsidies (Figure 6). Many lawfully present immigrants who are eligible for coverage remain uninsured because immigrant families face a range of enrollment barriers, including fear, confusion about eligibility policies, difficulty navigating the enrollment process, and language and literacy challenges. Uninsured undocumented immigrants are ineligible for coverage options due to their immigration status. In the absence of coverage, they remain reliant on safety net clinics and hospitals for care and often go without needed care.

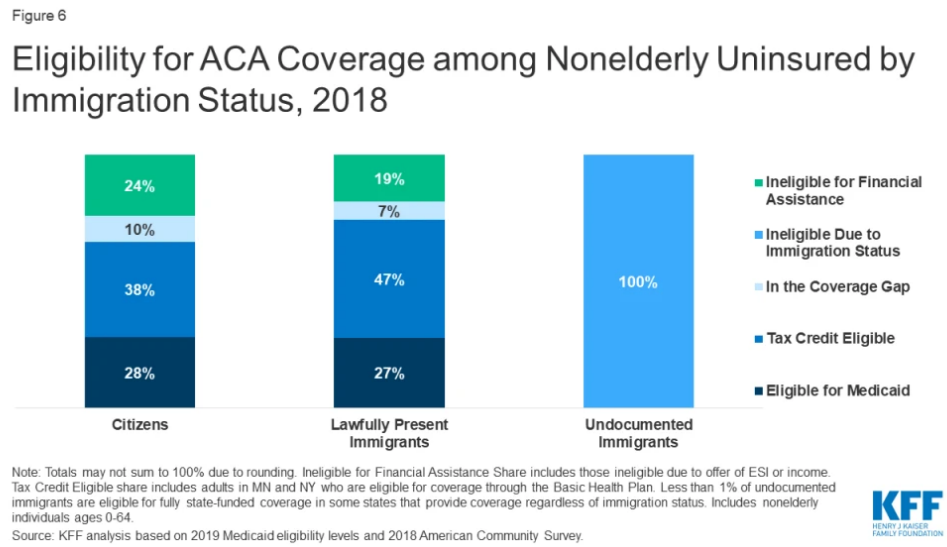

Figure 6: Eligibility for ACA Coverage among Nonelderly Uninsured by Immigration Status, 2018

Growing research suggests that recent changes to immigration policy are contributing to growing fears among immigrant families about their and their children participating in Medicaid and CHIP. Over the past few years, the federal government has implemented a range of policies to curb immigration, enhance immigration enforcement, and limit use of public assistance programs among immigrant families. A growing body of research shows that, amid this policy climate, some immigrant families are avoiding enrolling themselves and/or their children in public programs, including Medicaid.[5] In particular, changes to public charge policy (https://www.kff.org/disparities-policy/issue-brief/estimated-impacts-of-final-public-charge-inadmissibility-rule-on-immigrants-and-medicaid-coverage/) that allow federal officials to newly consider use of certain non-cash programs, including Medicaid for non-pregnant adults, when determining whether to provide certain individuals a green card or entry into the U.S., will likely lead to broad decreases in participation in Medicaid among immigrant families and their primarily U.S.-born children.[6] Prior to implementation of the changes to public charge policy, reports indicated that some individuals were already disenrolling themselves or their children from Medicaid and/or CHIP or declining to renew or enroll themselves or their children in the programs despite being eligible.[7]

Coverage declines would have important implications for the health and well-being of families and the health care system. Research (https://www.kff.org/uninsured/issue-brief/key-facts-about-the-uninsured-population/) shows that health insurance is important for enabling families to access needed care, protecting families from unaffordable medical care costs, and promoting the healthy growth and development of children. Stable health insurance and

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Appendix A: Lawfully Present immigrants by Qualified Status

Qualified Immigrant Categories	Other Lawfully Present Immigrants
• Lawful permanent resident (LPR or green card holder) • Refugee • Asylee • Cuban/Haitian entrant • Paroled into the US for at least one year • Conditional entrant granted before 1980 • Granted withholding of deportation • Battered non-citizen, spouse, child, or parent • Victims of trafficking and his/her spouse, child, sibling, or parent or individuals with pending application for a victim of trafficking visa • Member of a federally recognized Indian tribe or American Indian born in Canada	• Granted Withholding of Deportation or Withholding of Removal, under the immigration laws or under the Convention against Torture (CAT) • Individual with Non-Immigrant Status, includes worker visas, student visas, U-visa, and other visas, and citizens of Micronesia, the Marshall Islands, and Palau • Temporary Protected Status (TPS) • Deferred Enforced Departure (DED) • Deferred Action Status, except for Deferred Action for Childhood Arrivals (DACA) who are not eligible for health insurance options • Lawful Temporary Resident • Administrative order staying removal issued by the Department of Homeland Security • Resident of American Samoa • Applicants for certain statuses • People with certain statuses who have employment authorization

SOURCE: "Coverage for lawfully present immigrants," HealthCare.gov, https://www.healthcare.gov/immigrants/lawfully-present-immigrants/ (https://www.healthcare.gov/immigrants/lawfully-present-immigrants/), accessed March 2020.

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2. The estimate of the total number of non-citizens in the US is based on the 2018 American Community Survey (ACS). The ACS does not include a direct measure of whether a non-citizen has legal status or not. We impute documentation status by drawing on methods underlying the 2013 analysis by the State Health Access Data Assistance Center (SHADAC) and the recommendations made by Van Hook et. al. This approach uses the second wave of the 2008 Survey of Income and Program Participation (SIPP) to develop a model that predicts immigration status for each person in the sample; it then applies the model to a second data source, controlling to state-level estimates of total undocumented population as well as the undocumented population in the labor force from the Pew Research Center. See, "5 facts about illegal immigration in the U.S.," available here: https://www.pewresearch.org/fact-tank/2019/06/12/5-facts-about-illegal-immigration-in-the-u-s/ (https://www.pewresearch.org/fact-tank/2019/06/12/5-facts-about-illegal-immigration-in-the-u-s/).
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3. Tricia Brooks, Lauren Roygardner, and Samantha Artiga, *Medicaid and CHIP Eligibility, Enrollment, and Cost Sharing Policies as of January 2019: Findings from a 50-State Survey*, (Washington, DC: Kaiser Family Foundation, March 2019), https://www.kff.org/medicaid/report/medicaid-and-chip-eligibility-enrollment-and-cost-sharing-policies-as-of-january-2019-findings-from-a-50-state-survey/ (https://www.kff.org/medicaid/report/medicaid-and-chip-eligibility-enrollment-and-cost-sharing-policies-as-of-january-2019-findings-from-a-50-state-survey/).
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4. Cindy Mann to State Official and Medicaid Director, August 28, 2012, Center for Medicaid and CHIP Services, "Re: Individuals with Deferred Action for Childhood Arrivals," SHO# 12-002, https://www.medicaid.gov/Federal-Policy-Guidance/downloads/SHO-12-002.pdf (https://www.medicaid.gov/Federal-Policy-Guidance/downloads/SHO-12-002.pdf).

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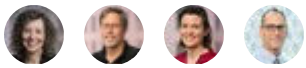
RESEARCH REPORT

Estimates of the Implications of Public Option and Capped Provider Payment Rate Reforms



Linda J. Blumberg, John Holahan, Stacey McMorrow, Michael Simpson

March 18, 2020

SHARE

Abstract

Report:

Estimating the Impact of a Public Option or Capping Provider Payment Rates

Brief:

Introducing a Public Option or Capped Provider Payment Rates into Private Insurance Markets

In this report, Urban Institute researchers estimate the coverage and spending implications of various forms of a public health insurance option introduced as an alternative to private plans currently available to consumers. The public option would be a plan structured the same as private insurance plans currently available in the applicable markets, but it would also share some characteristics with the traditional Medicare fee-for-service plan. Its actuarial value, covered benefits, and cost-sharing structure would reflect the private options in the market in which it was introduced (e.g., a Marketplace qualified health plan in the nongroup market or a typical plan in the employer market). However, a public option would have a broad network, like the traditional Medicare plan, and would pay providers at

Medicare rates or some multiple thereof that would set prices between Medicare's payment rates and those of commercial insurers today.

A public plan is intended to provide a lower-cost insurance option that would reduce health care spending for consumers and government, lower overall spending growth, and potentially catalyze greater competition by private insurers. The option would be particularly attractive for people residing in insurance markets with higher-than-average commercial insurance premiums and/or few commercial insurers. The analysis also includes reforms that would cap all private insurers' payments to providers (in the nongroup market alone or in both the nongroup and employer insurance markets) at the same rates, either as an alternative to or in combination with a public option. Capping rates would also allow employers and their employees to lower the cost of their health coverage without changing their current benefit and cost-sharing structure. The capped rate approach follows the precedent of Medicare Advantage.

The full report and brief present multiple reform scenarios because of the significant uncertainties inherent in a public option or capped payment rate reform, such as the size of the payment rate cuts achievable, the markets in which the new rates would apply, which employers (if allowed) would participate, and how providers would respond to lower payment rates.

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RESEARCH REPORT

Estimating the Impact of a Public Option or Capping Provider Payment Rates

Linda J. Blumberg *John Holahan* *Stacey McMorrow* *Michael Simpson*

March 2020

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Executive Summary

In this report, we examine the coverage and spending implications of various forms of a public health insurance option introduced as an alternative to private plans currently available to consumers. The public option would be a plan structured the same as private insurance plans currently available in the applicable markets, but it would also share some characteristics with the traditional Medicare fee-for-service plan. Its actuarial value, covered benefits, and cost-sharing structure would reflect the private options in the market in which it was introduced (e.g., a Marketplace qualified health plan in the nongroup market or a typical plan in the employer market). However, a public option would have a broad network, like the traditional Medicare plan, and would pay providers at Medicare rates or some multiple thereof that would set prices between Medicare's payment rates and those of commercial insurers today. A public plan is intended to provide a lower-cost insurance option that would reduce health care spending for consumers and government, lower overall spending growth, and potentially catalyze greater competition by private insurers. The option would be particularly attractive for people residing in insurance markets with higher-than-average commercial insurance premiums and/or few commercial insurers. We also discuss capping all private insurers' payments to providers (in the nongroup market alone or in both the nongroup and employer insurance markets) at the same rates, either as an alternative to or in combination with a public option. Capping rates would also allow employers and their employees to lower the cost of their health coverage without changing their current benefit and cost-sharing structure. The capped rate approach follows the precedent of Medicare Advantage (Holahan and Blumberg 2018).

We present multiple reform scenarios because of the significant uncertainties inherent in a public option or capped payment rate reform, such as the size of the payment rate cuts achievable, the markets in which the new rates would apply, which employers (if allowed) would participate, and how providers would respond to lower payment rates.

For ease of exposition, we present all estimates as if reforms have been fully implemented and have reached long-run equilibrium in 2020. We describe our methodological approach in the appendix. Our accompanying brief summarizes each reform's implications for coverage, spending, and the federal deficit (Blumberg et al. 2020).

A Public Option in Nongroup Insurance Markets Only

The public option approaches discussed in bills and by some presidential candidates usually include other reforms, such as enhanced subsidies, reinsurance, and strategies to fill in the Medicaid coverage gap. Unlike those approaches, the reforms we simulate strictly introduce a public option without other reforms. We first examine reforms that would introduce a public option only in the nongroup market. In the nongroup market, the public option's effects on government spending and coverage would be about the same as capping private insurers' payment rates at the same level as a public option would pay, because of the structure of the federal premium subsidies provided.

Our simulated reforms 1, 2, and 3 would be implemented only in the nongroup market. Reform 1 pays Medicare rates to hospitals and physicians in all nongroup markets across the country and reduces prescription drug payments to halfway between Medicaid and Medicare prices via a new rebate program. Reform 2 pays higher prices to providers in rural areas than does reform 1, adding 20 percent to Medicare rates for hospitals and professionals; urban providers are paid Medicare prices. Reform 3 further increases payments for all providers, adding 25 percent and 10 percent to Medicare rates for all hospitals and physicians, respectively.

Table ES.1 summarizes key results for each reform. Reform 1, our base case, reduces median benchmark (second-lowest-priced silver) nongroup market premiums by 28 percent. Reform 2, the rural price adjustment approach, reduces median benchmark premiums by 21 percent, because as payment rates increase, median benchmark premiums fall by smaller degrees. The implications of payment rate differences are even clearer under reform 3, which sets all provider payment rates modestly above Medicare prices nationwide. Under this reform, the median benchmark premium falls by 13 percent, compared with 28 percent in reform 1.

Introducing the public option into the nongroup market only slightly affects overall coverage, reducing the number of uninsured Americans by roughly 155,000 to 230,000. However, the public option could more significantly affect federal spending. Table ES.1 reports estimates of these reforms' effects on the federal deficit, defined here as changes in (1) federal government spending on health care programs for the nonelderly (Marketplace subsidies, Medicaid, and the Children's Health Insurance Program) and (2) income tax revenue resulting from employer savings on premiums being converted to taxable wages.[1] Reform 1 reduces the federal deficit by $15.1 billion, entirely because of reduced Marketplace premium subsidies. In reform 2, the federal deficit decreases by $12.7 billion, because higher payment rates for providers in rural areas increase premiums compared with reform 1, and higher premiums increase federal spending. Reform 3 reduces the deficit by $7.3 billion.

The reforms implemented in the nongroup market alone have virtually no effect on employer spending, but they decrease household spending for people enrolled in the nongroup market. Lower provider payment rates decrease premiums for those enrolled in nongroup coverage but ineligible for premium subsidies and decrease out-of-pocket spending for enrollees when they use services. Depending on the reform, household savings range from $3.8 to $7.0 billion.

A Public Option in Nongroup and Employer Insurance Markets

The number of people enrolled in employer coverage is more than nine times the number in nongroup coverage. Plus, employer-based plans tend to pay health care providers at rates higher than those of nongroup insurers, particularly in the more competitive nongroup Marketplaces. Consequently, introducing the public option or capping provider payment rates in both the nongroup and employer markets has the potential to reach many more consumers and to substantially affect premiums, overall spending, health care provider revenues (e.g., for hospitals, physicians, and prescription drug manufacturers), and the federal deficit.

We assume the public option offered in the employer market is designed to have benefits typical of employer plans today, including an actuarial value of 80 percent. However, the public option would use regulated provider payment rates, therefore lowering premiums compared with current employer-based plans. Firms can offer their workers the public option if the firm prefers its benefits, cost-sharing levels, and lower provider payment rates. In the small-group employer market, premiums are modified community rated, consistent with current rules. In the large-group employer market, the public option is experience rated. Under such reforms, some firms would continue offering their current plans, and others would not offer coverage.

How attractive the public option would be to various employers is uncertain. For illustrative purposes, we assume lower-wage and smaller firms are more likely to offer a public option (appendix A). Smaller firms tend to more frequently change the plans they offer their workers each year, meaning they are less likely to be attached to a particular plan structure or insurer. Lower-wage employers and their workers are more likely to be price sensitive and therefore willing to change coverage. We also assess the implications of capping rates paid to all providers by all insurers in the market, and those results are consistent with assuming all employers choose the public option.

Reform 4, the nongroup and employer base case with Medicare payment rates, makes reform 1 available to employers and results in a 32 percent decrease in median premiums among employers that choose it. In reforms 5 and 6, provider payment rates are set above Medicare rates, modestly above Medicare rates in reform 5 and even further above Medicare rates in reform 6. Consequently, participating employers' premium reductions are smaller than in reform 4 at the median (24 percent in reform 5 and 16 percent in reform 6).

Making the public option available to employers has a larger effect on insurance coverage than when the option is made available in nongroup markets alone. Depending on the simulation, the number of uninsured people drops by 1.5 to 1.7 million, decreasing the number of uninsured people below age 65 by approximately 5 percent.

Aggregate health care spending by employers falls considerably when a public option becomes available as an employer-based coverage alternative. Depending on the public option approach, employer premium spending falls by $38.9 billion (4 percent) to $142.9 billion (15 percent), with the smallest savings achieved with the highest provider payment rates. Depending on the payment rates assumed, employers save even more on premiums, ranging from $223.0 to $257.0 billion under a capped rate model, where all employer plans benefit from lower provider payment rates (under rates capped modestly above Medicare prices in reform 7 and further above Medicare prices in reform 8). These savings equate to all employers choosing the public option. Under reforms 4 through 8, substantial savings, ranging from $24.0 to $109.2 billion, also accrue to households enrolled in plans with lower provider payment rates.

Introducing a public option or capped provider payment rates into the employer insurance market can have important implications for the federal deficit. Economic research indicates that as employer spending on health insurance premiums decreases, those savings are passed back to workers via higher wages. Those increased wages are taxable, but health insurance premium payments are not; therefore, income tax revenue increases. Thus, the larger the decrease in employer health spending, the larger the increase in income tax revenue. Depending on the reform, we estimate reduced federal government health spending (primarily on Marketplace subsidies) and increased income tax revenue to lower the federal deficit by $12.4 billion (reform 6) to $52.4 billion (reform 7).

Conclusion

Introducing a public option into the nongroup insurance market would have a limited effect on overall insurance coverage but would reduce federal spending significantly. Extending the public option to the employer market would lead to greater changes, including potentially large employer premium reductions. Capping provider payment rates for all employer plans, an approach based off the Medicare Advantage program, would lead to the greatest employer premium savings, ranging from 17 to 24 percent. Employer public options and the premium savings they engender would also increase tax revenues.

However, the lower the payment rates used in a public option and the greater the number of people enrolled, the greater the implications for provider revenues. The lower the rates, the fewer providers would participate with the plan voluntarily, and the greater the necessity for tying providers' Medicare program participation to participation with the public option. Provider disruption can be decreased if provider payment rates are higher or if the transition to lower rates is accomplished over an extended period. The trade-off is that managing provider impacts in this way would decrease federal government, employer, and household savings to some degree.

TABLE ES.1

Summary of Simulation Results, 2020

Reform	Availability of public option	Payment policy[a]	Percent Change to Median Premium		Change in number of uninsured (thousands)	Change in federal deficit (billions)[d]	Change in employer health spending	Change in household spending
			Nongroup[b]	Employer[c]				
1. Nongroup base case	Nongroup markets nationwide	Medicare rates for all providers	-28	0	-230	$-15.1	$0.3 B (0%)	-$7.0 B (-1%)
2. Nongroup with rural price adjustment	Nongroup markets nationwide	Medicare rates for urban providers, Medicare rates + 20% for rural providers (higher rural prices than reform 1)	-21	0	-211	$-12.7	$0.3 B (0%)	-$5.8 B (-1%)
3. Nongroup with prices modestly above Medicare rates	Nongroup markets nationwide	Medicare rates + 25% for hospitals, Medicare rates + 10% for professionals (higher hospital and professional prices than reform 1)	-13	0	-155	$-7.3	$0.3 B (0%)	-$3.8 B (-1%)
4. Employer and nongroup base case	Nongroup and employer markets nationwide; subset of employers choose public option	Medicare rates for all providers	-28	-32	-1,698	$-42.3	-$142.9 B (-15%)	-$76.3 B (-14%)
5. Employer and nongroup with prices modestly above Medicare rates	Nongroup and employer markets nationwide; subset of employers choose public option	Medicare rates + 25% for hospitals, Medicare rates + 10% for professionals (higher hospital and professional prices than reform 4)	-14	-24	-1,597	$-27.6	-$104.5 B (-11%)	-$54.6 B (-10%)

Reform	Availability of public option	Payment policy[a]	Percent Change to Median Premium		Change in number of uninsured (thousands)	Change in federal deficit (billions)[d]	Change in employer health spending	Change in household spending
			Nongroup[b]	Employer[c]				
6. Employer and nongroup with prices further above Medicare rates	Nongroup and employer markets nationwide; subset of employers choose public option	Medicare rates + 60% for hospitals, Medicare rates + 15% for professionals (higher hospital and professional prices than reform 5)	-10	-16	-1,478	$-12.4	-$38.9 B (-4%)	-$24.0 B (-4%)
7. Employer and nongroup rates capped modestly above Medicare prices	Nongroup and employer markets nationwide; all employer plans pay lower rates	Medicare rates + 25% for hospitals, Medicare rates + 10% for professionals (same provider prices as reform 5, affects more employers)	-14	-25	-1,597	$-52.4	-$223.9 B (-24%)	-$109.2 B (-20%)
8. Employer and nongroup rates capped further above Medicare prices	Nongroup and employer markets nationwide; all employer plans pay lower rates	Medicare rates + 60% for hospitals, Medicare rates + 15% for professionals (higher hospital and professional prices than reform 7)	-10	-17	-1,478	$-37.2	-$157.0 B (-17%)	-$79.7 B (-14%)

Source: Health Insurance Policy Simulation Model, 2019.

Notes: B = billion. Reforms simulated as fully phased in and in equilibrium in 2020. Data in this analysis include health care spending by people below age 65 not enrolled in Medicare. The changes in median premiums shown in this table differ slightly from those in tables 2–5 because they reflect not only the basic changes in premiums but changes in the risk pool that result from introducing the public option.

[a] Prescription drug prices in each reform scenario are assumed to be set halfway between Medicare and Medicaid prices.

[b] This column shows the change in the national median nongroup benchmark premium.

[c] This column shows the change in the national median premium among employers providing the public option to their workers (reforms 4–6). In reforms 7 and 8, provider payment rates are capped for all employer plans, so the median shown includes all employers providing coverage to their workers.

[d] Estimates in this column equal the change in federal spending on Medicaid/the Children's Health Insurance Program acute care for the nonelderly and Marketplace premiums minus the estimated increase in income tax revenue, which result from turning savings in untaxed health care premiums into taxable worker wages.

Estimating the Impact of a Public Option or Capping Provider Payment Rates

Introduction

Several recent health reform proposals call for developing and introducing a public health insurance plan, an insurance option structured and administered by government or a government contractor. [2] The public option would offer a lower-cost insurance plan (or plans) in private insurance markets, which would reduce health care spending for consumers and government, lower overall spending growth, and catalyze greater competition among private insurers. Such a plan would pay health care providers lower rates than typical commercial plans pay, perhaps at Medicare rates or somewhere between such rates and those of commercial plans. Private insurers paying providers higher rates could compete with the public option on customer service, effective care management, or provider networks; however, the number of private insurers might decrease in at least some markets. As such, we estimate an alternative approach that could potentially achieve many of the same goals with less risk of private insurers exiting the market: capping the provider payment rates of all private insurers offering coverage in a particular market at Medicare rates or some multiple thereof. Capping rates would also allow households and employers to lower the cost of their health coverage without changing their current benefit and cost-sharing structure. This approach is based on the structure used in the Medicare program. Table 1 shows how this approach differs from public option reforms.

We present multiple reform scenarios because of the significant uncertainties inherent in a public option or capped payment rate reform, such as the size of the payment rate cuts achievable, the markets in which the new rates would apply, which employers would participate (if allowed), and how providers would respond to lower payment rates. Across these scenarios, we vary payment rates to providers and employer participation to provide a range of possible outcomes to various approaches. For each reform, we estimate the impacts on the distribution of insurance coverage and levels of health care spending by government, households, and employers.

For ease of exposition and comparison, we estimate these reforms as if they were fully phased in and in equilibrium in 2020. However, each approach considered would require a multiyear phase-in, whereby payment rates would be reduced to target levels incrementally. Depending on the target

payment rates chosen, it is also possible to reach desired levels over an extended period by slowing annual increases in payment rates, as opposed to cutting payment rates. Such incremental implementation would allow providers time to adjust their underlying costs to the lower real payment levels and would allow analysts to monitor and evaluate any changes in access to or quality of care that might signal the need for adjustments in payment rate targets for particular services. Slowing the change in payment rates would decrease potential disruption to the health care delivery system but also means potential savings would be moderated.

Several of the bills introduced in Congress that call for public options make reference to using Medicare-like payment rates or at least using the process of determining Medicare rates as a basis for setting public option rates. Though policymakers, advocates, and stakeholders increasingly debate the merits of public option approaches, information on the magnitude of their potential for creating system savings or their implications for coverage and provider revenues is limited. In particular, current variation in insurer competition across the country means the effects of introducing a public option will vary significantly by geography. Though most public option reform proposals include other strategies, such as enhanced financial assistance, this analysis focuses on the implications of such reform proposals without additional strategies.

Though we believe we use the best available data and methods for estimating the potential effects of introducing differently structured public options and capped payment rates, significant uncertainty surrounds our estimates, because data that would make our estimates more precise are not publicly available. Consequently, we rely on some imputation and proxy measures; appendix A contains a full description of our data and methods.

TABLE 1

A Public Option versus Capped Provider Payment Rates

Two approaches for lowering costs in health insurance markets

Public option	Capped provider payment rates for all private insurers
▪ A government-developed insurance plan that pays providers (doctors, hospitals, prescription drug manufacturers) according to a fee schedule that uses lower rates than those typical of commercial insurers.	▪ A requirement that providers (doctors, hospitals, prescription drug manufacturers) accept payment rates no higher than those specified. Rates capped at lower levels than those typical of commercial insurers.
▪ Available in nongroup or employer markets, or both, either nationwide or in particular geographic areas. May be introduced into "bare counties," areas without private insurance options in a given market.	▪ Applicable to insurers in nongroup or employer markets, or both, either nationwide or in particular geographic areas.
▪ Can be implemented alone or with capped provider payment rates, the latter being similar to the Medicare program's structure.	▪ Can be implemented alone or with a public option, the latter being similar to the Medicare program's structure.
▪ Requires consumers (households and/or employers) to enroll in a new plan to take advantage of full cost savings.	▪ Allows consumers (households and/or employers) to take advantage of full cost savings while enrolling with any preferred insurer, or for employers, self-insuring.
▪ New competition from a public option may catalyze more aggressive negotiations between private insurers and providers for lower rates, possibly lowering private plan premiums as well. ▪ If private insurers cannot successfully negotiate provider rates low enough to compete with the public option, at least some may leave the market.	▪ Likely to result in more private insurers entering a market and staying in markets, because large numbers of enrollees are not needed as leverage for negotiating competitive payment rates with providers.

Source: Urban Institute.

Background

According to the Centers for Medicare & Medicaid Services' estimates, US health care spending amounted to 17.7 percent of gross domestic product (GDP) in 2018. The agency projects health spending will amount to 19.7 percent of GDP by 2026.[3] Though overall increases in national health expenditures since passage of the Affordable Care Act (ACA) have been lower than anticipated (Holahan, Blumberg, Clemans-Cope, et al. 2017), concerns with the levels and growth of health care spending remain. Those concerns are particularly acute in the private sector, because per enrollee health spending growth in the largest public programs (Medicare and Medicaid) has been lower than in private insurance and lower in per capita terms than GDP growth in recent years (Holahan and McMorrow 2019).

Premium levels and growth have varied considerably across the ACA's reformed private nongroup insurance markets; many markets, particularly those in highly populated areas, have low premium levels and slow growth, but many others experience the opposite (Blumberg, Holahan, and Wengle 2016; Holahan, Blumberg, Wengle, et al. 2017; Holahan, Wengle, and Elmendorf 2020). High premiums in these markets create barriers to affordable coverage and care for some people ineligible for federal subsidies while driving up the federal costs of such subsidies for people eligible for them. In addition, continually growing medical costs in employer insurance markets—though lower in recent years than before the ACA—continue to have significant implications that could worsen if underlying medical cost growth reverts to prior high rates.

In employer markets, increasing medical costs tend to displace worker wages, because employers shift compensation more heavily toward insurance premiums and/or increase employee cost-sharing requirements (e.g., reduced covered benefits and higher employee premium contributions, deductibles, coinsurance/copayments, and out-of-pocket maximums). Consequently, analysts and policymakers continue to search for effective, politically viable strategies to contain health care costs.

Lack of competition in insurer markets, provider (especially hospital) markets, or both appears to drive high health care prices in many areas. A dominant or monopolistic hospital system can essentially "name its prices," because insurers cannot sell their product in that area without the hospitals in their networks. Again, high payment rates (here demanded by providers to ensure their participation) translate into high premiums. Without competition, a dominant or monopolistic insurer can maintain high premiums. Although such insurers may choose to negotiate aggressively with providers, depending on the insurer's objectives and time horizons (e.g., profit maximization, enrollment increases, community relations).

Health policy experts are reaching a consensus that effective cost containment will necessarily involve lower provider payment rates (Blumberg and Holahan 2017a; Buntin 2018; Future of Health Care Leaders 2020).[4] Analysts and policymakers are considering regulatory approaches to control provider rates for the private sector, grounded in experience with the Medicare program. One approach debated and ultimately rejected during the ACA legislative process has reemerged: developing and introducing a public plan option that uses government-determined provider payment rates (perhaps related to the Medicare fee schedule) to compete with private insurers.[5] A second approach is capping payments insurers make to providers in a given market, like Medicare Advantage insurers do.[6] Such approaches could be implemented independently or simultaneously.

The public option plan is most frequently proposed as a possible addition to nongroup insurance markets. It would operate much like the Medicare traditional fee-for-service plan, and rates would be set at Medicare levels or some multiple thereof. The public option would cover the same comprehensive benefits and satisfy the same standards as those in ACA Marketplace plans, and the cost-sharing would fit into one or more of the ACA's nongroup market actuarial value (AV) tiers. (At a minimum, the plan would have to have a 70 percent AV in the nongroup market, because the standard ACA coverage is required as well as the cost-sharing reduction options associated with it, but public options at each AV level could be offered.[7]) The public option should be particularly attractive to people living in more expensive insurance markets.

An alternative or possible supplement to the public option would be capping all insurers' provider payment rates for their ACA-compliant nongroup market enrollees. Capping rates paid by private insurers would ensure more competing insurers remain in a market, regardless of whether a public option is added, because private insurers could set their provider payment rates no higher than those used by the public option, regardless of hospitals' or physicians' market power in the area. Plus, limiting provider payment rates would allow new insurers to enter a market, because insurers would not need large initial enrollment to negotiate reasonable rates. Capping private insurers' payment rates would also allay insurer fears that they could not compete with a new public option on price; this has been the case with the Medicare Advantage program, which also effectively caps rates while offering a public option.[8] Capping payment rates would also allow people enrolling in commercial plans to reap the savings associated with government-determined rates, whereas the public option alone would provide those savings primarily to people enrolling in the public option. However, even if private insurer rates are not capped but a public option is introduced, private insurers could reduce their rates in response to competition from the public option through tougher negotiations with providers (Blumberg et al. 2019).

Both the public option and capped rates for private insurers in the nongroup market would likely lead to roughly the same savings for the federal government, because premium tax credits are tied to the second-lowest silver premium, which in either approach would be largely determined by provider payment rates. Thus, coverage and government cost estimates should not be materially affected regardless of whether one or both approaches are used. The expected effects are the same because the public option is expected to be the benchmark plan.

Less frequently proposed is introducing a public option or capped provider payment rates into the employer market.[9] In this case, a public option could be designed like a typical employer plan. In the small-group market, ACA-compliant, fully insured coverage would be essentially the same as that offered in the nongroup insurance market: coverage must meet the same AV standards, be modified community rated, and cover the same essential health benefits, among other requirements. Therefore, a small-group public option could look very much like a nongroup one, though, at a minimum, it must offer an 80 percent AV (gold) plan, which is the most typical employer coverage.

Large employer markets operate under fewer regulations and are experience rated, meaning their premiums largely reflect the expected health care costs of a firm's enrollees. Actuarial values of about 80 percent are also typical in these markets. Therefore, a public option in the large-group market would need an 80 percent AV option with experience-rated premiums to be attractive to many employers. If a large-group public option is not experience rated, it will likely attract higher-than-average-cost employers and/or workers, leading to high premiums and endangering the option's stability. Consequently, an employer public option would be a plan employers can choose to purchase for their workers. The government would define the plan's parameters (e.g., benefits, cost-sharing structure), which would be uniform for any large group enrolling. The plan would use regulated provider payment rates (e.g., Medicare rates or some multiple thereof), but the premiums would vary by the enrolling group's characteristics and expected health care risk. Employers and their workers could choose the public option if the mix of benefits, cost-sharing, and lower payment rates were attractive, or they could

offer a self-insured or alternate fully insured plan. Employer participation rate assumptions are detailed in the appendix and table A.3.

If provider payment rates, in conjunction with or as an alternative to a public option, are capped in the employer market for all private insurers, fully insured or self-insured products could use the capped rates and continue to offer the benefits and cost-sharing requirements employers and their workers prefer. All employers and workers with firm-based insurance could therefore reap savings from the lower provider prices, not just those enrolling in a separate public option. Under any of these scenarios that offer employers the public option or allow employer plans to use capped payment rates, wages increase as employer spending on health insurance decreases, meaning income tax revenue increases as well.

Both the public option and capped rate approaches are intended to provide lower-premium insurance options in at least some areas and markets by requiring providers to accept lower prices, thus lowering government and private-sector spending, and improve affordable access to insurance and ultimately necessary care. Capping rates would likely allow more private insurers to remain active in (or newly enter into) a given market than would the public option, because the capped rates reduce the costs faced by all participating insurers, allowing many to be more competitive. The public option guarantees a single, lower-cost insurer in a market but could also decrease the number of private insurers in some markets.

Either approach will have to induce provider participation by paying sufficiently high rates or requiring that participation be linked to participation in other programs, most likely Medicare.[10] Absent payment rates high enough to attract a sufficient provider network, linking Medicare participation to participation in the nongroup public option could successfully induce provider participation. Medicare enrollees generate a large percentage of revenue for many providers; therefore, being excluded from the Medicare program has greater implications for providers than the nongroup insurance market on its own. Introducing a public plan without capping private insurer rates should provide stronger incentives for private insurers to negotiate lower rates with providers and may provide private insurers with additional leverage in those negotiations.[11] The two approaches can also be used in tandem, but ultimately the effect of either approach will be strongly associated with the payment rates used. If payment rates are capped for all private insurers in the nongroup and employer markets, it would be difficult for providers to reject these rates, because only a small share of consumers could pay the higher cost of care outside an insurance arrangement.

As indicated above, the potential savings from either strategy will vary geographically, because some markets already have high insurer and provider competition, which have led to efficient provider payment rates and premiums. In addition, potential savings from a public plan or capped rates will differ if implemented in the nongroup market alone or in both the nongroup and employer-based markets, because these markets' competitiveness and structures differ considerably.

Overview of Analytic Approach

Estimating the effects of a public option requires two general steps. First, because the public option or capped payment rate reforms studied here are designed to set payments at various levels relative to Medicare rates, we must estimate how current provider payment rates compare with Medicare rates. That first step allows us to compute how much lower a public plan's prices might be relative to current commercial insurance prices, and lower prices translate into lower premiums. However, the availability of data reporting the payment rates currently used by commercial insurers in the nongroup and employer insurance markets is severely limited. These data constraints force us to use proxies for some of the actual payment rate information we would like to use and require that we approach this step in different ways for the nongroup and employer-group insurance markets. The data limitations introduce unavoidable uncertainty in our estimates. Below and in detail in the appendix, we describe the methodology used to generate our estimates.

The second step involves feeding the information from the first step into a microsimulation model of the US health insurance system for the nonelderly population. This step allows us to estimate the number of people affected by the public option reforms and the potential implications for private and government health care spending overall. In both steps, geographic variation is a central interest.

Below, we provide an overview of the first step. Here we describe how premiums under a public option would compare with premiums in the current nongroup and employer markets and how they would differ across geographic areas. Appendix A provides details on step 1 and a description of our approach to step 2, which relies on the Urban Institute's Health Insurance Policy Simulation Model (HIPSM).

Estimating Current Provider Payment Rates in the Nongroup Market

No claims data are available to estimate commercial nongroup market payments relative to those of Medicare. Because available data sources combine all commercial claims across markets, they are most reflective of employer-based insurance claims, by far the largest share of the total. Consequently, we must develop a proxy measure for nongroup market payments relative to those of Medicare. For this purpose, we assume nongroup market premiums in the most competitive markets—those with at least five competing Marketplace insurers and at least modestly competitive hospital markets—reflect provider payment rates of approximately Medicare levels. (We provide validation for this assumption in appendix A.) Using regression techniques, we estimate what the benchmark nongroup premium would be in each rating area if each of them met these competitive standards. We then compare current

benchmark Marketplace premiums in each rating region with the benchmark premiums estimated for each area if it met high standards of competitiveness.[12]

For each rating region, we then compute the implied percent reduction in premiums between the area's predicted competitively priced premium (which proxies Medicare prices) and actual benchmark premium. To estimate overall savings, we include an estimated premium reduction associated with policy-driven savings in prescription drug prices (described below). We also simulate several policy approaches, where the public option is assumed to pay providers more than current Medicare rates in all or some areas (i.e., rural areas) and at different levels relative to Medicare prices for hospitals versus physicians.

Estimating Current Provider Payment Rates Relative to Medicare's Payment Rates in the Employer Group Market

Data on employer-sponsored plans' payment rates to hospitals and physicians are also not readily available. Available data frequently provide list prices but not allowed amounts (the actual prices paid by insurers after discounts). We considered several sources of proprietary commercial claims data that could be used to estimate typical commercial prices relative to Medicare rates for both hospitals and professionals. We ultimately chose to use FAIR Health data, because they have the largest and most geographically representative private insurance claims data available to us.[13] The data we used include imputed allowed payment amounts for commercial payers (including but not limited to employer group plans) and Medicare payment rates for 46 professional procedure codes and 45 hospital outpatient services, representing nearly half of all professional and outpatient spending. The commercial allowed payment amounts were drawn from the FH ® Allowed Benchmarks, which were available at the substate level.[14] For hospital inpatient rates, FAIR Health provided ratios comparing commercial allowed amounts to Medicare payments for all hospital inpatient services at the state level.

For each state, we compute the implied hospital and professional price changes if rates were set at Medicare levels. We then combine these price changes with an estimated 30 percent price cut for prescription drugs (as described below) to generate potential employer premium savings when implementing a public option or capping provider payment rates at Medicare levels. As noted earlier, when a simulation assumed payment rates somewhat above Medicare levels, we made appropriate adjustments. We assume price reductions in each provider sector directly translate into premium reductions proportionate to that provider type's share of premium spending.

Estimating Prescription Drug Savings

We assume the public option would pay prescription drug prices below current Medicare prices, because Medicare has been prohibited from negotiating or setting prescription drug prices. Rather, it has relied on pharmacy benefit managers to obtain the best rebates possible.

We obtained current rebate information for each payer relative to current commercial rebates. Using Market Scan data, Kesselheim and Hwang (forthcoming) estimated that Medicare Part D rebates generate savings worth about 12 percent of commercial insurer prices. The full Medicaid rebate, including both basic and inflation rebates, averages about 48 percent in savings relative to commercial insurer prices after rebates.

Kesselheim and Hwang (forthcoming) also estimates that the Canadian health system pays for prescription drugs at prices about 65 percent below US commercial prices after rebates. Countries such as Germany, Switzerland, and the UK face prices comparable to those in Canada. Thus, the US has not lowered drug prices as successfully as other countries, and we assume this continues to hold true, primarily because of the political strength of pharmaceutical manufacturers. We estimate that the public option could establish rebates halfway between those received through Medicare and Medicaid, implying prices 30 percent below those faced by commercial insurers. We find this rebate feasible, but we acknowledge it would be difficult to achieve. However, the resulting prices would still be well above those of other western nations.

We applied this assumed 30 percent prescription drug savings in each simulation analysis. Because prescription drugs account for about 23 percent of private health care spending for the nonelderly, a 30 percent decrease in commercial prices for prescription drugs would reduce spending for the insured nonelderly by 6.9 percent on average. Using the 30 percent savings estimate, we adjust premiums to reflect public option premiums in both the nongroup and employer markets.[15]

Estimating Premium Savings under Public Option or Capped Rate Reforms in the Nongroup Market

Accounting for potential savings for all health care providers, including on prescription drugs, table 2 shows estimated state average percent differences between current benchmark nongroup premiums and premiums using Medicare payment rates for all providers, with prescription drug rebates halfway between those for Medicare and Medicaid. These are our base case assumptions of the percent changes in nongroup premiums under a public option or via capped rates. Premium adjustments are computed at

the ACA nongroup market rating region level, and state averages shown in the table are computed using the rating region population covered by nongroup insurance as weights.[16] These percent changes in premiums reflect changes in provider payment rates only and do not account for any changes that may result from changes in the mix of people enrolling as premiums change. Our simulations, described in the results section, account for such changes.

Table 2 shows that under reform 1, the base public option scenario, average nongroup benchmark premiums would be 19 percent lower across the US. However, average benchmark premiums would fall by less than 12 percent in six states, because the nongroup insurance Marketplaces in these states tend to be quite competitive today. In comparison, we estimate that premium savings would exceed 35 percent in eight states, reflecting the current lack of competition in these nongroup markets.

Table 3 shows the distribution of benchmark premium savings across the country's 502 nongroup market rating regions. As the distribution shows, we estimate that benchmark nongroup premiums would fall by at least 41 percent in 10 percent of rating regions and would fall by no more than 11 percent in another 10 percent of regions. The median decrease would be 28 percent.[17]

TABLE 2

Percent Change in State Average Benchmark Premium, Reform 1 Payment Rate Assumptions, 2020

	Percent change
Alabama	-38
Alaska	-39
Arizona	-18
Arkansas	-18
California	-11
Colorado	-13
Connecticut	-26
Delaware	-42
District of Columbia	-28
Florida	-22
Georgia	-22
Hawaii	-28
Idaho	-9
Illinois	-23
Indiana	-15
Iowa	-23
Kansas	-25
Kentucky	-25
Louisiana	-27
Maine	-16
Maryland	-12
Massachusetts	-7
Michigan	-10
Minnesota	-17
Mississippi	-43
Missouri	-30
Montana	-18
Nebraska	-38
Nevada	-21
New Hampshire	-17
New Jersey	-18
New Mexico	-14
New York	-8
North Carolina	-35
North Dakota	-18
Ohio	-9
Oklahoma	-28
Oregon	-16
Pennsylvania	-23
Rhode Island	-16
South Carolina	-39
South Dakota	-29
Tennessee	-27
Texas	-16
Utah	-18
Vermont	-24
Virginia	-21
Washington	-17
West Virginia	-33
Wisconsin	-14
Wyoming	-40
United States	**-19**

Source: Urban Institute analysis.

Notes: State averages weighted by population with nongroup coverage in each rating region. Reform 1, the nongroup base case, assumes hospital and physician prices are set at Medicare levels and prescription drug prices are set halfway between Medicare and Medicaid prices in 2020. These percent changes in premiums reflect the changes in provider payment rates only and do not account for any changes that may result from changes in the mix of people enrolling as premiums change.

TABLE 3

Rating Region–Level Distribution of Nongroup Benchmark Premium Changes under Reform 1 Payment Rate Assumptions, 2020

Percent

	Estimated premium change
Mean	-19
Percentile	
10th	-41
25th	-40
50th (median)	-28
75th	-16
90th	-11

Source: Urban Institute analysis.

Notes: Mean is weighted by population with nongroup coverage. Reform 1, the nongroup base case, assumes hospital and physician prices are set at Medicare levels and prescription drug prices are set halfway between Medicare and Medicaid prices in 2020. These percent changes in premiums reflect the changes in provider payment rates only and do not account for any changes that may result from changes in the mix of people enrolling as premiums change.

Estimating Premium Savings under Public Option or Capped Provider Payment Rate Reforms in the Employer Market

Table 4 shows (1) the national distribution of commercial-to-Medicare price ratios for hospitals and professionals at the public use microdata area (PUMA) level, (2) the implied premium cut from moving from commercial to Medicare rates, and (3) prescription drug savings (taken together, these changes comprise reform 1). Again, these changes reflect reductions in underlying costs alone and do not account for any risk pool changes resulting from behavior changes; those are accounted for in our simulation results described below. The table shows that the ratio of commercial to Medicare prices was 2.4 on average for hospitals and 1.2 for professionals (physicians and others). The ratios vary considerably across the country, however, particularly for hospitals.[18] In the appendix, we compare our estimates with those of others.

To compute the implied potential premium cuts resulting from moving from current commercial payment rates to base case assumptions (Medicare rates for hospitals and professionals and prescription drug prices halfway between those for Medicare and Medicaid), we combine the relative differences for hospital and professional payments with the assumed prescription drug price cut (weighted by the share of spending attributable to each).Our estimates suggest the resulting mean and median employer insurance premium decreases would be approximately 35 percent each. This is larger than the 19 percent mean and 28 percent median in the nongroup market.

TABLE 4

PUMA-Level Distribution of Commercial Insurance–to-Medicare Price Ratios for Hospital and Professional Services and Implied Premium and Provider Price Changes under Reform 1 Payment Rate Assumptions, 2020

	Hospital ratio	Professional ratio	Hospital price change (%)	Professional price change (%)	Prescription drug price change (%)	Combined premium change (%)
Mean	2.4	1.2	-57	-14	-30	-35
Percentile						
10th	3.1	1.5	-67	-34	-30	-44
25th	2.7	1.3	-63	-25	-30	-40
50th (median)	2.4	1.2	-58	-14	-30	-35
75th	2.1	1.0	-53	-2	-30	-30
90th	1.9	0.9	-47	6	-30	-25

Source: FAIR Health data on commercial prices relative to Medicare.

Notes: PUMA = public use microdata area. Expenditure-weighted ratios constructed across common procedural technology codes at the geozip level. Geozip ratios are distributed to 2,351 PUMAs, and summary statistics are weighted by 2010 PUMA population. Reform 1, the nongroup base case, assumes hospital and physician prices are set at Medicare levels and prescription drug prices are set halfway between Medicare and Medicaid prices in 2020. These percent changes in premiums reflect the changes in provider payment rates only and do not account for any changes that may result from changes in the mix of people enrolling as premiums change.

The percent reductions in premiums resulting from lower provider payment rates are larger in the employer market than the nongroup market because premiums have been quite low in many ACA nongroup insurance markets, because the structure of the premium tax credits drives intense competition.[19] Though a public option likely cannot reduce benchmark premiums as much as private insurers in highly competitive markets, it can generate substantial savings in less competitive markets.

Currently, employer insurance markets do not appear very price competitive, and their provider payment rates tend to be higher than those in nongroup markets. Employers tend to keep provider networks broader (particularly in larger firms' plans), which avoids alienating employees but leads to higher premiums. This also means employer premiums do not vary much across geographic areas because, unlike the nongroup market, few employer markets have low overall private commercial insurance payment rates, particularly for hospitals.[20]

Table 5 presents state-level estimates averaging commercial-to-Medicare payment ratios for hospital and professional services across PUMAs and shows the implied price and premium cuts that would result from moving from the estimated commercial rates to Medicare rates (our base case assumptions). Assuming Medicare rates, hospital payments from commercial private insurance would fall by more than 60 percent in seven states. Professional payments would decrease by more than 25 percent in seven states but would increase on average in eight states.

Combining the hospital and professional payment cuts and 30 percent reduction in prescription drug prices, our estimates suggest potential average employer premium reductions ranging from an average of 40 percent or more in five states to 25 percent or less in seven states under reform 1. The PUMA-level ratios and implied premium reductions underlying these state-level averages produce the geographic variation that informs our simulated reforms below.

TABLE 5

Summary of Commercial Insurance–to-Medicare Payment Ratios for Hospital and Professional Services and Implied Price and Premium Changes under Reform 1 Payment Rate Assumptions

	Number of PUMAs	PUMA hospital ratio (outpatient and inpatient)	PUMA professional ratio	Hospital price change (%)	Professional price change (%)	Prescription drug price change (%)	Combined premium change (%)
Alabama	34	2.6	1.2	-61	-13	-30	-36
Alaska	5	2.2	1.3	-55	-23	-30	-37
Arizona	54	2.5	1.3	-59	-20	-30	-38
Arkansas	20	1.9	1.1	-47	-10	-30	-29
California	265	2.8	1.1	-64	-5	-30	-34
Colorado	42	3.1	1.0	-66	-4	-30	-34
Connecticut	26	2.2	1.0	-55	-3	-30	-30
Delaware	6	2.3	1.0	-56	-2	-30	-30
District of Columbia	5	2.4	1.0	-58	1	-30	-29
Florida	151	3.2	1.4	-68	-27	-30	-44
Georgia	72	2.5	1.3	-60	-24	-30	-40
Hawaii	10	2.1	1.0	-53	2	-30	-27
Idaho	14	2.1	1.0	-52	-2	-30	-28
Illinois	88	2.5	1.2	-60	-16	-30	-36
Indiana	50	2.3	1.3	-57	-18	-30	-36
Iowa	22	1.8	1.2	-45	-17	-30	-31
Kansas	22	2.1	1.1	-51	-9	-30	-30
Kentucky	34	2.2	1.2	-54	-11	-30	-32
Louisiana	34	2.2	1.4	-53	-28	-30	-39
Maine	10	1.9	1.0	-48	1	-30	-25
Maryland	44	1.4	1.1	-26	-5	-30	-19
Massachusetts	52	1.7	1.1	-41	-11	-30	-27
Michigan	68	2.0	1.1	-51	-4	-30	-28
Minnesota	43	1.9	1.4	-48	-30	-30	-37
Mississippi	21	2.1	1.3	-52	-21	-30	-35
Missouri	47	2.1	1.2	-51	-18	-30	-34
Montana	7	2.0	1.0	-49	0	-30	-26
Nebraska	14	2.0	1.2	-50	-15	-30	-32
Nevada	18	2.9	1.3	-64	-23	-30	-41
New Hampshire	10	2.3	1.1	-57	-7	-30	-32
New Jersey	73	2.6	1.1	-60	-9	-30	-34

	Number of PUMAs	PUMA hospital ratio (outpatient and inpatient)	PUMA professional ratio	Hospital price change (%)	Professional price change (%)	Prescription drug price change (%)	Combined premium change (%)
New Mexico	18	2.4	1.3	-57	-18	-30	-36
New York	145	2.3	1.0	-56	-2	-30	-30
North Carolina	78	2.4	1.2	-58	-14	-30	-35
North Dakota	5	1.7	1.4	-42	-26	-30	-33
Ohio	93	2.3	1.3	-56	-19	-30	-36
Oklahoma	28	2.1	1.2	-53	-14	-30	-33
Oregon	31	2.0	1.3	-50	-22	-30	-35
Pennsylvania	92	2.3	0.9	-54	9	-30	-25
Rhode Island	7	2.2	0.9	-54	15	-30	-22
South Carolina	30	2.7	1.1	-63	-11	-30	-36
South Dakota	6	1.8	1.2	-44	-20	-30	-32
Tennessee	49	2.5	1.3	-60	-24	-30	-39
Texas	212	2.9	1.4	-65	-30	-30	-44
Utah	22	1.9	1.0	-47	2	-30	-24
Vermont	4	2.5	0.9	-60	13	-30	-25
Virginia	56	2.5	1.0	-59	0	-30	-30
Washington	56	2.3	1.2	-57	-16	-30	-35
West Virginia	13	1.3	1.0	-24	2	-30	-15
Wisconsin	40	2.4	1.7	-57	-42	-30	-45
Wyoming	5	2.0	1.5	-50	-31	-30	-39
United States	**2,351**	**2.4**	**1.2**	**-57**	**-14**	**-30**	**-35**
State minimum	**4**	**1.3**	**0.9**	**-24**	**15**	**-30**	**-15**
State maximum	**265**	**3.2**	**1.7**	**-68**	**-42**	**-30**	**-45**

Source: FAIR Health data on commercial prices relative to Medicare.

Notes: PUMA = public use microdata area. Ratios and price changes are population-weighted averages across PUMAs in each state. We calculate PUMA-level ratios by distributing expenditure-weighted, geozip-level hospital and professional ratios across PUMAs based on population. Combined premium changes use Medical Expenditure Panel Survey spending on nonelderly to weight hospital, professional, and drug price cuts. The market for prescription drugs is assumed to be national, so price change does not vary by state. Reform 1, the nongroup base case, assumes hospital and physician prices are set at Medicare levels and prescription drug prices are set halfway between Medicare and Medicaid prices in 2020. These percent changes in premiums reflect the changes in provider payment rates only and do not account for any changes that may result from changes in the mix of people enrolling as premiums change.

Simulating the Coverage and Cost Implications of Implementing Different Public Option and Capped Payment Rate Reforms

Appendix A contains a description of our microsimulation approach. Here we present our findings from simulating eight public option or capped provider payment rate reforms.

Reforms Modeled

Of our eight reforms, the first three institute the public option and/or capped rates in the nongroup market alone.[21] In each reform simulated, we assume prescription drug rebates in the public option and/or applicable market subject to capped provider payment rates are set halfway between current Medicare and Medicaid rebates.

NONGROUP MARKETS ONLY

In the nongroup insurance market, a public option and capping provider payment rates have approximately the same effects on coverage and government costs, though more insurers would likely remain in the market if all insurers' provider payment rates are capped. The effects are similar because federal government premium subsidies provided through the Marketplaces are tied to the benchmark (second-lowest silver) premium where each enrollee lives. Consequently, presuming the public option offers the benchmark premium leads to the same premium subsidies as if all current premiums in the market were adjusted by the same percentage. Therefore, our estimates for the reforms affecting nongroup markets alone can be interpreted as consistent with either a public option or capping provider payment rates paid by all private nongroup insurers at the same levels. For ease of exposition below, we simply call nongroup-only reforms "public option reforms" below.

- **Reform 1, nongroup base case,** sets the public option's payment for hospitals and professionals at Medicare rates.
- **Reform 2, nongroup with rural price adjustment,** is the same as the base case, except rural hospital and physician public option payments are set 20 percent above Medicare rates. This reform generates smaller savings than the base case.

- **Reform 3, nongroup with prices modestly above Medicare rates,** sets public option payment rates to all hospitals at Medicare rates plus 25 percent and payments to all physicians at Medicare rates plus 10 percent. This reform generates smaller savings than reforms 1 and 2.

EMPLOYER AND NONGROUP MARKET PUBLIC OPTIONS

Unlike reforms in the nongroup market, a public option in the employer market would have different effects from capping the provider payment rates for all employer insurers. This is because the number of employers and workers with insurance that pays providers at lower rates will drive employer savings and income tax revenue effects. It is unlikely that all employers would choose to switch to a public option, but all would be affected by capping provider payment rates across this market. Consequently, the next three simulations introduce a public option into the employer group market and include parallel reforms in the nongroup market. Employers can continue to offer their current plan or may enroll their workers in the public option. We assume many employers would prefer their current benefits and cost-sharing and thus would be willing to pay higher payment rates; others would not and would opt for the public option instead. (We assume employer participation rates decrease with employer size and average wage; see appendix A). Under the reforms below, provider payment rates are the same in both the nongroup and employer markets.

- **Reform 4, employer and nongroup base case,** allows all employers to buy coverage through the public option. Payment rates are set as in reform 1. This reform generates greater private savings than reform 1.
- **Reform 5, employer and nongroup with prices modestly above Medicare rates,** allows all employers to buy coverage through the public option as in reform 4, but payment rates in the public option are set to Medicare rates plus 25 percent for all hospitals and Medicare rates plus 10 percent for all physicians. This reform generates lower savings than reform 4.
- **Reform 6, employer and nongroup with prices further above Medicare rates,** is similar to reform 5, but provider payment rates in the public plan are set at Medicare rates plus 60 percent for all hospitals and Medicare rates plus 15 percent for all physicians. This reform generates lower savings than reform 5.

EMPLOYER AND NONGROUP CAPPED PROVIDER PAYMENT RATES

The final two simulations assume provider payment rates for all coverage offered in the employer and nongroup markets are capped. Employers do not have to choose the public option to access these lower

prices. Quantitatively, these estimates are consistent with assuming all employers exclusively offer their workers the public option.

- **Reform 7, employer and nongroup provider payments capped modestly above Medicare rates,** replaces the employer public option with a system within which all providers would be paid by all employer and nongroup insurers at the levels assumed in reform 5. Payments are set at Medicare rates plus 25 percent for all hospitals and Medicare rates plus 10 percent for all physicians. This reform generates greater private savings than reform 5.
- **Reform 8, employer and nongroup provider payments capped further above Medicare rates,** is similar to reform 7, but payment rates are capped at the same level as in reform 6 (Medicare rates plus 60 percent for all hospitals and Medicare rates plus 15 percent for all physicians). This reform generates lower private savings than reform 7 but higher private savings than reform 6.

Results for a Public Option Offered in the Nongroup Market

The changes in premiums under any simulation presented below are different than the cuts shown in table 3. These differences result from both (1) the particular payment levels assumed in the reform and (2) the fact that premium differences in a simulation reflect not only changes in provider payment rates but the ensuing changes in enrollment in different forms of coverage, which can affect insurance risk pools and thus have secondary effects on premiums.

Reform 1: Nongroup Base Case

Offers a nongroup market public option in all rating regions; sets payment rates for hospitals and physicians at Medicare prices and sets prescription drug rebates in the nongroup insurance market halfway between current Medicare and Medicaid rebates

Premium effects. This public option reduces median benchmark premiums in the nongroup market by 28 percent (table 6). For ease of exposition, from here forward, we simply call Marketplace benchmark premiums "premiums."

The premium decrease varies considerably across ACA rating regions. The largest premium decreases (the top 10 percent) are of 43 percent or more, whereas the smallest decreases (the bottom 10 percent) are of 12 percent or less. As noted earlier, insurance and hospital competition in nongroup

markets varies considerably by geography. Premiums in markets that are already highly competitive decease the least under the public option; premiums in the least competitive markets decrease the most. We present these geographic variations for reforms 1, 4, and 5 in a later section.

TABLE 6

Rating Region–Level Distribution of Changes in Nongroup Insurance Premiums under Reforms 1 through 3, 2020

Percent change from current premiums

	Reform 1: Nongroup base case	Reform 2: Nongroup with rural price adjustment	Reform 3: Nongroup with prices modestly above Medicare rates
Percentile			
10th	-43	-40	-30
25th	-40	-36	-25
50th (median)	-28	-21	-13
75th	-17	-12	-7
90th	-12	-7	-2

Source: Health Insurance Policy Simulation Model, 2019.

Notes: Reforms simulated as fully phased in and in equilibrium in 2020. These changes in premiums differ slightly from those in tables 2–5 because they reflect not only the basic changes in premiums but also any changes in the risk pool that result from the introduction of the public option.

Under reforms 1 through 3, very small changes occur for a small number of employers when a modest number of workers make different choices about where to obtain insurance given the public option in the nongroup market, but these changes are so small they are not noticeable as percentages. As such, we have excluded them from the table above.

Insurance coverage effects. Because of the premium decreases in the markets, the number of people with nongroup insurance coverage increases modestly by 87,000 (table 7). The number of people receiving Marketplace subsidies decreases because when premiums decrease, fewer people face full premiums that exceed the subsidies' percent-of-income caps. However, this decrease in subsidized coverage is more than offset by the increased number of people purchasing nongroup coverage without a subsidy (i.e., people who pay the full premium in the nongroup market). The decrease in uninsurance is small because only people facing the full nongroup insurance premium (i.e., people with incomes above 400 percent of the federal poverty level or otherwise ineligible for subsidies) can save money under the reform.[22] And because most higher-income people are already insured, coverage increases only slightly, but the federal government and households already paying the full premium achieve savings (shown below).

As more people enroll in nongroup coverage through the Marketplaces, some discover that their dependents (mostly children) are eligible for Medicaid/the Children's Health Insurance Program and they newly enroll, increasing the number of people with such coverage by 208,000 under this reform. The number of people uninsured falls by 230,000, or about 1 percent. An additional 69,000 people drop short-term plans to enroll in minimum essential coverage.

Health spending effects. Federal health spending falls by $15.1 billion (3.5 percent) in 2020 under reform 1 (table 8). This is 3.5 percent of all federal spending on the nonelderly (including Marketplace subsidies and Medicaid and the Children's Health Insurance Program acute care but excluding long-term services and supports and Medicare). The largest source of federal savings is a $15.7 billion (28.0 percent) decrease in Marketplace subsidies, though federal spending on Medicaid increases very modestly by $737.0 million (0.2 percent). Total federal health spending does not change much because the public option only affects the nongroup insurance market, a small share of national insurance coverage. Spending by state governments and employers is virtually unchanged. Household spending (premiums and out-of-pocket costs) falls by $7.0 billion (1.2 percent). Spending for all payers combined falls by $22.0 billion (1.0 percent), which includes both payments to providers for care delivered and insurer administrative costs; as such, it provides insight on the impact on providers.

Reform 2: Nongroup with Rural Price Adjustment

Offers a nongroup public option in all rating regions; sets payments for urban hospitals and physicians at Medicare rates and payments for rural providers at Medicare rates plus 20 percent; sets prescription drug rebates in the nongroup insurance market halfway between current Medicare and Medicaid rebates

Premium effects. This reform modifies reform 1 by increasing hospital and professional provider payment rates to Medicare levels plus 20 percent in rural areas. Consequently, the median rating region's premium decreases by 21 percent, a smaller reduction than in the previously described reform (table 6). Across both the distribution of premium changes and the nation's rating regions, premium decreases are somewhat smaller than under reform 1.

Coverage effects. Under this reform, the number of uninsured falls by 211,000 people compared with current levels, a smaller effect than in reform 1 (table 7). Likewise, nongroup insurance enrollment is slightly lower in reform 2 than in reform 1 because premiums are higher in rural areas. The coverage effects under these two reforms are fairly similar because the higher provider payment rates affect areas with a relatively small share of the US population; the only consumers who face a higher premium under reform 2 than reform 1 are those ineligible for premium tax credits and living in rural areas.

Health spending effects. Like coverage effects, spending levels also differ modestly under reforms 1 and 2 (table 8). Household spending decreases by $5.8 billion under reform 2, compared with $7.0 billion under reform 1, reflecting both the higher premiums for enrollees in rural areas buying nongroup coverage without premium tax credits and the higher out-of-pocket costs for all nongroup enrollees in those areas. Federal spending decreases by $12.7 billion under reform 2, compared with $15.1 billion under reform 1, because the federal government pays more for premium tax credits with the higher premiums in rural areas. Spending by all payers falls by $18.4 billion, or 0.9 percent.

Reform 3: Nongroup with Prices Modestly above Medicare Rates

Offers a nongroup public option in all rating regions; sets payments for all hospitals at Medicare rates plus 25 percent and payments for physicians at Medicare rates plus 10 percent; requires prescription drug rebates in the nongroup insurance market be set halfway between current Medicare and Medicaid rebates

Premium effects. Reform 3 modifies reform 2 by increasing hospital and physician payments across the country (instead of just in rural areas) to Medicare rates plus 25 percent for hospitals and Medicare rates plus 10 percent for physicians. Compared with reform 1, this reform increases underlying costs, and thus premiums, in every rating area. As table 6 shows, the median nongroup market premium decrease is 13 percent under reform 3, compared with 28 percent under reform 1. Likewise, all along the distribution, premiums fall by smaller percentages because of higher payment rates for hospitals and physicians. For example, the highest 10 percent of premium rating regions experience a 30 percent decline in premiums under this approach, compared with 43 percent under reform 1. For the lowest 10th percentile, premiums decrease by 2 percent, compared with a 12 percent decrease in reform 1.

Coverage effects. Because premiums fall by less under reform 3 than under reform 1, the coverage effects are smaller as well. An additional 155,000 people enroll in insurance coverage (table 7). The number of people enrolled in the nongroup market falls modestly by 9,000, the number of people with Marketplace subsidies falls by 165,000, and the number of people in full-pay nongroup coverage increases by 156,000.[23]

Health spending effects. As shown in table 8, federal spending is higher under reform 3 than under reform 1; under reform 3, federal costs drop by $7.3 billion compared with current levels (and compared with $15.1 billion in federal savings under reform 1). Virtually all the difference in federal spending between the reforms owes to higher Marketplace premium tax credits under reform 3. Under this reform, household health care spending falls by 0.7 percent compared with current levels. Employer and state government spending do not change, consistent with the previously described reforms. Under reform 3, spending by all payers falls by $10.8 billion, or 0.5 percent.

TABLE 7

Health Insurance Coverage of the Nonelderly Population Currently and under Nongroup Public Option Reforms 1 through 3, 2020

Thousands of people

	Current	Reform 1: Nongroup base case	Reform 2: Nongroup with rural price adjustment	Reform 3: Nongroup with prices modestly above Medicare rates
Insured (minimum essential coverage)	**240,506**	**240,804**	**240,776**	**240,690**
Employer	147,572	147,575	147,578	147,581
Private nongroup	*15,460*	*15,547*	*15,523*	*15,450*
Marketplace with PTC	9,097	8,753	8,814	8,931
Full-pay nongroup	6,363	6,794	6,709	6,519
Medicaid/CHIP	68,843	69,051	69,043	69,027
Medicare/other public	8,632	8,632	8,632	8,632
Uninsured (no minimum essential coverage)	**34,628**	**34,329**	**34,358**	**34,444**
Uninsured	32,185	31,956	31,974	32,031
Noncompliant nongroup	2,443	2,374	2,384	2,413
Total	**275,134**	**275,134**	**275,134**	**275,134**

Changes from current coverage, thousands of people

Insured (minimum essential coverage)	**—**	**299**	**270**	**184**
Employer	—	3	6	9
Private nongroup	—	*87*	*64*	*-9*
Marketplace with PTC	—	-344	-283	-165
Full-pay nongroup	—	431	346	156
Medicaid/CHIP	—	208	201	184
Medicare/other public	—	0	0	0
Uninsured (no minimum essential coverage)	**—**	**-299**	**-270**	**-184**
Uninsured	—	-230	-211	-155
Noncompliant nongroup	—	-69	-59	-30
Total	**—**	**0**	**0**	**0**

Percent change from current coverage

	Current	Reform 1: Nongroup base case	Reform 2: Nongroup with rural price adjustment	Reform 3: Nongroup with prices modestly above Medicare rates
Insured (minimum essential coverage)	**—**	**0.1**	**0.1**	**0.1**
Employer	—	0.0	0.0	0.0
Private nongroup	—	*0.6*	*0.4*	*-0.1*
Marketplace with PTC	—	-3.8	-3.1	-1.8
Full-pay nongroup	—	6.8	5.4	2.5
Medicaid/CHIP	—	0.3	0.3	0.3
Medicare/other public	—	0.0	0.0	0.0
Uninsured (no minimum essential coverage)	**—**	**-0.9**	**-0.8**	**-0.5**
Uninsured	—	-0.7	-0.7	-0.5
Noncompliant nongroup	—	-2.8	-2.4	-1.2
Total	**—**	**0.0**	**0.0**	**0.0**

Source: Health Insurance Policy Simulation Model, 2019.

Notes: PTC = premium tax credits. CHIP = Children's Health Insurance Program. Cells are marked with a dash when the row does not apply to the column head. Reforms simulated as fully phased in and in equilibrium in 2020. Analysis includes the US population under age 65 not enrolled in Medicare.

TABLE 8

Health Spending for the Nonelderly Population Currently and under Nongroup Public Option Reforms 1 through 3, 2020

Millions of dollars

	Current	Reform 1: Nongroup base case	Reform 2: Nongroup with rural price adjustment	Reform 3: Nongroup with prices modestly above Medicare rates
Household				
Premiums and out-of-pocket costs	560,233	553,266	554,428	556,475
Federal government				
Medicaid/CHIP	347,559	348,296	348,259	348,194
Marketplace subsidies	56,096	40,405	42,819	48,186
Reinsurance	1,227	1,227	1,227	1,227
Uncompensated care	27,531	27,341	27,359	27,463
Subtotal	*432,413*	*417,270*	*419,665*	*425,070*
State government				
Medicaid/CHIP	184,108	184,408	184,394	184,373
Marketplace subsidies	2,990	2,802	2,783	2,778
Reinsurance	475	475	475	475
Uncompensated care	17,207	17,088	17,100	17,164
Subtotal	*204,780*	*204,773*	*204,752*	*204,791*
Employers				
Premium contributions	924,291	924,600	924,619	924,607
Providers				
Uncompensated care	24,089	23,924	23,939	24,030
Total	**2,145,807**	**2,123,832**	**2,127,403**	**2,134,973**
Changes from current spending, millions of dollars				
Household				
Premiums and out-of-pocket costs	—	-6,968	-5,806	-3,759
Federal government				
Medicaid/CHIP	—	737	700	635
Marketplace subsidies	—	-15,690	-13,276	-7,909
Reinsurance	—	0	0	0
Uncompensated care	—	-189	-171	-68
Subtotal	—	*-15,143*	*-12,748*	*-7,343*
State government				
Medicaid/CHIP	—	299	286	265

	Current	Reform 1: Nongroup base case	Reform 2: Nongroup with rural price adjustment	Reform 3: Nongroup with prices modestly above Medicare rates
Marketplace subsidies	—	-188	-207	-212
Reinsurance	—	0	0	0
Uncompensated care	—	-118	-107	-43
Subtotal	—	*-7*	*-28*	*10*
Employers				
Premium contributions	—	309	328	316
Providers				
Uncompensated care	—	-166	-150	-60
Total	**—**	**-21,975**	**-18,404**	**-10,834**
Percent change from current spending				
Household				
Premiums and out-of-pocket costs	—	-1.2	-1.0	-0.7
Federal government	**—**			
Medicaid/CHIP		0.2	0.2	0.2
Marketplace subsidies	—	-28.0	-23.7	-14.1
Reinsurance	—	0.0	0.0	0.0
Uncompensated care	—	-0.7	-0.6	-0.2
Subtotal	—	*-3.5*	*-2.9*	*-1.7*
State government				
Medicaid/CHIP	—	0.2	0.2	0.1
Marketplace subsidies	—	-6.3	-6.9	-7.1
Reinsurance	—	0.0	0.0	0.0
Uncompensated care	—	-0.7	-0.6	-0.2
Subtotal	—	*0.0*	*0.0*	*0.0*
Employers				
Premium contributions	—	0.0	0.0	0.0
Providers				
Uncompensated care	—	-0.7	-0.6	-0.2
Total	**—**	**-1.0**	**-0.9**	**-0.5**

Source: Health Insurance Policy Simulation Model, 2019.

Notes: CHIP = Children's Health Insurance Program. Cells are marked with a dash when the row does not apply to the column head. Reforms simulated as fully phased-in and in equilibrium in 2020. Analysis includes the US population under age 65 not enrolled in Medicare. Medicaid/CHIP includes acute care for the nonelderly. Prescription drug prices in each reform scenario are assumed to be set halfway between Medicare and Medicaid prices.

Results for a Public Option in the Employer and Nongroup Markets

Under reforms 4 through 6, the public option is available in both the nongroup and employer markets. Employers decide whether to offer the public option, their traditional group plan, or neither. We assign employers to offering the public option or traditional group coverage using assumptions detailed in table A.3. The provider payment rates are consistent between the nongroup and employer markets. The small-group (50 or fewer workers) and nongroup markets' risk pools are separate, though both operate under the regulations delineated by the ACA. Large employers can choose to offer the public option, but the premiums they pay are experience rated. Again, in each simulation, we assume prescription drug rebates in the nongroup insurance market and for employers offering the public option are set halfway between current Medicare and Medicaid rebates. In reforms 7 and 8, we assume all employers offering insurance to their employees offer insurance plans that limit provider payment rates to no more than the regulated level. The same prescription drug rebates apply to all private insurers in the nongroup and employer markets under reforms 7 and 8.

We expect that public option reforms affecting the employer insurance market would require multiyear transitions before full implementation. The larger the decrease in provider prices and the larger the number of employers that participate, the longer the phase-in should be. This is because the employer insurance market comprises a significantly larger share of health care provider revenue than does the nongroup market. Large price decreases in this market therefore could lead to significant disruptions in health care access or quality if providers have insufficient time to adjust their underlying costs. For ease of comparison across the simulations, our estimates do not account for phasing prices down over time, but we do not intend to diminish the importance of doing so.

Reform 4: Employer and Nongroup Base Case

Offers a public option in all nongroup and employer markets; sets payments for hospitals and physicians at Medicare rates

Premium effects. The median nongroup market premium decreases by 28 percent compared with current circumstances (table 9). The distribution of nongroup premium effects is virtually identical to that in reform 1, the nongroup-only base case. Comparing premium spending before and after reform only for employers offering the public option, the median premium decreases by 32 percent compared with current levels. Accounting for all employers, regardless of whether they offer the public option,

median premiums fall by 18 percent compared with current levels. The top 10th percentile premium decreases by 20 percent, whereas the bottom 10th percentile premium falls by 15 percent.[24]

Coverage effects. The number of uninsured falls by 1.7 million people under reform 4, and an additional 450,000 people obtain ACA-compliant insurance coverage instead of short-term plans (table 10). Compared with today, employer coverage increases by 2.3 million people, and 78.8 million people with employer coverage obtain it through the public option, over half of all people with employer coverage. The number of people with nongroup coverage declines by 326,000 (2.1 percent) compared with current levels. The number of people buying nongroup coverage without subsidies increases modestly, but this is offset by the decrease in subsidized coverage.

Health spending effects. As 78.8 million people take up coverage through the public option, employer health spending falls by $142.9 billion (15.5 percent), lowering employer-based premiums for many. Household spending falls by $76.3 billion, or 13.6 percent, compared with current levels (table 10). Household savings are considerably larger than under any of the previously discussed reforms, because many more people enroll in the public option once it is opened to people with employer-sponsored insurance. Federal spending falls by $17.5 billion, or 4.1 percent, again largely because of lower Marketplace premium tax credits. In addition to lowering federal health spending, reform 4 would increase federal income tax receipts by $24.8 billion, reflecting the substantial number of employer-based public option enrollees. Total health spending by all payers, an indication of the magnitude of the reduction in provider revenue, decreases by $239.5 billion, or 11.2 percent.[25]

Reform 5: Employer and Nongroup with Prices Modestly Above Medicare Rates

Offers a public option in all nongroup and employer markets; sets payments for hospitals at Medicare rates plus 25 percent and payments for physicians and other professionals at Medicare levels plus 10 percent

Premium effects. The difference between reforms 4 and 5 is the higher public option payment rates in reform 5. Consequently, premiums are higher as well (table 9). The median benchmark premium in the nongroup market falls by 14 percent compared with current levels (as opposed to 28 percent under reform 1). Across the distribution of nongroup premiums, reform 5 leads to smaller decreases than does reform 4. The same is true for employer premiums. Focusing the comparison only on employers offering the public option, the median premium decreases by 24 percent. When accounting for all employers, the median premium decreases by 13 percent.

Coverage effects. The number of uninsured falls by 1.6 million people, and another 412,000 people leave substandard coverage for employer or nongroup plans that meet ACA standards (table 10). The

number of people with employer coverage increases by 2.2 million, with 76.6 million people in the employer-based public option. The number of people in the employer public option is slightly lower than in reform 4 (78.8 million) because the premiums are higher. However, overall enrollment in both employer-sponsored and nongroup insurance are about the same under both reforms 4 and 5. The premium savings resulting from the public option are still significant under reform 5, and the vast majority of people enrolling in the public option currently have coverage.

Health spending effects. Under reform 5, employer health spending falls by $104.5 billion, or 11.3 percent, relative to current spending; this is about 73 percent of the employer health savings achieved by reform 4. Household health spending falls by $54.6 billion, or 9.8 percent, compared with current spending (table 11). Federal government health spending declines by $10.1 billion, or 2.3 percent, compared with current spending; higher premiums lead to smaller savings in premium tax credits than under reform 4. In addition to lowering federal health spending, reform 5 would increase federal income tax receipts by $17.5 billion. Spending for all payers would fall by $171.8 billion, or 8.0 percent.

Reform 6: Employer and Nongroup with Prices Further Above Medicare Rates

Offers a public option in all nongroup and employer markets; sets payments for hospitals at Medicare rates plus 60 percent and payments for physicians and other professionals at Medicare rates plus 15 percent

Premium effects. The difference between reforms 5 and 6 is that hospital payment rates are set significantly higher under reform 6, and professional payment rates are also set slightly higher. Consequently, premiums in the nongroup and employer-based public options are higher than under reform 5 (table 9), and employer participation in the public option is lower. The median nongroup benchmark premium decreases by 10 percent relative to current levels. The benchmark premium at the top 10th percentile of rating regions is 26 percent lower than current levels. Because payment levels and premiums are higher than under reform 5, fewer firms anticipate savings greater than 20 percent; consequently, only around 30 percent of people with employer-sponsored insurance are in the public option, down from more than 50 percent under reforms 4 and 5.

When restricting the comparison only to employers choosing the public option, the median premium decreases by 16 percent. Among all employers, the median premium decreases by 6 percent, reflecting the smaller percentage of employers taking up the public option under reform 6 than under reform 5.

Coverage effects. Compared with current levels, the number of uninsured falls by 1.5 million people, and an additional 390,000 people with short-term coverage obtain ACA-compliant insurance coverage

(table 10). Employer coverage increases by 2.2 million people, with 44.8 million people enrolled in employer-based public option coverage, many fewer than under reform 5 because public option premiums are higher under reform 6. Nongroup insurance coverage decreases by about 473,000 people compared with current levels, with small declines in both subsidized and unsubsidized coverage.

Health spending effects. Employer premium contributions fall by $38.9 billion, or 4.2 percent. Household spending declines by $24 billion, or 4.3 percent, compared with current levels (table 11). Household savings are roughly 44 percent of those in reform 5, because of the higher premiums resulting from higher provider payment rates. Federal government spending falls by $7.6 billion, or 1.8 percent, almost entirely because of a 12.1 percent reduction in Marketplace subsidies. In addition to lowering federal health spending, reform 6 would increase federal income tax receipts by $4.8 billion. Spending by all payers falls by $72.8 billion, or 3.4 percent.

Reform 7: Employer and Nongroup Rates Capped Modestly Above Medicare Prices

Caps provider payment rates for all insurers providing coverage in the nongroup and employer markets; provider payment rates are identical to those in reform 6 (hospital payments set at Medicare rates plus 25 percent and physician payments set at Medicare rates plus 10 percent); all employers, regardless of size and average wage, are assumed to benefit from capped provider payment rates

Premium effects. The difference between reforms 5 and 7 is that everyone covered by employer-sponsored insurance is assumed to benefit from the capped payment rates in reform 7; in reform 5, 51 percent of those with employer-sponsored insurance would enroll in the public option. Because this policy difference only affects employer-sponsored insurance, median nongroup benchmark premiums decrease by the same amount as in reform 5, 14 percent relative to current levels (table 9). The median premium decreases by 26 percent when comparing all employers before and after reform, because all people covered by employer-sponsored insurance benefit from rate cuts, not just a portion who opt in to a public option.[26]

Coverage effects. Compared with current levels, the number of uninsured falls by 1.6 million people under reform 7, and an additional 412,000 people with short-term coverage obtain ACA-compliant insurance coverage (table 10). This is the same as under reform 5. Employer coverage increases by 2.2 million people, with all 149.8 million people covered through employers benefiting from the lower provider payment rates; though this is shown in table 9 as "public option coverage," it refers to people enrolled in employer coverage and affected by capped provider payment rates. Nongroup insurance coverage decreases by about 415,000 people.

Health spending effects. Employer premium contributions fall by $223.9 billion, or 24.2 percent, more than double the reduction under reform 5, because all employers offering coverage to their workers can access the lower provider payment rates. Household spending declines by $109.2 billion, or 19.5 percent, compared with current levels (table 11). Household savings are much larger under reform 7 than under reform 5 because contributions for premiums and out-of-pocket costs fall for the much larger number of people with employer-based coverage benefiting from lower provider payment rates. Federal government spending falls by $10.1 billion, or 2.3 percent, just as in reform 5.[27] In addition to lowering federal health spending, reform 7 increases federal income tax receipts by $42.3 billion. Spending by all payers falls by $345.8 billion, or 16.1 percent, illustrating the potential system-wide effect of a capped rate policy.

Reform 8: Employer and Nongroup Rates Capped Further Above Medicare Prices

Caps provider payment rates for all insurers providing coverage in nongroup and employer markets; provider payment rates are identical to those in reform 6 (hospital payments set at Medicare plus 60 percent and physician payments set at Medicare rates plus 15 percent); all employers, regardless of size and average wage, are assumed to benefit from the capped provider payment rates

Premium effects. In reform 8, premiums fall in the nongroup market by 10 percent, just as in reform 6. When comparing all employers before and after reform, the median premium decreases by 19 percent. Again, all people enrolled in employer-sponsored insurance benefit from the rate cuts, a much larger number of people than those who opt into the public option under reform 6.

Coverage effects. Compared with current levels, the number of uninsured people falls by 1.5 million in reform 8, and an additional 390,000 people with short-term coverage obtain ACA-compliant insurance (table 10). Employer coverage increases by 2.2 million people, with 149.7 million insured through employers benefiting from the reform's lower provider payment rates. Nongroup insurance falls by 473,000 people.

Health spending effects. Employer premium contributions fall by $157.0 billion, or 17.0 percent, an increase more than four times that seen under reform 6, because all employers offering coverage to their workers benefit from lower payment rates. Household spending falls by $79.7 billion, or 14.2 percent, relative to current levels. Federal spending falls by $7.6 billion, or 1.8 percent, just as in reform 6. In addition to lowering federal spending, reform 8 increases federal tax receipts by $29.6 billion. Spending by all payers falls by $246.6 billion, or 11.5 percent, illustrating the potential effect of a capped rate policy even with rates significantly above those of Medicare.

Thus, of all reforms, 4, 7, and 8 contain systemwide costs the most. Reform 4 makes a public option paying Medicare rates to all providers available in the nongroup and employer-based insurance markets. Reforms 7 and 8 cap all private insurer payments to providers at rates above those of Medicare, but the provider rates are still lower than current commercial insurance rates and apply to many people. Therefore, higher provider payment rates or rates applied to smaller numbers of people lead to smaller private and public savings.

TABLE 9

Rating Region–Level Distribution of Changes in Nongroup and Employer Premiums under Nongroup and Employer Public Option Reforms 4 through 8, 2020

Percent change from current premiums

	Public Option			Capped Rates	
	Reform 4: Employer and Nongroup Base Case	Reform 5: Employer and Nongroup with Prices Modestly Above Medicare Rates	Reform 6: Employer and Nongroup with Prices Further Above Medicare Rates	Reform 7: Employer and Nongroup Rates Capped Modestly Above Medicare Prices	Reform 8: Employer and Nongroup Rates Capped Further Above Medicare Prices
			Nongroup		
Percentile					
10th	-43	-29	-26	-29	-26
15th	-40	-24	-18	-24	-18
50th (median)	-28	-14	-10	-14	-10
75th	-17	-6	2	-6	2
90th	-11	0	8	0	8
			Employers offering the public option		
Percentile					
10th	-34	-26	-19	-27	-20
15th	-33	-25	-18	-26	-18
50th (median)	-32	-24	-16	-25	-17
75th	-30	-23	-14	-23	-16
90th	-29	-21	-12	-22	-15
			All employers		
Percentile					
10th	-20	-15	-8	-28	-21
15th	-19	-14	-7	-27	-20
50th (median)	-18	-13	-6	-26	-19
75th	-16	-12	-5	-25	-17
90th	-15	-11	-4	-23	-16

Source: Health Insurance Policy Simulation Model, 2019.

Notes: Reforms simulated as fully phased in and in equilibrium in 2020. These changes in premiums differ slightly from those in tables 2–5 because they reflect not only the basic changes in premiums, but also any changes in the risk pool resulting from introducing the public option.

TABLE 10

Health Insurance Coverage of the Nonelderly Population Currently and under Nongroup and Employer Public Option Reforms 4 through 8, 2020

Thousands of people

		Public Option			Capped Rates	
	Current	Reform 4: Employer and nongroup base case	Reform 5: Employer and nongroup with prices modestly above Medicare rates	Reform 6: Employer and nongroup with prices further above Medicare rates	Reform 7: Employer and nongroup rates capped modestly above Medicare prices	Reform 8: Employer and nongroup rates capped further above Medicare prices
Insured (minimum essential coverage)	**240,506**	**242,654**	**242,514**	**242,373**	**242,514**	**242,373**
Employer	*147,572*	*149,838*	*149,811*	*149,727*	*149,811*	*149,727*
Traditional	147,572	71,009	73,236	104,958	0	0
Public option	0	78,830	76,575	44,769	149,811	149,727
Private nongroup	*15,460*	*15,133*	*15,044*	*14,986*	*15,044*	*14,986*
Marketplace with PTC	9,097	8,520	8,708	8,703	8,708	8,703
Full-pay nongroup	6,363	6,613	6,337	6,283	6,337	6,283
Medicaid/CHIP	*68,843*	*69,051*	*69,027*	*69,029*	*69,027*	*69,029*
Medicare/other public	*8,632*	*8,632*	*8,632*	*8,632*	*8,632*	*8,632*
Uninsured (no minimum essential coverage)	**34,628**	**32,479**	**32,619**	**32,760**	**32,619**	**32,760**
Uninsured	32,185	30,487	30,588	30,708	30,588	30,708
Noncompliant nongroup	2,443	1,992	2,031	2,053	2,031	2,053
Total	**275,134**	**275,134**	**275,134**	**275,134**	**275,134**	**275,134**
Changes from current coverage, thousands of people						
Insured (minimum essential coverage)	**—**	**2,149**	**2,009**	**1,867**	**2,009**	**1,867**
Employer	—	*2,266*	*2,240*	*2,155*	*2,240*	*2,155*
Traditional	—	-76,563	-74,335	-42,614	-147,572	-147,572
Public option	—	78,830	76,575	44,769	149,811	149,727
Private nongroup	—	*-326*	*-415*	*-473*	*-415*	*-473*
Marketplace with PTC	—	-577	-389	-393	-389	-393
Full-pay nongroup	—	251	-26	-80	-26	-80

		Public Option			Capped Rates	
	Current	Reform 4: Employer and nongroup base case	Reform 5: Employer and nongroup with prices modestly above Medicare rates	Reform 6: Employer and nongroup with prices further above Medicare rates	Reform 7: Employer and nongroup rates capped modestly above Medicare prices	Reform 8: Employer and nongroup rates capped further above Medicare prices
Medicaid/CHIP	—	*208*	*184*	*186*	*184*	*186*
Medicare/other public	—	*0*	*0*	*0*	*0*	*0*
Uninsured (no minimum essential coverage)	**—**	**-2,149**	**-2,009**	**-1,867**	**-2,009**	**-1,867**
Uninsured	—	-1,698	-1,597	-1,478	-1,597	-1,478
Noncompliant nongroup	—	-450	-412	-390	-412	-390
Total	**—**	**0**	**0**	**0**	**0**	**0**
Percent change from current coverage						
Insured (minimum essential coverage)	**—**	**0.9**	**0.8**	**0.8**	**0.8**	**0.8**
Employer	—	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*
Traditional	—	-51.9	-50.4	-28.9	-100.0	-100.0
Public option	—	—	—	—	—	—
Private nongroup	—	*-2.1*	*-2.7*	*-3.1*	*-2.7*	*-3.1*
Marketplace with PTC	—	-6.3	-4.3	-4.3	-4.3	-4.3
Full-pay nongroup	—	3.9	-0.4	-1.3	-0.4	-1.3
Medicaid/CHIP	—	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*
Medicare/other public	—	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Uninsured (no minimum essential coverage)	**—**	**-6.2**	**-5.8**	**-5.4**	**-5.8**	**-5.4**
Uninsured	—	-5.3	-5.0	-4.6	-5.0	-4.6
Noncompliant nongroup	—	-18.4	-16.8	-16.0	-16.8	-16.0
Total	**—**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Source: Health Insurance Policy Simulation Model, 2019.

Notes: PTC = premium tax credit. CHIP = Children's Health Insurance Program. Cells marked with a dash when the row does not apply to the column head. Reforms simulated as fully phased in and in equilibrium in 2020. Analysis includes the US population under age 65 not enrolled in Medicare.

TABLE 11

Health Spending for the Nonelderly Population Currently and under Nongroup and Employer Public Option Reforms 4 through 8, 2020

Millions of dollars

		Public Option			Capped Rates	
	Current	Reform 4: Employer and nongroup base case	Reform 5: Employer and nongroup with prices modestly above Medicare rates	Reform 6: Employer and nongroup with prices further above Medicare rates	Reform 7: Employer and nongroup prices capped modestly above Medicare rates	Reform 8: Employer and nongroup prices capped further above Medicare rates
Household						
Premiums and out-of-pocket costs	560,233	483,924	505,610	536,258	450,986	480,557
Federal government						
Medicaid/CHIP	347,559	348,296	348,194	348,200	348,194	348,200
Marketplace subsidies	56,096	39,523	46,965	49,296	46,965	49,296
Reinsurance	1,227	1,227	1,227	1,227	1,227	1,227
Uncompensated care	27,531	25,819	25,973	26,109	25,973	26,109
Subtotal	*432,413*	*414,865*	*422,359*	*424,833*	*422,359*	*424,833*
State government						
Medicaid/CHIP	184,108	184,408	184,373	184,373	184,373	184,373
Marketplace subsidies	2,990	2,504	2,498	2,499	2,498	2,499
Reinsurance	475	475	475	475	475	475
Uncompensated care	17,207	16,137	16,233	16,318	16,233	16,318
Subtotal	*204,780*	*203,524*	*203,579*	*203,666*	*203,579*	*203,666*
Employers						
Premium contributions	924,291	781,420	819,766	885,428	700,386	767,274
Providers						
Uncompensated care	24,089	22,591	22,726	22,846	22,726	22,846
Total	**2,145,807**	**1,906,323**	**1,974,040**	**2,073,031**	**1,800,037**	**1,899,176**
Changes from current spending, millions of dollars						
Household						
Premiums and out-of-pocket costs	—	-76,310	-54,623	-23,975	-109,247	-79,676
Federal government						
Medicaid/CHIP	—	737	635	641	635	641
Marketplace subsidies	—	-16,573	-9,130	-6,799	-9,130	-6,799
Reinsurance	—	0	0	0	0	0
Uncompensated care	—	-1,712	-1,558	-1,421	-1,558	-1,421
Subtotal	—	*-17,548*	*-10,054*	*-7,580*	*-10,054*	*-7,580*

	Current	Public Option			Capped Rates	
		Reform 4	Reform 5	Reform 6	Reform 7	Reform 8
State government						
Medicaid/CHIP	—	299	265	265	265	265
Marketplace subsidies	—	-486	-492	-491	-492	-491
Reinsurance	—	0	0	0	0	0
Uncompensated care	—	-1,070	-974	-888	-974	-888
Subtotal	—	*-1,256*	*-1,201*	*-1,115*	*-1,201*	*-1,115*
Employers						
Premium contributions	—	-142,871	-104,526	-38,863	-223,905	-157,017
Providers						
Uncompensated care	—	-1,498	-1,363	-1,244	-1,363	-1,244
Total	**—**	**-239,484**	**-171,767**	**-72,776**	**-345,770**	**-246,631**
Federal tax offset from ESI change	**—**	**24,766**	**17,497**	**4,824**	**42,297**	**29,631**
Percent change from current spending						
Household	**—**					
Premiums and out-of-pocket costs		-13.6	-9.8	-4.3	-19.5	-14.2
Federal government						
Medicaid/CHIP	—	0.2	0.2	0.2	0.2	0.2
Marketplace subsidies	—	-29.5	-16.3	-12.1	-16.3	-12.1
Reinsurance	—	0.0	0.0	0.0	0.0	0.0
Uncompensated care	—	-6.2	-5.7	-5.2	-5.7	-5.2
Subtotal	—	*-4.1*	*-2.3*	*-1.8*	*-2.3*	*-1.8*
State government						
Medicaid/CHIP	—	0.2	0.1	0.1	0.1	0.1
Marketplace subsidies	—	-16.2	-16.5	-16.4	-16.5	-16.4
Reinsurance	—	0.0	0.0	0.0	0.0	0.0
Uncompensated care	—	-6.2	-5.7	-5.2	-5.7	-5.2
Subtotal	—	*-0.6*	*-0.6*	*-0.5*	*-0.6*	*-0.5*
Employers						
Premium contributions	—	-15.5	-11.3	-4.2	-24.2	-17.0
Providers						
Uncompensated care	—	-6.2	-5.7	-5.2	-5.7	-5.2
Total	**—**	**-11.2**	**-8.0**	**-3.4**	**-16.1**	**-11.5**

Source: Health Insurance Policy Simulation Model, 2019.

Notes: CHIP = Children's Health Insurance Program. ESI = employer-sponsored insurance. Cells are marked with a dash when the row does not apply to the column head. Reforms simulated as fully phased-in and in equilibrium in 2020. Analysis includes the US population under age 65 not enrolled in Medicare. Prescription drug prices in each reform scenario are set halfway between Medicare and Medicaid prices.

Geographic Variation in Premium Tax Credits and Employer Spending

Table 12 presents state-specific estimates of the effects of reforms 1, 4, and 5 on federal spending on Marketplace premium tax credits. For each reform, effects vary by the current premiums and competition in the insurer and provider markets in each state; per person premium tax credits are greater when benchmark premiums are higher and enrollees' incomes are lower. The effects of public option reforms vary considerably by geography because federally funded premium tax credits are tied to benchmark nongroup premium levels, which vary based on market characteristics. For example, under reform 1, federal premium tax credits decrease by over 50 percent in Alaska, Delaware, the District of Columbia, Mississippi, and West Virginia. In addition, in states and under reforms where coverage increases the most, savings due to lower per enrollee premium tax credits can sometimes be offset by increased enrollment in subsidized Marketplace plans.

Federal premium tax credits would fall much less in other states, where current nongroup benchmark premiums are already relatively low. Under reform 1, premium tax credits fall by less than 20 percent in California, Idaho, Massachusetts, Michigan, New York, Ohio, and Wisconsin. Reforms 4 and 5 lead to similar state variations.

Table 13 presents state-level changes in total employer spending on premiums under reforms 4 and 5. Under reform 4, when the public option pays providers at Medicare rates, employer spending on premiums falls significantly in all states. When provider payment rates are set above Medicare levels under reform 5, the savings fall. However, employer spending on premiums varies much less by state than do federal premium tax credits. And for reasons discussed earlier, provider payments rates vary less in the employer market than in the nongroup market. For example, under reform 4, employer spending on premiums decreases by as much as 18 percent in New Mexico and by as little as 13 percent in Maine, Massachusetts, New Hampshire, and Utah.

TABLE 12

Percent Change in Federal Spending on Marketplace Premium Tax Credits under Reforms 1, 4, and 5 Relative to Current Spending, by State, 2020

	Reform 1: Nongroup base case	Reform 4: Employer and nongroup base case	Reform 5: Employer and nongroup with prices modestly above Medicare rates
Alabama	-47	-51	-31
Alaska	-63	-53	-25
Arizona	-33	-43	-34
Arkansas	-30	-27	0
California	-18	-9	-4
Colorado	-25	-35	-23
Connecticut	-38	-34	-3
Delaware	-65	-75	-55
District of Columbia	-65	-47	21
Florida	-30	-34	-18
Georgia	-31	-35	-16
Hawaii	-41	-44	-18
Idaho	-13	-16	-14
Illinois	-35	-37	-13
Indiana	-26	-28	-22
Iowa	-29	-27	-8
Kansas	-33	-37	-16
Kentucky	-41	-43	-27
Louisiana	-44	-49	-23
Maine	-26	-24	-13
Maryland	-24	-30	-22
Massachusetts	-13	-12	-12
Michigan	-18	-17	-12
Minnesota	-32	-22	4
Mississippi	-59	-65	-49
Missouri	-42	-45	-25
Montana	-27	-30	-12
Nebraska	-44	-43	-23
Nevada	-41	-59	-37
New Hampshire	-30	-47	-28
New Jersey	-34	-32	3
New Mexico	-24	-27	-19
New York	-9	-7	-8
North Carolina	-46	-48	-29
North Dakota	-49	-63	-18
Ohio	-19	-28	-23
Oklahoma	-35	-38	-13
Oregon	-26	-27	-14
Pennsylvania	-30	-34	-19
Rhode Island	-31	-32	-19
South Carolina	-49	-52	-33
South Dakota	-35	-39	-20
Tennessee	-36	-41	-23
Texas	-22	-26	-16
Utah	-23	-29	-15
Vermont	-42	-43	-4
Virginia	-31	-42	-31
Washington	-24	-22	-11
West Virginia	-51	-72	-18
Wisconsin	-19	-20	-9
Wyoming	-46	-49	-27

Source: Health Insurance Policy Simulation Model, 2019.

Note: Reforms simulated as fully phased in and in equilibrium in 2020.

TABLE 13

Percent Change in Employer Spending on Premiums under Reforms 4 and 5 Relative to Current Spending, by State, 2020

	Reform 4: Employer and nongroup base case	Reform 5: Employer and nongroup with prices modestly above Medicare rates
Alabama	-16	-12
Alaska	-16	-12
Arizona	-17	-12
Arkansas	-17	-13
California	-15	-11
Colorado	-16	-12
Connecticut	-13	-8
Delaware	-16	-11
District of Columbia	-17	-13
Florida	-16	-12
Georgia	-16	-12
Hawaii	-16	-12
Idaho	-15	-11
Illinois	-16	-12
Indiana	-16	-12
Iowa	-15	-11
Kansas	-15	-11
Kentucky	-17	-12
Louisiana	-17	-13
Maine	-13	-8
Maryland	-16	-12
Massachusetts	-13	-8
Michigan	-15	-11
Minnesota	-16	-12
Mississippi	-17	-13
Missouri	-16	-11
Montana	-16	-11
Nebraska	-15	-11
Nevada	-19	-15
New Hampshire	-13	-8
New Jersey	-14	-10
New Mexico	-18	-13
New York	-14	-9
North Carolina	-15	-11
North Dakota	-16	-12
Ohio	-16	-12
Oklahoma	-17	-13
Oregon	-15	-11
Pennsylvania	-14	-9
Rhode Island	-14	-8
South Carolina	-16	-12
South Dakota	-16	-11
Tennessee	-17	-13
Texas	-17	-13
Utah	-15	-10
Vermont	-13	-8
Virginia	-16	-12
Washington	-15	-11
West Virginia	-15	-11
Wisconsin	-17	-13
Wyoming	-16	-12

Source: Health Insurance Policy Simulation Model, 2019.
Notes: Reforms simulated as fully phased in and in equilibrium in 2020. Percent changes calculated over all employer premium spending, regardless of participation in reform.

Limitations of the Analysis

The effects of reforms introducing a public option or capping provider payment rates for all private insurers in the nongroup or nongroup and employer health insurance markets are inherently uncertain. Estimates of current commercial payment rates and their variability, the payment rate reductions ultimately achievable via an inherently political process, households' and firms' decisions to participate in a public insurance option, and the aggregate savings possible from greater regulation of prescription drug prices are all subject to limitations on available data and uncertain responses from stakeholders. Thus, the range of possible outcomes from these reforms is large.

Estimates of Nongroup Reforms

- Because of data limitations, we proxy Medicare payment rates by assuming the benchmark premiums in highly competitive nongroup markets reflect underlying provider payment rates that approximate Medicare rates. Our estimation depends on hospital market concentration and the number of Marketplace insurers in each rating region. High levels of competition are indicators of lower provider payment rates, and we provide evidence that our proxy is reasonable. However, high premiums in noncompetitive regions could owe to unmeasured factors other than higher provider payment rates.
- Our nongroup market public option simulations do not have plans competing with each other within the same actuarial value tier. The plan represented in the silver tier is the benchmark plan in each rating region. Thus, the public option is assumed to be the benchmark plan, and we cannot estimate the number of people enrolling in that versus other competing commercial plans. This is not a problem for estimating changes in federal spending on Marketplace subsidies, which are tied to the benchmark premium, but does affect household spending, which would be higher than shown here for people enrolling in higher-cost plans than the benchmark.

Estimates of Employer Reforms

- Though FAIR Health has the largest and most geographically diverse sample of claims data available to us, the data do not contain all private plans in a state or substate area, and therefore, the contributing insurers in a specific area may not be entirely representative. For

example, if the plan that pays the highest or lowest prices in a particular area is missing from the database, we may under- or overstate the median price paid in the area.

- We use FAIR Health data to represent the distribution of employer plans' payment levels. However, these data are not limited to employer plans, and we cannot separate employer plans or the rates they pay providers from other private insurance plans and their payment rates (i.e., individual market and Medicare Advantage plans). FAIR Health data include plans that cover approximately 75 percent of the privately insured population in the US. Because other data sources show that the employer market represents the majority of the privately insured market, we assume employer claims likely represent a majority of the FAIR Health sample.
- To compute commercial payment rates relative to Medicare rates for professional and outpatient facility services, we use selected Current Procedural Terminology (CPT) codes based on both their frequency and contribution to total spending. Ultimately, the codes we use represent 47 percent of total professional spending and 42 percent of total outpatient facility spending in the FAIR Health data. It is possible that the services chosen do not represent the true average commercial insurance–to-Medicare price ratio for each service category.
- FAIR Health does not release substate data on commercial payment rates for inpatient hospital services. Consequently, our inpatient estimates include all inpatient services provided in a state, but we have no substate information on inpatient care. We apply these state averages to all substate areas.
- We have little evidence on which to predict employer behavior if given the choice to enroll workers in a public option. Thus, our assumptions for take-up by firm size, wage, and expected savings are, by necessity, somewhat arbitrary. This is one reason we simulate a scenario equivalent to all employers using the public option to provide coverage to their workers.
- Employer behavior around the public option could depend on timing; firms may move to (or away from) the public option as they and their employees gain experience with and knowledge of the plan. Our one-year estimates assume the program is fully phased in and at equilibrium; estimating the time path of enrollment is beyond the scope of this report.
- We do not estimate the implications of employers offering workers both the public option and commercial coverage. If this was an option, employer behavior would differ from that modeled here.

Estimates of Prescription Drug Savings

- We assume drug pricing and rebates for various private payers are uniform across the country. If drugs consumed vary geographically, the rebates we estimate will be inaccurate because we do not have data on the underlying variation.
- Medicare pharmacy benefit managers differ by geography. If some can get better rebates from manufacturers, Medicare rebates could differ across states. Because our public option rebates for prescription drugs are computed relative to Medicare and Medicaid levels, any geographic variation in Medicare rebates we miss would affect our public option estimates.
- We estimate that drug rebates for the public option would lead to prices halfway between those in Medicare and Medicaid, or 30 percent below commercial insurance prices. This seems reasonable to us; it is less than what has been achieved in current Medicaid programs and less than similar rebates in other western nations. However, it could still be too optimistic or pessimistic.
- In our nongroup public option estimates, the share of health spending attributable to prescription drugs is set at the national average. In reality, the share may vary by state or region. However, any measurement error of this type should not significantly affect our estimates because prescription drug spending only accounts for 23 percent of the premium dollar nationwide.

Summary of Findings

We examine the potential health coverage and spending implications of eight reforms implementing a public option or capped provider payment rates. We show that the impact of the reform on federal, employer, and household spending depends on whether the public option is available only in the nongroup market or both the nongroup and employer markets. The effects also depend on how much provider payment rates are reduced below current commercial insurance rates and the number of employers using the lower rates. Finally, we show that the reforms have significantly different effects geographically; areas with the highest current provider payment rates would reap the largest relative savings.

We estimate that the median nongroup benchmark premium would decrease by about 28 percent with a nongroup public option paying providers at Medicare-like rates. The mean reduction would be about 19 percent, because regions that currently have low premiums have significantly larger

populations. In other words, highly populated areas are more likely to be competitive and to currently pay rates closer to Medicare's in the nongroup market.

In the employer market, payment rates are higher on average because insurance markets tend to be less competitive. Employers are more likely to accept higher provider payment rates than risk reducing their employees' access to well-liked providers. Our analysis shows that hospital payment rates are, on average, about 2.4 times greater than Medicare rates; at the 90th percentile (lower-priced geographic area), hospital rates are 1.9 times greater than Medicare rates and at the 10th percentile (higher-priced geographic area) they are 3.1 times greater. Commercial payments to physicians are closer to Medicare rates today; the average is 20 percent above Medicare levels. The ratio of commercial payments to physicians to such payments from Medicare ranges from 1.5 at the 10th percentile to 0.9 at the 90th percentile. We assume prescription drugs are sold on a national market, each manufacturer uses national pricing with uniform rebates, and that a public option could provide prescription drug savings of 30 percent relative to current commercial payments (roughly halfway between today's Medicare and Medicaid pricing).

Our simulations show that a nongroup market public option, paying Medicare-like provider payment rates, and reduced prescription drug prices would reduce federal spending on Marketplace subsidies by about 28 percent, assuming the public option becomes the benchmark plan in each area. Federal health spending (including Medicaid acute care for the nonelderly, Marketplace subsidies, reinsurance for states with such programs, and funding for uncompensated care) would fall by 3.5 percent, because Marketplace subsidies constitute a small share of total federal health spending. Assuming modestly higher provider payment rates in the public option, where hospitals and physicians are paid 25 percent and 10 percent above Medicare rates, respectively, Marketplace subsidies would fall by 24 percent, and total federal health spending would fall by 3 percent.

Making the public option available to employers does not materially change spending on the Marketplace or other public programs. However, this extension results in substantial health care savings for employers and consequently increases income tax revenue, because reductions in employer health care spending are converted to taxable wages. With more workers and their dependents in a public option, households save more as well. If the public option paying Medicare rates is available to all employers and a significant share (about half) take up the public plan, employer health care spending drops by $142.9 billion, or 15.5 percent. Increasing provider payment rates in these approaches reduces savings for employers and income tax revenue gains.

The largest systemwide savings across the scenarios presented occur if provider payment rates are capped in all nongroup and employer plans, a regulatory approach similar to that used for the Medicare Advantage program. Even with payment rates set above Medicare levels (e.g., Medicare rates plus 25 percent for hospitals and Medicare rates plus 10 percent for physicians), employer spending on premiums decreases by 24.2 percent. The increase in federal income tax revenue amounts to $42.3 billion dollars under this scenario in 2020. Total spending by all payers falls by $345.8 billion, or 16.1 percent. If payments were set at Medicare rates plus 60 percent for hospitals and Medicare rates plus 10 percent for physicians, employer spending would still fall by 17.0 percent. The increase in federal income tax revenue would be $29.6 billion, and spending by all payers would fall by $246.6 billion, or 11.5 percent.

Discussion

This analysis has shown that a public option that reduces the prices insurers pay to providers to Medicare rates and reduces prescription drug prices below Medicare prices could significantly reduce insurance premiums and government, employer, and household health spending. Depending on the specifics, such an approach can also reduce the number of uninsured people while increasing cash wages and federal revenues. The magnitude of these effects depends critically on how much payment rates are reduced (i.e., how close to Medicare the professional and hospital prices are set) and the specific markets to which the lower rates are applied (nongroup, employer).

Uncertainty surrounds our estimated impacts of the illustrative public option reforms described here, and the major limitations of our methods are summarized on pages 41 to 43. This uncertainty largely owes to some data that would make our estimates more precise not being publicly available. Consequently, we use imputed or proxied information.

Some scenarios we estimated, particularly those including the employer insurance market, would, if implemented, greatly reduce provider revenues, which could lead to disruptions in the health care delivery system, depending on how fast they are implemented. However, providers could adjust their underlying costs over a multiyear phase-in, decreasing the risk of delivery system disruption and allowing analysts to measure (and policymakers to adjust for) possible health care access or quality concerns as prices decrease. The larger the number of insured people included in a public option, the more important such phase-ins become, because ideal prices for all providers and services are unknown. Medicare prices or multiples thereof make convenient benchmarks, but those prices have been set for a health insurance system that includes an array of public and private prices from different

payers. There is nothing to say that Medicare prices or a defined percentage above them would strike an appropriate balance between cost, quality, and access if applied to a much larger share of the population.

In addition, large changes in provider prices and/or revenue could significantly change employment and/or wages in the health sector. Measuring such effects is beyond the scope of this analysis.

Implementation of any of the public option scenarios presented would require a legislative change, and any of the reforms could be quite controversial. Such political challenges are reflected in the recent effort to address "surprise billing," or large out-of-pocket bills sent to people after emergency or other hospital-based situations who were treated by out-of-network physicians through no fault of their own. Current legislative efforts attempt to set payment for out-of-network services at market rates for in-network services yet continue to face strong opposition from providers. The number of health service claims covered by a public option could be considerably larger, and the provider prices assumed in our scenarios are lower, meaning the political pushback from providers over a public option could be at least as strong.

Appendix A. Data and Methods

Estimating the effects of a public option requires two general steps. First, we assess the provider payment rates in current markets and how they vary geographically. Because the public option or capped payment rate reforms studied here are designed to set payments relative to Medicare rates, we must estimate how current provider payment rates compare with Medicare program rates. Doing so allows us to compute how much lower a public plan's premiums might be relative to current commercial insurance premiums. However, information on payment rates currently used by commercial insurers in the individual nongroup and employer insurance markets is limited. These data constraints force us to use some proxies and require that we approach this step differently for the nongroup and employer insurance markets. The data limitations introduce unavoidable uncertainty in our estimates (see the earlier Limitations of the Analysis section).

In the second step, we feed the information from the first step into a microsimulation model of the US health insurance system for the nonelderly population, which allows us to simulate the number of people affected by the reforms and the potential implications for private and government health care spending overall. In both steps, geographic variation is a central interest.

Step 1. Estimating Current Provider Payment Rates Relative to Medicare Rates in Nongroup and Employer Markets

Because there are no nationally or state-representative sources of claims data for private nongroup insurers, we proxy the geographic variation in nongroup provider payment rates using Marketplace premium data at the rating region (substate) level.[28] Consequently, we cannot directly estimate current nongroup insurance provider payment rates for hospitals or physicians relative to Medicare rates. We use data on Marketplace premiums for 2017, the year before the explicit federal cost-sharing reduction payments ended and threats of repealing the ACA's individual mandate, among other regulatory changes, caused turmoil in these markets. This uncertainty led to dramatic premium increases in 2018. Based on our analyses of Marketplace premiums and competition (Holahan et al. 2019; Holahan, Wengle, and Blumberg 2019; Holahan, Wengle, and Elmendorf 2020), both quantitative and qualitative, we assume Marketplace premiums in highly competitive ACA Marketplaces approximate the premiums

insurers would charge if they were paying hospitals and physicians Medicare rates. We provide evidence supporting this assumption in box A.1.

The ACA's Marketplaces tie income-related premium tax credits to the second-lowest silver premium (the benchmark premium). People who choose a plan with a higher premium than this benchmark must pay the full difference between the selected plan's premium and the benchmark premium. At or below the benchmark premiums, people pay no more than the income-related fixed percentage of income specified under the law. Thus, the tax credits' structure strongly incentivizes insurers to price competitively. Consequently, many Marketplace insurers in competitive markets develop limited provider networks, selecting those willing to accept lower payment rates in exchange for patient market share. However, the number of insurers participating in the Marketplaces varies across the country, meaning price competition varies. In many Marketplaces, only one or two insurers participate; in some others, five or more do. More competitive areas tend to include at least one insurer that only offered coverage through the Medicaid program before the ACA's reforms. These insurers usually are the lowest-cost option in the markets in which they participate (Blumberg et al. 2019). For example, out of the 135 rating regions with four or more Marketplace insurers in 2020, 111 (82 percent) have at least one Medicaid insurer.[29]

We estimate equations that regress the benchmark premium in each of the country's 502 rating regions against the number of nongroup Marketplace insurers (one, two, three, four, five, or more), the area's hospital Herfindahl-Hirschman Index (HHI), and various control variables (e.g., the presence of a Blue Cross insurer, Medicaid insurer, provider-sponsored insurer, and national or regional insurer in the market). We also control for rating region population, whether the state has pure community rating in its nongroup market, whether the state had expanded Medicaid eligibility under the ACA as of 2017, and the area average wage index.

The results show that benchmark premiums tend to fall as the number of insurers increase. Stated differently: controlling for other factors, benchmark premiums are typically highest in markets with only one insurer, and they decrease consistently as the number of participating insurers increases to five or more. Benchmark premiums also tend to be lower if a Medicaid insurer participates in the Marketplace. Finally, as hospital HHI decreases (indicating lower hospital market concentration), benchmark premiums tend to decrease as well. Other researchers have found similar results (Dafny, Gruber, and Ody 2015; Van Parys 2018).

For this analysis, we assume benchmark nongroup insurers in highly competitive markets (with five or more competing insurers and hospital HHI of no more than 5,000) set their provider payments at

approximately Medicare rates. Currently, 45 rating regions, accounting for 27 percent of the US population, meet that criteria. We then use the estimated regression to predict the benchmark premium for a 40-year-old single person for each rating region as if the area were highly competitive (with at least five insurers and HHI set at the lesser of 5,000 and the rating region's actual HHI), holding all other regional characteristics constant. Thus, our adjustment lowers premiums for highly concentrated insurer and provider markets. These computed premiums are our proxy for the benchmark premiums in a plan using Medicare rates in each rating region. Further analysis indicates that this proxy for Medicare payment rates is valid (box A.1).

BOX A.1

Validation of the Assumption That Benchmark Premiums in Highly Competitive Nongroup Insurance Markets Approximate Medicare Provider Payment Rates

Using commercial insurer–to-Medicare payment ratios based on claims data from FAIR Health, which we assume broadly represents employer-based insurance plans, we estimate that reducing payment rates to Medicare levels (all else being equal and with rebates for prescription drugs set halfway between Medicare and Medicaid rebates) would decrease medical expenses by approximately 35 percent (details shown below). In other words, Medicare prices combined with our assumed prescription drug pricing would lower commercial insurance prices by 35 percent.

Using HIPSM, we separately estimate the change in health care costs if people with employer-based insurance were moved into a nongroup market 80 percent AV (gold level, typical of employer-based insurance plans) plan priced consistent with the most competitive markets (the assumption used in our nongroup market public option simulations) and with the same savings on prescription drugs assumed in our public option simulations. That analysis found that spending on the people currently enrolled in employer-sponsored insurance would decrease by 37 percent once they were moved into a competitively priced nongroup gold plan.

This finding supports our assumption that competitive nongroup market pricing roughly approximates Medicare rates, because the former would produce about the same overall savings as the latter. Also, nongroup insurers are prohibited from charging high premiums merely to increase their profits, because the law prohibits medical loss ratios from falling below 85 percent in that market. If medical loss ratios are below that percentage in a year, the insurer must issue rebates to its enrollees. Consequently, in equilibrium, premiums charged in competitive markets should reflect insurer costs plus a normal profit.

We compute the percent difference between a rating region's predicted benchmark premium based on the region's 2019 characteristics and our proxy premium. We then apply the computed percent difference to a rating region's actual benchmark premium to calculate the premium for the public option.[30] Premium differences under Medicare proxy rates are smaller in more competitive markets and larger in less competitive ones.

Depending on a reform's specifications, we adjust the proxy premium for higher provider payment rates for rural areas and/or differentially for physicians versus hospitals. When we apply different payment rates for rural versus urban areas, we use an indicator we developed based on the share of rural or urban counties in the rating region. Though Medicare rates already contain various additional payments for sole-community, low-volume, and Medicare-dependent rural hospitals, the current policy discussion around public option proposals often includes suggestions for additional rural-area adjustments. We do not take a position on the necessity of such adjustments; we merely analyze the implications of using them. We also include an adjustment for prescription drug rebates in each simulation (described below).

We calculate the share of health spending attributable to physicians, hospitals, prescription drugs, and other services by region based on the spending patterns among the nonelderly population in the 2016 Medical Expenditure Panel Survey Household Component.[31] Then, we apply sector-specific payment rate adjustments to the appropriate share of the Medicare-rate proxy premium. For example, if we want to increase hospital payment rates by 10 percent above Medicare rates in a region where 45 percent of the premium is attributable to hospital services, we increase total payment rates by $.45 \times (0.10)$, with 0.45 being the hospital service share and 0.10 reflecting the additional 10 percent added to Medicare hospital rates. When appropriate, we adjust professional services and prescription drug payments in the same manner.

Prescription drug savings. Though we reduce hospital and physician payments to Medicare rates (or some multiple thereof) for all simulations, we assume the public option would pay lower prices for prescription drugs than Medicare does. The assumed prescription drug savings described here apply to public options or capped provider payment rate strategies in both the nongroup and employer insurance markets. Medicare is not a particularly efficient payer for prescription drugs but does pay lower prices than commercial insurers. The program is prohibited from negotiating with manufacturers over prescription drug prices, let alone setting prices as it does with other providers. Rather, Medicare relies on pharmacy benefit managers to negotiate prices, and these benefit managers have considerably less leverage than Medicare would have if it simply set prices as it does for other medical services.

All payers, including Medicare, Medicaid, and commercial insurers, require prescription drug manufacturers to rebate part of the list price of each drug. Commercial insurers receive the smallest rebates, largely because each one covers a smaller share of the market (giving them less power to negotiate), and when insurance markets are not highly competitive, they often do not have strong incentives to negotiate aggressively. Medicare Part D gets somewhat larger rebates than commercial insurers, but they are modest compared with Medicaid's rebates. Medicaid receives both basic and inflation rebates (where the program receives a rebate for any increase in a prescription drug's price above the inflation rate). Together, these rebates result in Medicaid receiving the largest savings compared with prescription drug list prices in the US.

Kesselheim and Hwang (forthcoming) compares post-rebate commercial prices with estimated prescription drug savings achieved by paying higher rebates under each government program. The authors used Market Scan data to identify the largest brand-name drugs and selected 75 drugs that account for two-thirds of spending by commercial payers. They assume savings on current generic drug prices are not achievable, because these prices are already low, and manufacturers seldom provide commercial insurers with rebates for generic prescription drugs. They also calculate the difference between prices paid by commercial insurers and the Medicare program for the 75 selected drugs, the prices paid by Medicaid when accounting for the full rebates (including the inflation rebates), and prices paid by a group of four federal programs with high prescription drug expenditures (the US Department of Veterans Affairs, the Coast Guard, the Department of Defense, and the Public Health Service, also called the "Big Four"). In addition, they use information on supplemental rebates often negotiated by Medicaid programs or the Big Four. Ultimately, they estimate that basic Medicaid rebates generate average savings between 9 and 15 percent off commercial insurer prices, which are considered roughly equal to Medicare rebates. Relative to commercial insurer prices, the full Medicaid rebate, including the inflation rebate, averages 46 to 49 percent savings, and the Big Four see savings of 28 to 34 percent.

Kesselheim and Hwang (forthcoming) also reports that Canada's published prices are about 65 percent below US commercial prices after rebates. Countries such as Germany, Switzerland, and the United Kingdom have prices comparable to those in Canada.

Given the political strength of pharmaceutical manufacturers, achieving savings sufficient to obtain prices as low as those in other nations seems unlikely. In addition, if the US legislated prices at these levels (i.e., international reference pricing), these prices could be below manufacturers' average costs and result in increases in those reference prices agreed to with other nations. For these reasons, the US has been constrained in lowering drug prices. To estimate the potential savings on prescription drugs under our base case public option (reform 1), we assume rebates or other pricing control strategies that

establish final prices halfway between those paid by Medicare and Medicaid. This rebate seems feasible but politically challenging to achieve. Such rebates are significant compared with those received by commercial insurers but still result in prescription drug prices well above those in other western nations. We assume legislation would mandate these rebates for the public option. To make these rebates effective for a large population, it may be necessary to also regulate increases in list prices (which is beyond the scope of this analysis). The price reductions we estimate could also be sought through reference pricing or negotiations; the results reported would apply regardless.

In each reform, we assume prescription drug savings halfway between Medicare savings and the full Medicaid rebate, which would equal about 30 percent off current commercial prices. We apply this assumed 30 percent savings in our simulation analyses. Though such savings may appear optimistic, they are less aggressive than those in several current proposals.[32] We also assume prescription drugs are sold on a national market, with each manufacturer using national pricing and uniform rebates.

According to the Medical Expenditure Panel Survey's most recent publicly available year of data, prescription drugs account for 23 percent of private health care spending. Thus, we estimate that a 30 percent drop in commercial prices for prescription drugs will, on average, reduce private health spending by 6.9 percent; this reduction is applied to premiums in our nongroup simulations. In the simulations of reforms to employer-sponsored insurance, HIPSM applies the 30 percent savings to each person's private health expenditures (insured or household paid) according to that person's specific prescription drug spending, thereby capturing how these savings vary across people and insurance risk pools depending on prescription drug use.[33]

Estimating Premium Savings under A Public Option or Capped Provider Payment Rates in the Nongroup Market

Accounting for potential savings on all health care services, including prescription drugs, table 2 in the body of this report shows the state average percent differences between current benchmark premiums and premiums when using Medicare payment rates for all providers, with prescription drug rebates halfway between those for Medicare and Medicaid. These are our base case, or reform 1, assumptions. Premium adjustments are computed at the ACA nongroup market rating region level, and state averages shown in the table are weighted by the rating region population covered by nongroup insurance (Giovannelli, Lucia, and Corlette 2014).[34] These percent changes in premiums reflect the changes in provider payment rates only and do not account for any possible changes resulting from different people or more people with different average characteristics enrolling in coverage because of

price changes. We account for these behavioral changes and any resulting changes in insurance risk pools in the simulation work described in the results section of the main report.

Table 2 in the body of this report shows that under the assumptions used in reform 1, average nongroup benchmark premiums would be no more than 11 percent below the current premium in six states (California, Idaho, Massachusetts, Michigan, New York, and Ohio). Average benchmark premium savings from a public option are relatively small in these states primarily because their nongroup insurance Marketplaces tend to be competitive. We estimate that premium savings would exceed 35 percent in eight states (Alabama, Alaska, Delaware, Mississippi, Nebraska, North Carolina, South Carolina, and Wyoming), reflecting the lack of competition in their current nongroup markets. Nationwide, the average savings would be 19 percent.

Table 3 in the body of this report shows the distribution of benchmark premium savings across the country's 502 nongroup market rating regions. The distribution shows that we estimate benchmark nongroup premiums would fall by at least 41 percent in 10 percent of rating regions but would fall by no more than 11 percent in another 10 percent of regions. The median savings would be 28 percent. The large gap between median and mean reductions owes to small rating regions generally having higher prices and therefore needing larger price cuts to achieve Medicare levels.

Estimating Current Provider Payments Relative to Medicare Rates in the Employer Group Market

We assume a public option available to employer purchasers would, like a public option in the nongroup market alone, achieve savings by lowering payment rates to providers. Using Medicare payment rates as a benchmark, we calculate premium savings that could be achieved by bringing commercial provider payment rates closer to Medicare rates.

Estimating the likely savings from reducing provider payment rates is challenging because no data are publicly available on the actual rates commercial insurers pay to providers (also known as the insurers' negotiated rates or allowed amounts). Providers, particularly hospitals, often report list prices or charges for specific services, but insurers negotiate substantial discounts off these list prices, and the resulting negotiated rates are confidential. We considered several sources of proprietary commercial claims data for insurers in the employer market that could be used to construct estimates of typical commercial prices relative to Medicare prices. We ultimately chose to use FAIR Health data,[35] the largest and most geographically representative private insurance claims database available to us.

FAIR Health's National Private Insurance Claims (FH NPIC ®) database contains data submitted by approximately 60 insurers and the third-party administrators covering over 150 million people with private commercial insurance nationwide.[36] The claims analyzed include the allowed amounts negotiated between insurers and the providers participating in their networks; this total negotiated fee includes the amount paid by the insurer and the patient's cost share, if any. To protect the interests of both payers and providers, FAIR Health imputes allowed amounts highly correlated to the actual allowed amounts without disclosing confidential in-network rates.[37] FAIR Health regularly produces and licenses "FH ® Allowed Benchmarks," which report the range of imputed allowed amounts for specific CPT codes in each of 493 geographic areas (known as geozips) that generally correspond to combinations of three-digit zip codes. These benchmarks are available for medical, anesthesia, dental, and outpatient facility services.[38]

FAIR Health does not license an allowed amount benchmark database for inpatient hospital services and does not provide details on payments for prescription drugs. So, to estimate overall premium savings from reducing commercial rates, we combine information on commercial payment rates relative to Medicare rates for physician and hospital outpatient services at the geozip level, state-level inpatient services data from FAIR Health, and the national estimate of prescription drug savings detailed above. We describe the details of the FAIR Health estimates below.

For both hospital outpatient and professional services, FAIR Health identified the top 30 CPT codes by frequency and by expenditure nationwide from their claims database. After accounting for overlap in the top codes by frequency and expenditure, we received data on 46 professional and 45 outpatient CPT codes. These codes represented approximately 47 percent of professional spending and about 42 percent of outpatient facility spending in the FAIR Health database.

For each professional and outpatient code, we received the number of claims, the median commercial price, the average commercial price, and the Medicare price for each of 491 geozips in the US. FAIR Health provided the Medicare rates, which were calculated based on the Medicare fee schedule and adjusted for geographic rate differences. Within each geozip, we then calculated the ratio of the median commercial price to the Medicare price for each CPT code and generated expenditure-weighted averages across the professional and outpatient service codes.[39]

FAIR Health could not provide substate-level commercial payment rates for hospital inpatient services, so we received average commercial insurance–to-Medicare ratios for each state. FAIR Health constructed these ratios by estimating the ratio for each hospital inpatient facility claim in their

database from July 2017 to June 2018 and then averaging the ratios for each state. We then assigned these state-level ratios to all geozips in a state.

The Medicare rate used in the inpatient ratio calculation was based on the diagnosis-related group for the specific claim and adjusted for the geographic wage index. However, the rate does not adjust for hospital characteristics that would result in additional Medicare payments for disproportionate share hospitalstatus, indirect medical education, or rural or isolated hospital status. Thus, the commercial insurance–to-Medicare price ratios were overstated. To adjust the inpatient ratios at the geozip level, we used national estimates of the share of hospital inpatient prospective system spending on these payments from the Medicare Payment Advisory Commission.[40] For urban hospitals, the share of spending on indirect medical education, disproportionate share hospitals, uncompensated care, and rural or isolated hospital add-on payments was 15.1 percent; for rural hospitals, the share of spending on these add-ons was 17.3 percent. To account for this issue, we multiplied the inpatient ratios in urban and rural geozips by 0.849 and 0.827, respectively.[41]

Each geozip then has an inpatient facility ratio, an outpatient facility ratio, and a professional ratio, and the outpatient and professional ratios reflect the expenditure-weighted average ratio across CPT codes for the geozip. We combine hospital inpatient and outpatient facility ratios for each geozip using weights derived from the share of expenditures on the nonelderly population from the 2016 Medical Expenditure Panel Survey Household Component.[42] We estimate the share of hospital spending attributable to outpatient events plus emergency department care (37 percent) versus inpatient stays (63 percent) based on the above distribution. So, our hospital ratio for each geozip is a weighted average of the inpatient and outpatient ratio. Ultimately, we end up with 491 geozip-level hospital and professional ratios.

Because our microsimulation model uses the American Community Survey and its PUMAs, we converted the geozip-level ratios to PUMA-level ratios using a zip code tabulation area–to–PUMA crosswalk obtained from the Missouri Research Data Center's Geocorr program.[43] Because there are more PUMAs than geozips in the US, most PUMAs include data from only one geozip and many geozips provide estimates from multiple PUMAs.[44]

For each PUMA, we then generate the implied hospital and professional price cuts if rates were set at Medicare levels.[45] Finally, we combine these price cuts with an estimated 30 percent reduction in drug costs (as described previously) to generate potential employer premium savings from implementing a public option or capping payments at Medicare rates.[46] The weights for hospital, professional, and drug spending again rely on the Medical Expenditure Panel Survey distribution

above.[47] Here we use these weights for illustrative purposes, but the simulations (described below) use the estimated spending on each service in each insurance risk pool.

Table 4 in the body of the report shows the national distribution of PUMA-level hospital and professional commercial insurance–to-Medicare price ratios and the implied premium cut from moving from commercial to Medicare rates. Again, these changes reflect the reduction in premiums alone and do not account for any risk pool changes resulting from behavioral changes; we account for those in our simulation results. The table shows that the ratio of commercial to Medicare prices was 2.4 on average for hospitals and 1.2 for professionals (physicians and others). The ratios vary considerably across the country, however, particularly for hospitals.

We find some variation between our estimates of private prices relative to Medicare's using FAIR Health data and such estimates from other sources (table A.1), but different sources use different geographies, plans, and services, as well as methodological approaches to estimating relative prices. The Congressional Budget Office analyses using Health Care Cost Institute data are limited to metropolitan areas only (Maeda and Nelson 2017; Pelech 2018), whereas Cooper and colleagues (2018) used Health Care Cost Institute data on hospital referral regions covering the entire US. White and Whaley (2019) compiled data from multiple sources, including all-payer claims data and self-insured employers in 25 states only. The Congressional Budget Office selected and reported on prices for 20 professional services and did not attempt to produce a composite measure, whereas the Medicare Payment Advisory Commission reports a single estimate based on claims for preferred provider organization members of a large national insurer (MedPAC 2019a). The sources also vary in whether and how they adjust for geography and disproportionate share hospital and indirect medical education statuses in their calculations of relevant Medicare prices.

The table below includes several national, or overall, estimates found in both the published and grey literature.

TABLE A.1

Estimates of Private Insurance Prices Relative to Medicare Prices from Various Sources

		Ratio of Private Insurance to Medicare Prices			
	Data source	Hospital	Inpatient	Outpatient	Physician/ professional
Urban Institute	FAIR Health (2017–18)	2.4	1.9	3.4	1.2
Congressional Budget Office	HCCI (2013–14)	NA	1.9	NA	1.1–2.4 (service-specific)
Cooper and colleagues	HCCI (2007–11)	NA	2.2	NA	NA
White and Whaley	Multiple (2015–17)	2.4	2.0	2.9	NA
Medicare Payment Advisory Commission	2017	NA	NA	NA	1.3

Sources: CBO estimates come from Maeda and Nelson (2017) and Pelech (2018). See Cooper and colleagues (2018), MedPAC (2019a), and White and Whaley (2019).

Notes: HCCI = Health Care Cost Institute. NA = not available.

Though the exact estimates vary somewhat, some consistent patterns emerge. Private inpatient prices appear to average around twice Medicare prices, and private prices relative to Medicare for outpatient facility services appear at least as high, or higher, than relative prices for inpatient care (where separate estimates are available). Moreover, the relative private price for physician services appears lower than that for hospital services, but the estimates vary considerably; this may depend on the services selected to generate the estimates. Our estimates used 46 services representing 47 percent of spending, whereas the Congressional Budget Office focused on 20 specific services. We have no further details on the Medicare Payment Advisory Commission estimate presented in the table.

For the most expensive 10 percent of geographic areas, our data indicate that the hospital payment ratio (commercial prices divided by Medicare prices) was more than 3, whereas commercial hospital payments in the lowest 10 percent of areas were, at most, 1.9 times Medicare prices. For professional services, commercial payment rates were at least 1.5 times Medicare rates in the highest 10 percent of areas and, at most, 0.9 times Medicare rates in the lowest 10 percent of areas.

The relative differences for hospital and professional payments can be combined with the assumed price cut for prescription drugs (weighted by the share of spending attributable to each) to compute implied potential premium cuts from moving from current commercial payment rates to our base case assumptions (Medicare rates for hospitals and professionals and prescription drug prices halfway between Medicare and Medicaid prices). Our estimates suggest that both the mean and median employer insurance premiums would drop by approximately 35 percent after such payment rate

reductions. This is larger than the 19 percent mean reduction and 28 percent median reduction in the nongroup market.

The percent reductions in premiums resulting from lower provider payment rates are larger in the employer market than the nongroup market because premiums have been quite low in many ACA nongroup insurance markets for reasons described previously.[48] A public option is unlikely to offer much lower premiums than private insurers in highly competitive markets, but savings can be substantial in less competitive markets. Employer insurance markets do not appear very price competitive today, and their provider payment rates tend to be higher. Employers tend to keep provider networks broader (particularly in larger firm plans), which avoids alienating employees but leads to higher premiums. This also means employer premiums do not vary much across geographic areas because, unlike the nongroup market, few employer markets have low overall private commercial insurance payment rates, particularly for hospitals.

Our estimates based on FAIR Health data suggest our base case price assumptions could reduce employer premiums by at least 25 percent in 90 percent of PUMAs, with 10 percent of PUMAs seeing decreases of 44 percent or more. These potential premium reductions reflect the relatively high commercial insurance–to-Medicare ratios for hospital payment rates (national average of 2.4) and the much lower ratio for professional services (national average of 1.2). This suggests that moving to Medicare rates for hospitals could save an average of 57 percent on hospital services and 14 percent on professional services.

Table 5 in the body of this report presents state-level estimates averaging commercial insurance–to-Medicare payment ratios for hospital and professional services across PUMAs. It also shows the implied price cuts resulting from moving from the estimated commercial rates to Medicare rates (our base case assumptions). Assuming Medicare rates, hospital payments from commercial private insurance payers would fall by more than 60 percent in Alabama, California, Colorado, Florida, Nevada, South Carolina, and Texas. Professional payments would be cut by more than 25 percent in Florida, Louisiana, Minnesota, North Dakota, Texas, Wisconsin, and Wyoming. Professional payments would increase on average in eight states if Medicare rates were paid. In our simulations, several reforms assume payments would be set above Medicare rates.

Estimating Premium Savings under a Public Option or Capped Provider Payment Rates in the Employer Market

Combining the base case hospital and professional cost reductions and the 30 percent decrease in prescription drug prices, our estimates suggest potential average employer premium reductions ranging from 40 percent or more in Florida, Georgia, Nevada, Texas, and Wisconsin to 25 percent or less in Maine, Maryland, Pennsylvania, Rhode Island, Utah, Vermont, and West Virginia. The PUMA-level ratios and implied premium reductions underlying these state-level averages provide the geographic variation that informs the simulated reforms.

Step 2. Simulating Public Option or Capped Provider Payment Rate Reforms

The Urban Institute's Health Insurance Policy Simulation Model, or HIPSM, is a microsimulation model of the US health insurance system for those under age 65 who are not disabled and therefore covered by Medicare. It simulates the cost and coverage implications of an array of health care reforms and computes health insurance premiums for people in different insurance risk pools (employer groups, households purchasing coverage on the nongroup market with and without subsidies). Here, we use HIPSM to simulate the cost and coverage implications of our eight public option/capped payment rate reforms. The simulations vary by the assumed provider payment rates (all expressed relative to Medicare's payment rates) and the insurance markets (nongroup, employers) in which the public option/capped provider payment rates are available. Estimates of the coverage effects of changing premiums target elasticities drawn from the literature (Blumberg, Nichols, and Banthin 2001). Table A.2 shows elasticity targets for employer-sponsored insurance. Targets for nongroup insurance are calculated by the Congressional Budget Office (CBO 2005).

TABLE A.2

Target Price Elasticity of Employer-Sponsored Insurance Offers, by Firm Size

Firm size	Elasticity
<10	-1.16
10–25	-0.45
25–50	-0.4
50–100	-0.3
100–500	-0.21
500–1,000	-0.047
1,000+	Not available from the literature

Source: Buettgens (2011).

HIPSM uses the estimates of employer and nongroup insurance payments relative to Medicare for each geographic area described above to adjust the premiums for people simulated to enroll in the public option or capped rate plans. The adjustments vary depending on a reform's assumed payment rates and current payment rates in the applicable market(s). Adjustments for assumed hospital, professional services, and prescription drug savings are applied to spending in each insurance risk pool depending on enrollees' spending on each type of service. Those enrolling in the public option or capped rate plans in currently highly competitive nongroup insurance markets see relatively small adjustments to their premiums, whereas those enrolling in either plan in a currently noncompetitive area will see much larger adjustments to their premiums. People enrolling in a public option in an employer market where payment rates are highest will see larger adjustments to their premiums than will people in employer markets where payment rates are lower. We assume the full savings in payment rates are passed on to enrollees as a premium reduction.

Conceptually, our simulations of nongroup public options are consistent with offerings available at each of the ACA's actuarial value tiers. In addition, we assume the Marketplace benchmark premium decreases by the percent difference between the public option premium and benchmark premium in that rating area. Lower benchmark premiums in the nongroup market mean lower federal spending on premium tax credits, lower household out-of-pocket costs (due to lower prices for care), and lower household spending on premiums for those ineligible for premium tax credits. HIPSM does not model a distribution of different nongroup insurance plans within a single actuarial value tier. Therefore, the model implicitly assumes all ACA-compliant nongroup insurance enrollees are affected by the public option. We assume capping provider payments at the specified rates has the same effect, lowering the benchmark premium and enrollees' out-of-pocket costs.

In the employer market, we assume a public option has characteristics typical of employer plans (e.g., fairly broad benefits and 80 percent AV but lower provider payment rates than those currently paid by commercial insurers). Large firms choosing the public option continue to be experience rated, with premiums adjusted depending on the expected health care costs of each firm's enrollees. Small firms face modified-community-rated premiums for the public option, just as they do in the existing fully insured market. We assume firms compare their plans' current benefits, cost-sharing requirements, and premiums with the those in the public option. We also assume some employers would find that their employees prefer the benefits and cost-sharing in the firm's own plan over those in the public option, and that the public option's premium savings are insufficient to overcome those preferences. If a firm's workers, in aggregate, prefer the public option's benefits, cost-sharing requirements, and premium savings, we assume the firm offers the public option.

How individual firms would react to a public option is difficult to predict. When a public option is offered to employers, we assume that among employers offering coverage to their workers, take-up of the public option varies by employer size, the firm's average wage, and the provider prices facing the firm. As employer size increases and/or average worker wage increases, we assume the employer's likelihood of offering the public option decreases. HIPSM's behavioral model also permits employers not currently offering coverage to their workers to begin to offer it based on the lower public option price available. We use the following matrix of participation assumptions (table A.3) along with an assumption about firms' sensitivity to expected savings to illustrate the potential implications of public option reforms in employer markets.

TABLE A.3

Likelihood That Employers Will Offer the Public Option, by Employers' Number of Employees and Average Worker Wage

	Number of Employees in Firm		
Average worker wage	Fewer than 100	100 to 999	More than 1,000
Lowest 25 percent (below 25th percentile)	90%	80%	80%
Middle 50 percent (25th to 75th percentile)	60%	50%	40%
Highest 25 percent (above 75th percentile)	40%	30%	20%

Source: Authors' assumptions used for modeling purposes.

The participation rates used in these simulations are illustrative and somewhat arbitrary. However, they assume employers with a lower-wage workforce are more likely to value the public option's lower premiums, whereas employers with a higher-wage workforce are more likely to value the plans that have been tailored to meet their workers' collective needs. In addition, we assume larger employers, those most efficiently providing coverage to their workers today, would be less likely to adopt the public option. We also assume firms anticipate savings from participation in the public option, but if those savings are small, the firm does not adopt the public option; specifically, we assume a firm will forgo the public option if expected savings are not at least 20 percent of their current premium costs.[49] In these simulations, an employer does not offer insurance to its workers, offers a private plan, or offers the public option; a single firm does not offer both public and private plan options to its workers.

Under the simulated capped payment rate reforms, all firms take advantage of lower provider prices, because they do not have to change benefits or cost-sharing structures to benefit from the lower payment rates. Any commercial insurer or self-insuring firm could use the lower provider payment rate

schedule developed for these reforms. Such scenarios are consistent with Medicare Advantage, wherein private plans' provider payment rates are limited to traditional Medicare plan rates.[50]

Notes

[1] We describe the source of changes in income tax revenue under public option reforms in a later section. It relates almost entirely to reforms implemented in the employer market, and consequently, income tax revenue essentially does not change under the three nongroup-only reforms described in this section.

[2] Medicare-X Choice Act of 2019, S. 981, 116th Cong. (1st Sess. 2019); Choose Medicare Act, S. 1261, 116th Cong. (1st Sess. 2019); Keeping Health Insurance Affordable Act of 2019, S. 3, 116th Cong. (1st Sess. 2019); Consumer Health Options and Insurance Competition Enhancement Act, S. 1033, 116th Cong. (1st Sess. 2019).

[3] "NHE Fact Sheet," Centers for Medicare & Medicaid Services, accessed February 13, 2020, https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NHE-Fact-Sheet.

[4] Sherry Glied, "Identifying Promising Solutions to Real Problems," New York University Robert F. Wagner Graduate School of Public Service, accessed February 13, 2020, https://altarum.org/sites/default/files/uploaded-related-files/Glied.pdf.

[5] Examples include Medicare-X Choice Act of 2017, S.1970, 115th Cong. (1st Sess. 2017); Choose Medicare Act, S. 2708, 115th Cong. (2nd Sess. 2018); and Medicare at 55 Act, S. 1742, 115th Cong. (1st Sess. 2017).

[6] The Medicare approach limits Medicare Advantage plan payments for out-of-network providers to traditional Medicare rates. This provides sufficient leverage for Medicare Advantage plans to pay no more than those rates for in-network providers as well. As we have proposed elsewhere (Blumberg and Holahan 2017b), we assume capped payment rates in a public option would explicitly apply to both in- and out-of-network providers.

[7] Eligible Marketplace enrollees with incomes below 250 percent of the federal poverty level may purchase Marketplace coverage with reduced cost-sharing requirements when paying an income-related premium for silver coverage. For example, a person with income between 100 and 150 percent of the federal poverty level can choose a 94 percent AV plan when paying an income-related premium for a 70 percent AV plan. These higher value plans lower the out-of-pocket costs (deductibles, coinsurance, copayments) low-income enrollees face when accessing medical care.

[8] As noted, the Medicare program includes private Medicare Advantage plans that cap payments at traditional Medicare program rates. Medicare Advantage plans offer coverage as an alternative to traditional Medicare, which is essentially a public option.

[9] The Choose Medicare Act (S. 1261) includes a public option for employers.

[10] Even under capped payment rates, providers may not want to participate, because a public option operating only in the nongroup insurance market affects a small percentage of the insured population, and providers could therefore choose not to participate with those insurers without substantially affecting their patient base.

[11] Some evidence shows that a public option could induce more aggressive negotiation by private insurers. See Blumberg and colleagues (2019).

[12] The standard is at least five Marketplace insurers and hospital HHI of at least 5,000.

[13] The FAIR Health database contains data submitted by approximately 60 insurers and third-party administrators covering nearly 150 million people with private insurance nationwide.

[14] The substate data are available at the geozip level, which we distributed to the PUMA (census-defined geographic areas with at least 100,000 residents that do not cross state lines) level and then aggregated to the state level.

[15] Estimates of public option spending in the employer market are applied as 30 percent cuts to prescription drug spending by region, not by the overall 23 percent of spending used to adjust nongroup premiums.

[16] ACA rating regions are set by states but must meet particular federal guidelines; each area is defined by counties, metropolitan statistical areas, or three-digit zip codes. States generally have multiple rating areas; however, six states (Delaware, the District of Columbia, Hawaii, New Hampshire, New Jersey, Rhode Island, and Vermont) include the entire state in one rating area. See Giovannelli, Lucia, and Corlette (2014).

[17] The large gap between median and mean reductions owes to small rating regions generally having higher prices and therefore requiring larger price cuts to achieve Medicare rates.

[18] For the highest 10 percent of geographic areas, the hospital payment ratio (commercial prices divided by Medicare prices) was more than 3; in the lowest 10 percent of geographic areas, commercial hospital payments were, at most, 1.9 times Medicare rates. For professional payments in the highest 10 percent of areas, commercial payment rates were at least 1.5 times Medicare rates; in the lowest 10 percent of areas, commercial payment rates were at most 0.9 times of Medicare rates.

[19] Consumers enrolling in plans priced above the benchmark premium must pay the full premium difference out of pocket. Those choosing a plan priced below the benchmark receive savings. Thus, the incentive is strong for consumers to choose a lower-priced plan, pushing many insurers to compete aggressively on price.

[20] Our estimates based on FAIR Health data suggest our base case (reform 1) price assumptions could reduce employer premiums by at least 25 percent in 90 percent of PUMAs, with 10 percent of PUMAs seeing premium decreases of 44 percent or more. These potential premium reductions reflect the relatively high commercial insurance–to-Medicare price ratios for hospital payment rates (national average of 2.4) and the much lower ratio for professional services (national average of 1.2), which suggests that moving to Medicare rates could save an average of 57 percent on hospital services and an average of 14 percent on professional services.

[21] Throughout this paper, when we refer to nongroup insurance coverage, we are referring to ACA-compliant nongroup insurance coverage, not short-term, limited-duration plans or other plans not required to comply with consumer protections, such as modified community rating, guaranteed issue, essential health benefits, and AV standards.

[22] In addition, some people with incomes below 400 percent of the federal poverty level who receive small subsidies (because they have higher incomes within that range) may see their premiums drop below their applicable percent-of-income cap. Their subsidy would fall to zero, but they would spend slightly less on premiums.

[23] It may seem surprising that the number of people with nongroup insurance coverage (subsidized and unsubsidized combined) decreases slightly under reform 3 compared with current levels. This is because the higher provider payment rates and higher premiums under reform 3 bring in fewer unsubsidized enrollees than do the lower payment rates and premiums under reform 1. The smaller number of new unsubsidized enrollees is not large enough to offset some modest disenrollment among people currently buying bronze coverage. As we noted earlier, lower provider payment rates translate into lower nongroup premiums and lower federal premium tax credits per person. Though this decrease does not affect the preferences of people buying silver coverage (because their premium and subsidy decline by the same amount), it does negatively affect people buying bronze (60 percent AV) coverage. Though the bronze premium decreases with lower provider payment rates as well, the differential in silver and bronze premiums means a bronze-plan purchaser will pay more out of pocket for the coverage they currently buy when the subsidy decreases. A modest number of those consumers drop their coverage as a result.

[24] When accounting for all employers, effects in the bottom percentile are not zero, because premium changes are computed at the geographic region level, not the employer level. Because at least some employers take up the public option in all regions, every region sees an effect.

[25] Again, the reduction in spending by all payers reflects both payments for claims made to health care providers and insurer administrative costs.

[26] Under reform 7, the distribution of premium changes are different when accounting for all employers versus only employers taking advantage of the lower payment rates, despite all employers using the capped payment rates in this scenario. That is because for both reform options, the premium changes computed for employers taking up the public option/capped rates compare the prices paid by employers taking the up the reform option with those same employers' premiums under current law. Conversely, the "all employers" approach compares the premiums paid by all employers offering insurance coverage to their workers before and after reform, even when those pre- and postreform employers differ.

[27] Federal (and state and local) government costs for employer premiums would also fall, but the costs associated with these premiums are counted as employer spending in the tables here.

[28] Under the ACA, states can define the substate areas in which nongroup insurance premiums for the same plan do not vary (e.g., people of the same age and tobacco use choosing the same insurance plan face the same premium). These areas may consist of a single county, several counties, a metropolitan area, or a three-digit zip code.

[29] Authors' calculations from federally facilitated Marketplace and state-based Marketplace data.

[30] We predicted the current benchmark premiums using actual 2019 values for most Marketplace rating areas. In some states, 2019 premiums are very low and could not realistically be further reduced; in some of these states, the number of insurers had recently dropped, resulting in predicted premiums even further below actual 2019 levels. In these cases, we used the 2017 number of insurers (instead of the 2019 number) to predict current-law benchmark premiums, assuming the 2017 level of competition caused the low premiums currently seen in these states.

[31] Other spending includes dental visits, home health events, and other medical equipment and services.

[32] See, for example, the Lower Drug Costs Now Act, H.R. 3, 116th Cong. (1st Sess. 2019).

[33] The prescription drug savings are applied differently in the nongroup and employer markets. For our nongroup market estimates, we adjust health care costs by rating region, but not service type . Employer health care costs are adjusted by service type, so the 30 percent drop is assigned directly to drug spending.

[34] See note 16 above.

[35] Visit the FAIR Health website at https://www.fairhealth.org/.

[36] "FAIR Health: Your Independent Source for Healthcare Claims Data," FAIR Health, accessed February 13, 2020, https://s3.amazonaws.com/media2.fairhealth.org/resource/asset/FH%20Overview%20-%20Fact%20Sheet.pdf. FAIR Health data are not limited to employer plans only, and we cannot distinguish employer plans or the rates they pay providers from other private insurance plans and their payment rates (i.e., individual market and Medicare Advantage plans). FAIR Health data include more than 30 billion claims from plans that cover approximately 75 percent of the privately insured population in the US. Because other data sources find that the employer market represents the majority of the privately insured market, we assume employer claims likely represent a majority of the FAIR Health sample. As a frame of reference, according to the Urban Institute's Health Insurance Policy Simulation Model's estimates for 2020, health care expenditures (excluding administrative costs) for people enrolled in employer-based insurance are, in aggregate, 12.7 times as large as aggregate health care expenditures for people enrolled in nongroup insurance. Moreover, the FAIR Health database has been determined to meet sufficiency thresholds and requirements for research sample size and reliability with respect to the privately insured population in all 50 states and DC by the Centers for Medicare & Medicaid Services.

[37] "Allowed Benchmarks," FAIR Health, accessed February 13, 2020, https://s3.amazonaws.com/media2.fairhealth.org/resource/asset/FH%20Product%20Sheet%20-%20Allowed%20Benchmarks.pdf.

[38] FAIR Health also produces and licenses an allowed amount benchmark for Healthcare Common Procedure Coding System codes for equipment, supplies, and services not included in CPT codes, such as ambulance services, durable medical equipment, specialty drugs, prosthetics, orthotics, and supplies when used outside a physician's office.

[39] The expenditure weights are generated by multiplying the average price in the geozip by the claim frequency for a specific code.

[40] See chart 6-14 in MedPAC (2019b).

[41] We made one additional adjustment to Vermont's hospital inpatient ratio because it was an outlier.

[42] "Total Expenditures in Millions, by Event Type and Age Groups, United States, 2016," Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, generated interactively on September 20, 2019.

[43] "Geocorr 2014: Geographic Correspondence Engine," Missouri Census Data Center, accessed February 13, 2020, http://mcdc.missouri.edu/applications/geocorr2014.html.

[44] Geozips are combinations of zip code tabulation areas, so we create a PUMA-to-geozip crosswalk that includes the 2010 Census population for a particular PUMA-geozip intersection. We then generated weighted PUMA-level hospital and professional price ratios using the share of the PUMA population coming from component geozips.

[45] Using the commercial insurance–to-Medicare price ratio, the implied price cut equals *(1 / ratio) – 1*.

[46] Accounting for professional, hospital, and prescription drug costs, no people live in geographic areas where moving to our base case pricing (reform 1) would increase average health care costs.

[47] All nonhospital and nondrug spending is assigned the professional price cut, so the estimated price cut equals *0.396 × hospital price cut + 0.383 × professional price cut + 0.221 × drug price cut*.

[48] As noted earlier, this competition often takes the form of insurers contracting with select providers willing to accept lower payment rates, which allows the insurers to lower premiums.

[49] HIPSM firms include a distribution of employer-sponsored insurance actuarial values and reflect differences in health status across workforces by employer sizes and industries.

[50] More precisely, the Medicare approach limits Medicare Advantage plan payments for out-of-network providers to traditional Medicare program rates. However, this provides sufficient leverage for Medicare Advantage plans to pay no more than those rates for in-network providers as well. Here we assume the capped provider payment rates explicitly apply to both network and nonnetwork providers.

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About the Authors

Linda J. Blumberg is an Institute fellow in the Health Policy Center at the Urban Institute. She is an expert on private health insurance (employer and nongroup), health care financing, and health system reform. Her recent work includes extensive research related to the Affordable Care Act (ACA); in particular, providing technical assistance to states, tracking policy decisionmaking and implementation at the state and federal levels, and interpreting and analyzing the implications of particular policies. Examples of her work include analyses of the implications of congressional proposals to repeal and replace the ACA, delineation of strategies to fix problems associated with the ACA, estimation of the cost and coverage potential of high-risk pools, analysis of the implications of the *King v. Burwell* case, and several studies of competition in ACA Marketplaces. In addition, Blumberg led the quantitative analysis supporting the development of a "Road Map to Universal Coverage" in Massachusetts, a project with her Urban colleagues that informed that state's comprehensive health reforms in 2006.

Blumberg frequently testifies before Congress and is quoted in major media outlets on health reform topics. She serves on the Cancer Policy Institute's advisory board and has served on the *Health Affairs* editorial board. From 1993 through 1994, she was a health policy adviser to the Clinton administration during its health care reform effort, and she was a 1996 Ian Axford Fellow in Public Policy.

Blumberg received her PhD in economics from the University of Michigan.

John Holahan is an Institute fellow in the Health Policy Center, where he previously served as center director for over 30 years. His recent work focuses on health reform, the uninsured, and health expenditure growth, developing proposals for health system reform most recently in Massachusetts. He examines the coverage, costs, and economic impact of the Affordable Care Act (ACA), including the costs of Medicaid expansion as well as the macroeconomic effects of the law. He has also analyzed the health status of Medicaid and exchange enrollees, and the implications for costs and exchange premiums. Holahan has written on competition in insurer and provider markets and implications for premiums and government subsidy costs as well as on the cost-containment provisions of the ACA.

Holahan has conducted significant work on Medicaid and Medicare reform, including analyses on the recent growth in Medicaid expenditures, implications of block grants and swap proposals on states and the federal government, and the effect of state decisions to expand Medicaid in the ACA on federal and state spending. Recent work on Medicare includes a paper on reforms that could both reduce budgetary impacts and improve the structure of the program. His work on the uninsured explores

reasons for the growth in the uninsured over time and the effects of proposals to expand health insurance coverage on the number of uninsured and the cost to federal and state governments.

Stacey McMorrow is a principal research associate with extensive experience using quantitative methods to study the factors that affect individual health insurance coverage and access to care as well as the impacts of state and national health reforms on employers and individuals. Her current work uses the Affordable Care Act and past Medicaid expansions to explore the effects of expanding insurance coverage on access to care, service use, and health outcomes for various populations. Through this and other work, McMorrow has developed substantial expertise in analyzing data from several federal surveys, including the National Health Interview Survey and the Medical Expenditure Panel Survey. Other research interests include the role of community health centers and safety net providers under health reform, receipt of preventive and reproductive health services among women, barriers to care for low-income children, and the market-level effects of insurance expansions.

McMorrow received her PhD in health economics from the University of Pennsylvania in 2009.

Michael Simpson is a principal research associate in the Health Policy Center with 25 years of experience developing economic models and using survey and administrative data. His current work focuses on using Urban's Health Insurance Policy Simulation Model to project health insurance coverage and spending both in the baseline and under policy alternatives. Before joining Urban, Simpson developed the Congressional Budget Office's long-term dynamic microsimulation model. He analyzed numerous policy reform proposals, investigated differences between various projections of Social Security finances and benefits, quantified the importance of Monte Carlo variation in model results, and created multiple methods to demonstrate uncertainty in projections.

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The Effects of Medicaid Expansion under the ACA: Updated Findings from a Literature Review

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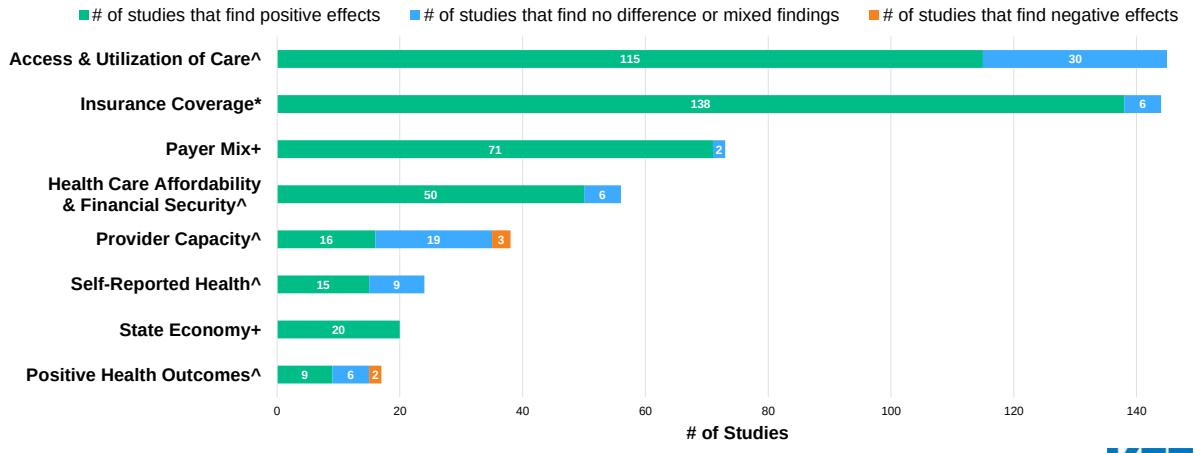
Executive Summary

At the ten year mark since the passage of the Affordable Care Act (ACA), a substantial body of research has investigated effects of the Medicaid expansion on coverage; access to care and related measures (including utilization, quality of care and health outcomes, provider capacity, and affordability and financial security); and various economic measures. This issue brief summarizes findings from 404 studies (including 80 newly included since the last update of this analysis) of the impact of state Medicaid expansions under the ACA published beginning in January 2014 (when the coverage provisions of the ACA went into effect) and updates earlier versions of this brief with studies through January 2020.[1]

This brief groups outcomes into three broad categories: coverage, access, and economic measures. Research indicates that the expansion is linked to gains in coverage; improvements in access, financial security, and some measures of health status/outcomes; and economic benefits for states and providers (Figure 1).

Figure 1

Studies generally find positive effects of the ACA Medicaid expansion on different outcomes.



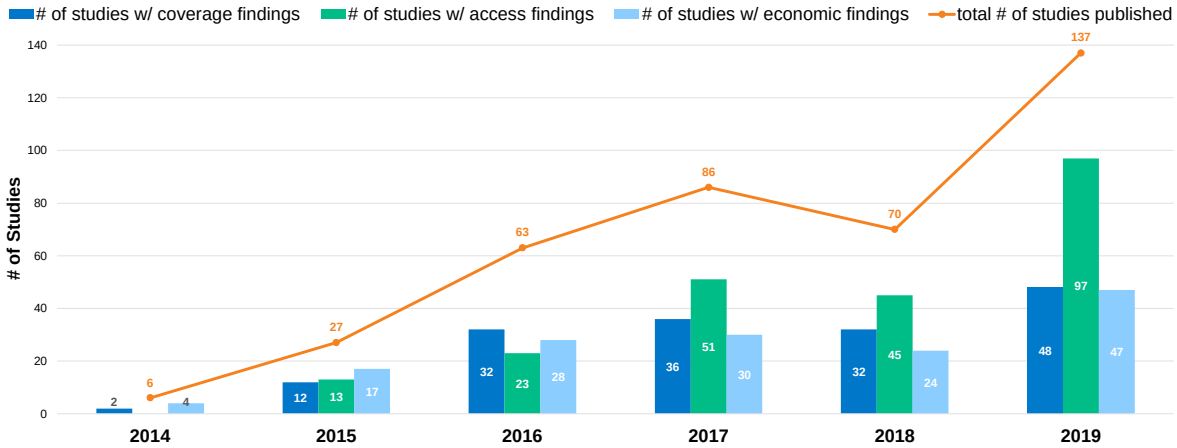
NOTES: This brief groups outcomes into 3 categories, indicated as such: *Coverage outcomes, ^Access outcomes, +Economic outcomes. Studies may have findings on multiple outcomes and be counted in multiple bars. "Insurance Coverage" includes coverage rates generally and for Medicaid.
SOURCE: KFF analysis of 404 studies of the impact of state Medicaid expansion published between January 2014 and January 2020.

Studies included in this review may include multiple findings across multiple categories. For example, studies that point to increased coverage may also include findings related to access, outcomes, or economic metrics. While most early studies focused on expansion's impact on coverage and economic measures, over time studies have increasingly focused on measures related to access to care (Figure 2).

Figure 2

More recent studies focus on outcomes related to access.

Number of Studies on the ACA Medicaid Expansion Published Yearly 2014-2019, Overall and by Area of Study Focus.



NOTES: Counts of studies in each category exceed the count of total studies because studies may have findings in multiple of the three categories. An additional 6 miscellaneous studies do not have any findings that fit into the three categories and are thus not reflected in the figure.

SOURCE: KFF analysis of 404 studies of the impact of state Medicaid expansion published between January 2014 and January 2020.

Findings related to coverage, access, and economic measures are discussed in detail in the text of this brief and are also summarized below:

Coverage: Studies show that Medicaid expansion states experienced significant coverage gains and reductions in uninsured rates among the low-income population broadly and within specific vulnerable populations. States that implemented the expansion with a waiver have seen coverage gains, but some waiver provisions appear to compromise coverage.

Access to care and related measures: Most research demonstrates that Medicaid expansion has improved access to care, utilization of services, the affordability of care, and financial security among the low-income population. Studies show improved self-reported health following expansion and an association between expansion and certain positive health outcomes. A small subset of study findings showed no effects of expansion on certain specific measures within these access-related categories. Findings on expansion's effect on provider capacity are mixed, with studies showing increases, decreases, or no effects on measures like appointment availability or wait times.

Economic measures: Analyses find effects of expansion on numerous economic outcomes, including state budget savings, revenue gains, and overall economic growth. Multiple studies suggest that expansion can result in state savings by offsetting state costs in other areas. The federal government covered 100% of the cost of the expansion in the early years of the ACA and will cover 90% beginning in 2020. There is limited research examining the fiscal effects of the Medicaid expansion at the federal level. Additional studies show that Medicaid expansions result in reductions in uncompensated care costs for hospitals and clinics, and a growing number of studies show an association between expansion and gains

in employment as well as growth in the labor market (with a minority of studies showing neutral effects in this area).

More recent studies: Recently published studies newly included in this analysis from July 2019 through January 2020 support earlier findings while using the additional years of experience with expansion to deepen findings in many areas, including expansion's effects on health outcomes, access to services and medications for behavioral health and other needs, providers' financial stability, and employment. Some recent analyses that include outcomes beyond those typically examined in Medicaid expansion research show that expansion is associated with decreased mortality overall and for certain specific conditions; reductions in rates of food insecurity, poverty, and home evictions; and improvements in measures of self-reported health and healthy behaviors.

Looking back and looking ahead: Looking back on 10 years since the ACA has been enacted shows that the Medicaid expansion has expanded coverage and led to increases in access and utilization to health care services, improvements in financial security and positive net effects for state budgets and revenues. This analysis may help inform states still debating whether to adopt the expansion. Future studies will continue to examine the economic implications of the expansion as the state share of costs remains constant at 10 percent. A looming economic downturn will also test how the Medicaid expansion affects coverage and state budgets. Looking ahead, while additional states may expand eligibility under the ACA, the changing landscape of Medicaid demonstration activity could limit the reach of the Medicaid expansion as envisioned under the law. For example, the administration issued new guidance that would allow states to cover certain adults (including the expansion population) through new demonstrations with eligibility restrictions and not apply other Medicaid rules in exchange for capped financing. In addition, continued efforts from the administration to conduct intense oversight and change the rules on Medicaid enrollment and financing, as well as litigation efforts to repeal the entire ACA keep the law in the spotlight and highlight future challenges. The outcome of the next election could bring significant changes to the ACA, including the Medicaid expansion.

Methods

This literature review summarizes findings from 404 studies of the impact of state Medicaid expansions under the ACA published beginning in January 2014 (when the coverage provisions of the ACA went into effect). This version of the brief updates earlier versions and includes studies published through January 2020. It includes studies, analyses, and reports published by government, research, and policy organizations using data from 2014 or later and only includes studies that examine impacts of the Medicaid expansion in expansion states. This review excludes studies on impacts of ACA coverage expansions generally (not specific to Medicaid expansion alone), studies investigating potential effects of expansion in states that have not (or had not, at the time of the study) expanded Medicaid, and reports from advocacy organizations and media sources.

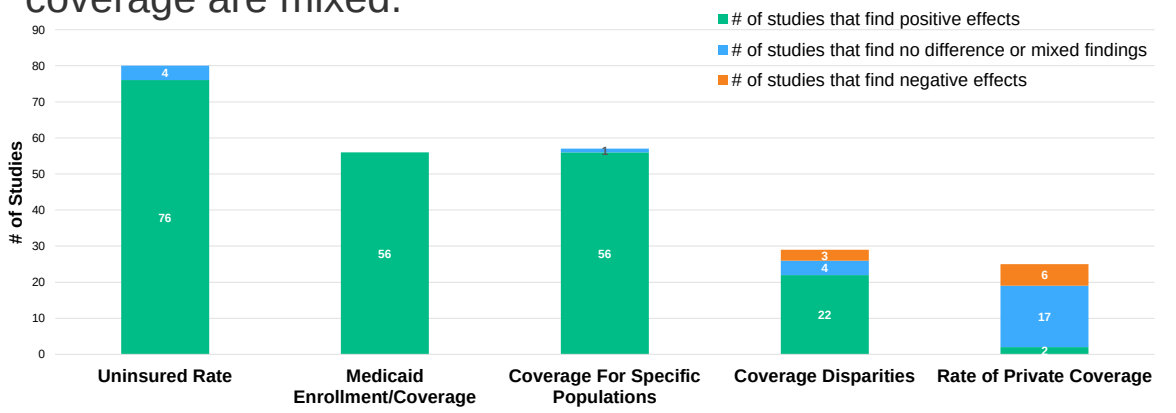
To collect relevant studies, we conducted keyword searches of PubMed and other academic health/social policy search engines as well as websites of government, research, and policy organizations that publish health policy-related research. We also used a snowballing technique of pulling additional studies from reference lists in previously pulled papers. While we tried to be as comprehensive as possible in our inclusion of studies and findings that meet our criteria, it is possible that we missed some relevant studies or findings. For each study, we read the final paper/report and summarized the population studied, data and methods used, and findings. In instances of conflicting findings within a study, or if a reviewer had questions about specific findings, multiple reviewers read and classified the study to characterize its findings. In the issue brief text, findings are broken out and reported separately in three broad categories: Medicaid expansion's impact on coverage; access to care and related measures; and economic outcomes for the expansion states. Studies may be cited in multiple of these categories or in multiple places within a category. The Appendix at the end of the brief provides a list of citations for each of the included studies, grouped by the three categories of findings.

Impacts on Coverage

Studies find positive effects of Medicaid expansion on a range of outcomes related to insurance coverage (Figure 3). In addition to changes in uninsured rates and Medicaid coverage, both overall and for specific populations, studies also consider private coverage and waiver implications.

Figure 3

Studies find that the ACA Medicaid expansion had positive effects on insurance coverage, though findings on private coverage are mixed.



NOTE: Studies may have findings on multiple outcomes and thus be counted in multiple of these bars. Findings on rate of overall coverage and Medicaid enrollment/coverage are for the general population (overall or Medicaid-expansion-eligible). Coverage disparities refer to disparities in coverage by income, age, marital status, disability status, and race/ethnicity.

SOURCE: KFF analysis of 404 studies of the impact of state Medicaid expansion published between January 2014 and January 2020.

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Uninsured Rate and Medicaid Coverage Changes

States expanding their Medicaid programs under the ACA have seen large increases in Medicaid enrollment. These broad coverage increases have been driven by enrollment of adults made newly eligible for Medicaid under expansion. Enrollment growth also occurred among both adults and children who were previously eligible for but not enrolled in Medicaid (known as the "woodwork" or "welcome mat" effect). Some, but not all, research finds evidence of reduced coverage churn in expansion compared to non-expansion states.[2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61]

Numerous analyses demonstrate that Medicaid expansion states experienced large reductions in uninsured rates that significantly exceed those in non-expansion states. The sharp declines in uninsured rates among the low-income population in expansion states are widely attributed to gains in Medicaid coverage. Declines began in 2014, and some studies showed that expansion-related enrollment growth in Medicaid and declines in uninsured rates in expansion states continued in 2015, 2016, and 2017 and that the gap between coverage rates in expansion and non-expansion states continued to

widen in the years after 2014. Two studies found that despite a nationwide increase in uninsured rates from 2016 to 2017, uninsured rates remained stable in states that had expanded Medicaid and coverage losses were concentrated in non-expansion states.[62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125,126,127,128,129,130,131,132,133,134,135,136,137,138]

Several studies identified larger coverage gains in expansion versus non-expansion states for specific vulnerable populations. While the list of specific populations studied is long, studies include: individuals across the lifespan (children, young adults, women of reproductive age with and without children, and the near-elderly), lesbian, gay, and bisexual adults, the unemployed, low-income workers, justice-involved individuals, homeless individuals, noncitizens, people living in households with mixed immigration status, migrant and seasonal agricultural workers, and early retirees. Other populations that experienced coverage gains include those with specific medical conditions or needs such as prescription drug users, people with substance use disorders including opioid use disorders, people with HIV, people with disabilities, low-income adults who screened positive for depression, adults with diabetes, cancer patients/survivors, adults with a history of cardiovascular disease or two or more cardiovascular risk factors, and veterans.[139,140,141,142,143,144,145,146,147,148,149,150,151,152,153,154,155,156,157,158,159,160,161,162,163,164,165,166,167,168,169,170,171,172,173,174,175,176,177,178,179,180,181,182,183,184,185,186,187,188,189,190,191,192,193,194,195]

Most analyses that looked at rural/urban coverage changes find that Medicaid expansion has had a particularly large impact on Medicaid coverage or uninsured rates in rural areas. Studies have found that Medicaid expansion reduced or eliminated disparities in coverage between adults living in rural vs. urban areas. However, as noted below, research on coverage effects in rural versus urban areas was mixed.[196,197,198,199]

Studies show larger Medicaid coverage gains and reductions in uninsured rates in expansion states compared to non-expansion states occurred across most or all of the major racial/ethnic categories. Additional research also suggests that Medicaid expansion has helped to reduce disparities in coverage by income, age, marital status, disability status, and, in some studies, race/ethnicity.[200,201,202,203,204,205,206,207,208,209,210,211,212,213,214,215,216,217,218,219,220,221,222,223,224]

A minority of coverage studies show no effect or mixed results of expansion in certain areas. Many of these findings were included in studies that had additional findings related to coverage or disparity improvements and are also cited above. Some findings within three studies did not show greater coverage changes for rural areas. A limited number of studies found that expansion was not significantly associated with changes in the uninsured rate among certain specific groups, as Medicaid coverage gains in expansion states were offset larger private insurance gains in non-expansion states for these groups. Findings within four studies suggested that expansion was associated with an increase in coverage disparities (by gender in one study, by race/ethnicity in another, and by marital status among women in two others). In addition, one study showed no significant differences in churn rates among low-

income adults between 2013 and 2015 based on the state's expansion policy.[225,226,227,228,229,230,231,232,233,234,235,236,237,238,239,240,241,242,243,244,245,246,247,248]

Private Coverage and Waiver Implications

Some studies exploring the effects of Medicaid expansion on private insurance coverage found no evidence of Medicaid expansion coverage substituting for private coverage including employer-sponsored insurance, while other studies showed declines in private coverage associated with expansion overall or among certain specific population groups. These declines in private coverage may occur if individuals previously covered through employer-sponsored or self-pay insurance opt in to Medicaid given Medicaid's typically lower out-of-pocket costs and more comprehensive benefit packages, or if employers alter their offering of coverage in response to the expansion of Medicaid. Private coverage changes in studies that include states that expanded later than January 2014 may also reflect people above 100% FPL transitioning from subsidized Marketplace coverage to Medicaid after their state adopts the expansion.[249,250,251,252,253,254,255,256,257,258,259,260,261,262,263,264,265,266,267,268,269,270,271,272,273]

States implementing the expansion with a waiver have seen similar or larger gains in coverage as states not using waivers, but research finds that some provisions in these waivers present barriers to coverage.

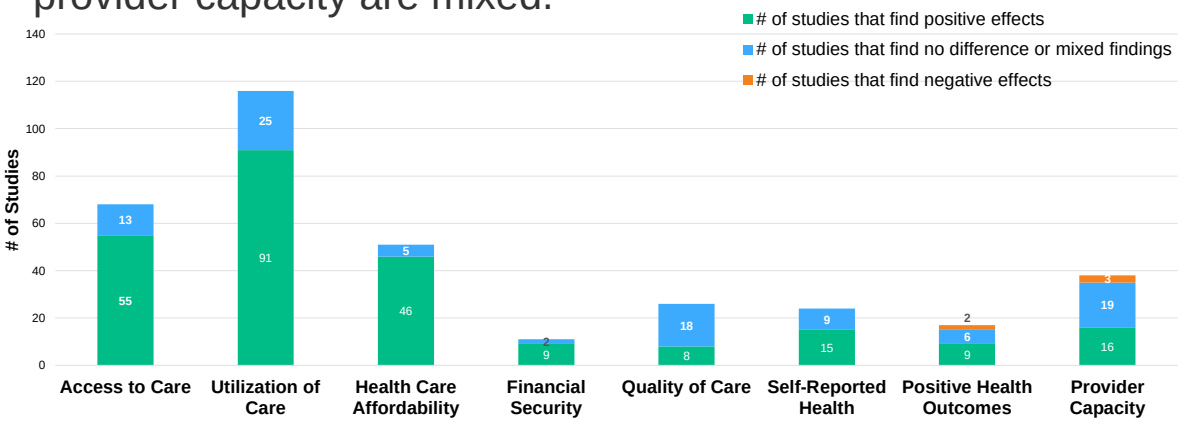
- Studies show that some states initially expanding Medicaid with Section 1115 waivers experienced coverage gains that were similar to gains in states implementing traditional Medicaid expansions. Research comparing Arkansas (which expanded through a premium assistance model) and Kentucky (which expanded through a traditional, non-waiver model) showed no significant differences in uninsured rate declines between 2013 and 2015 in the two states. An analysis of expansion waiver programs in Michigan and Indiana showed that both states experienced uninsured rate reductions between 2013 and 2015 that were higher than the average decrease among expansion states as well as large gains in Medicaid enrollment.[274,275,276,277,278,279]
- A growing body of research suggests that certain Section 1115 waiver provisions that target the expansion population have caused coverage losses or presented barriers to enrollment, particularly in Arkansas related to the implementation of a Medicaid work requirement and in Indiana related to the Healthy Indiana Plan (HIP) 2.0 monthly contribution requirements.[280,281,282,283,284,285,286,287,288,289,290]

Impacts on Access and Related Measures

Studies find positive effects of Medicaid expansion on a range of outcomes related to access (Figure 4). In addition to impacts on access to and utilization of care, studies consider the effect of expansion on quality of care, self-reported health, and health outcomes; provider capacity; and affordability and financial security.

Figure 4

Studies find that the ACA Medicaid expansion increased access across a range of measures, though findings on provider capacity are mixed.



NOTE: Studies may have findings on multiple outcomes and thus be counted in multiple of these bars.
SOURCE: KFF analysis of 404 studies of the impact of state Medicaid expansion published between January 2014 and January 2020.

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Access to Care and Utilization

Most research demonstrates that Medicaid expansion improves access to care and increases utilization of health care services among the low-income population. Many expansion studies point to improvements across a wide range of measures of access to care as well as utilization of a variety of medications and services. Some of this research also shows that improved access to care and utilization is leading to increases in diagnoses of a range of diseases and conditions and in the number of adults receiving consistent care for a chronic condition.[291,292,293,294,295,296,297,298,299,300,301,302,303,304,305,306,307,308,309,310,311,312,313,314,315,316,317,318,319,320,321,322,323,324,325,326,327,328,329,330,331,332,333,334,335,336,337,338,339,340,341,342,343,344,345,346,347,348,349,350,351,352,353,354,355,356,357,358,359,360,361,362,363,364,365,366,367,368,369,370,371,372,373,374,375,376,377,378,379,380,381,382,383,384,385,386,387,388,389,390,391,392,393,394,395,396,397,398,399,400,401,402,403,404,405,406,407,408,409,410,411,412,413,414,415,416,417,418,419,420,421,422,423,424]

For example:

- **Cancer Diagnosis and Treatment.** Multiple studies found that expansion was associated with significantly greater increases in overall or Medicaid-covered cancer diagnosis rates and/or early-stage diagnosis rates. Multiple studies found an association between expansion and increased

access to and utilization of certain types of cancer surgery, with one study finding a decreased disparity in expansion states between Medicaid and privately-insured patients in the odds of undergoing surgery for certain types of cancer.[425,426,427,428,429,430,431,432,433,434,435,436]

- **Transplants.** Additional studies found a correlation between expansion and increased heart transplant listing rates for African American adults (both overall and among Medicaid enrollees) and increased lung transplant listings for nonelderly adults.[437,438]
- **Smoking Cessation.** Additional research found decreased cigarette and other nicotine product purchases and increased access, utilization, and Medicaid coverage of evidence-based smoking cessation medications post-expansion in expansion states relative to non-expansion states. For example, one recent study found that Medicaid expansion lead to a 24% increase in new use of smoking cessation medication.[439,440,441,442,443,444]
- **Behavioral Health.** Recent evidence demonstrates that Medicaid expansion states have seen improvements in access to medications and services for the treatment of behavioral health (mental health and substance use disorder (SUD)) conditions following expansion, with many national and multi-state studies showing greater improvements in expansion compared to non-expansion states. This evidence includes studies that have shown that Medicaid expansion is associated with increases in overall prescriptions for, Medicaid-covered prescriptions for, and Medicaid spending on medications to treat opioid use disorder and opioid overdose.[445,446,447,448,449,450,451,452,453,454,455,456,457,458,459,460,461,462,463,464,465,466,467,468,469,470]
    - **Medication Assisted Treatment (MAT) for Treatment of Opioid Use Disorder.** Multiple studies have found increases in medication assisted treatment (MAT) drug prescriptions (either overall or Medicaid-covered prescriptions) associated with expansion. Some of these studies also found that in contrast, there was no increase in *opioid* prescribing rates (overall or Medicaid-covered) associated with expansion over the same period. One study found that expansion was associated with an 18% increase in aggregate opioid admissions to specialty treatment facilities, nearly all of which was driven by a 113% increase in admissions from Medicaid beneficiaries.[471,472,473,474,475,476,477,478,479,480]

Multiple recent studies have also found expansion to be associated with improvements in disparities by race/ethnicity, income, education level, insurance type, and employment status in measures of access to and utilization of care.[481,482,483,484,485,486,487,488]

Studies point to changes in patterns of emergency department (ED) utilization. Some studies point to declines in uninsured ED visits or visit rates and increases in Medicaid-covered ED visits or visit rates in expansion states compared to non-expansion states, compared to pre-expansion, or compared to other populations within expansion states. Studies show inconsistent findings about how Medicaid expansion has affected ED volume or frequency of visits overall or among specific populations (e.g., Medicaid enrollees or frequent ED users), with some studies showing increases, no change, or declines. Studies also showed decreased reliance on the ED as a usual source of care and a shift in ED use toward visits for higher acuity conditions among individual patients who gained expansion coverage, compared to

those who remained uninsured in non-expansion states.[489,490,491,492,493,494,495,496,497,498,499,500,501,502,503,504,505,506]

In contrast with other studies' findings on decreased reliance on the ED as a usual source of care, some recent studies suggest that Medicaid expansion may increase non-necessary use of certain health services. These services include hospitalization or specialty treatment for certain specific health conditions, including lupus, oral health conditions, and upper-extremity trauma. Authors explain that the non-necessary use of these services could be prevented by primary care and indicates the need for increased access to outpatient care for new enrollees.[507,508,509,510]

Evidence suggests that beneficiaries and other stakeholders lack understanding of some waiver provisions designed to change utilization or improve health outcomes. Multiple studies have demonstrated confusion among beneficiaries, providers, and advocates in expansion waiver states around the basic elements of the programs or requirements for participation, as well as beneficiary reports of barriers to completion of program activities (including internet access and transportation barriers). These challenges have resulted in increased costs to beneficiaries, beneficiaries being transitioned to more limited benefit packages, low program participation, or programs not operating as intended in other ways.[511,512,513,514,515,516,517]

Some study findings did not show that expansion significantly improved some measures of access, utilization, or disparities between population groups. Many of these findings were included in studies that also found related improvements in access, utilization, or disparities measures and are also cited above. Authors of some early studies using 2014 data note that changes in utilization may take more than one year to materialize. Consistent with this premise, a longer-term study found improvements in measures of access to care and financial strain in year two of the expansion that were not observed in the first year.[518,519,520,521,522,523,524,525,526,527,528,529,530,531,532,533,534,535,536,537,538,539,540,541,542,543,544,545,546,547,548,549,550,551,552,553,554,555,556,557,558,559,560,561,562,563,564,565,566,567,568,569,570,571,572,573,574]

Quality of Care, Self-Reported Health, and Health Outcomes

Several studies show an association between Medicaid expansion and improvements in quality of care. These include studies focused on the low-income population broadly, academic medical center or affiliated hospital patients, or community health center patients and look at outcomes including receipt of recommended screenings or recommended care for a particular condition.[575,576,577,578,579,580,581,582]

Additional studies show effects of expansion on measures of quality hospital care and outcomes. A few studies found that Medicaid expansion was associated with declines in hospital length of stay and in-hospital mortality as well as increases in hospital discharges to rehabilitation facilities, and one study found an association between expansion and declines in mechanical ventilation rates among patients hospitalized for various conditions. One recent study found that expansion was associated with decreased preventable hospitalizations, measured by reductions in annual ambulatory care-sensitive

discharge rates and inpatient days. Additional analyses found that, contrary to past studies associating Medicaid insurance with longer hospital stays and higher in-hospital mortality, the shift in payer mix in expansion states (increase in Medicaid discharges and decrease in uninsured discharges) did not influence length of stay or in-hospital mortality for various types of patients.[583,584,585,586,587,588,589,590,591,592,593,594,595]

Multiple studies have found improvements in measures of self-reported health or positive health behaviors following Medicaid expansions. Studies found improvements in both measures of self-reported physical and mental health, as well as increases in healthy behaviors such as self-reported diabetes management. Additional research has documented provider reports of newly eligible adults showing improved health or receiving life-saving or life-changing treatments that they could not obtain prior to expansion.[596,597,598,599,600,601,602,603,604,605,606,607,608,609,610,611,612]

Studies have found an association between Medicaid expansion and improvements in certain measures of health outcomes. Studies in this area find an association between expansion and improvements in cardiac surgery patient outcomes and perforated appendix admission rates among hospitalized patients with acute appendicitis. One study did not find a significant association between expansion and differences in rates of low birth weight or preterm birth outcomes overall, but did find significant improvements in relative disparities for black infants compared with white infants in states that expanded vs. those that did not. Two studies found expansion was associated with increased odds of tobacco cessation (among adult CHC patients in one study and childless adults in the other).[613,614,615,616,617,618]

Additionally, a growing body of research has found an association between Medicaid expansion and mortality, either population-level rates overall, for particular populations, or associated with certain health conditions. A 2019 national study found that expansion was associated with a 0.132 percentage point decline in annual mortality among near-elderly adults driven largely by reductions in disease-related deaths, an effect that translates to about 19,200 deaths that were averted during the first four years of expansion (or 15,600 deaths in expansion states could have been averted in non-expansion states). A 2020 study found that expansion was associated with a 6% lower rate of opioid overdose deaths. Another study suggests that expansion may have contributed to infant mortality rate reductions, finding that the mean infant mortality rate rose slightly in non-expansion states between 2014 and 2016, compared to a decline in expansion states over that period (this effect was particularly pronounced among the African-American population). Studies also found reductions in cardiovascular mortality among middle-aged adults and in one-year mortality among end-stage renal disease patients initiating dialysis.[619,620,621,622,623]

Some studies did not find significant changes associated with expansion on certain measures of quality of care, self-reported health, or health outcomes.

- Some studies did not find an association between Medicaid expansion and quality outcomes; many of these studies focused on very narrow population groups and/or found a link between

expansion and improvements in quality of care for some of the patient/population groups studied. One study found no significant association between Medicaid expansion and changes in quality of care delivered through Medicaid managed care plans. The authors suggest that this finding shows that the health system has generally been able to absorb new expansion enrollees without sacrificing care for existing enrollees.[624,625,626,627,628,629,630,631,632,633,634]

- Some studies on specific hospital patient groups found no significant changes associated with expansion in measures of hospital care and outcomes, including rates of emergent admission, admissions from clinic, diagnosis category at admission, admission severity, rapid discharges, lengthy hospitalizations, unplanned readmissions, discharges to rehabilitation facilities, or failure to rescue. One study found that expansion was associated with an increase in length of stay for adult trauma patients.[635,636,637,638,639,640,641,642,643,644,645,646,647,648,649]

- A small number of studies did not find significant changes in certain measures of self-reported health status, health outcomes including mortality, wellbeing, or healthy behaviors, or in disparities between certain population groups in these measures. One study found that although Medicaid expansion was associated with increased access to opioid pain-relievers, it was not significantly associated with any change in opioid deaths. Similarly, an earlier study found no evidence of expansion affecting drug-related overdoses or fatal alcohol poisonings. A third study found that although opioid overdose mortality rates increased more in expansion states, this difference was not caused by increased prescriptions. Given that it may take additional time for measurable changes in health to occur, researchers suggest that further work is needed to provide longer-term insight into expansion's effects on self-reported health and health outcomes.[650,651,652,653,654,655,656,657,658,659,660,661,662,663,664,665,666,667,668,669,670,671,672,673,674]

Provider Capacity

Many studies conclude that providers have expanded capacity or participation in Medicaid following expansion and are meeting increased demands for care. Studies in this area include findings showing an association of expansion with increases in primary care appointment availability, the likelihood of accepting new patients with Medicaid among non-psychiatry specialist physicians, and Medicaid acceptance and market entry among select medication assisted treatment (MAT) providers. One study found improvements in receipt of checkups, care for chronic conditions, and quality of care even in areas with primary care shortages, suggesting that insurance expansions can have a positive impact even in areas with relative shortages. A survey of Medicaid managed care organizations found that over seven in ten plans operating in expansion states reported expanding their provider networks between January 2014 and December 2016 to serve the newly-eligible population.[675,676,677,678,679,680,681,682,683,684,685,686,687,688,689,690,691,692,693,694,695,696,697,698,699,700,701]

Some studies on measures of provider availability showed no changes associated with expansion. Authors note that findings of no changes may, in some cases, be viewed as favorable outcomes indicating that provider availability is not worsening in expansion states despite the increased demand for care associated with expansion. For example, despite concerns that expansion might worsen

access for the already-insured, two studies found that expansion was not associated with decreased physician availability for Medicare patients.[702,703,704,705,706,707,708,709,710,711,712,713,714,715]

Other studies found expansion was linked to problems with provider availability. Some of these studies also had positive or insignificant findings related to provider capacity for certain populations or types of appointment with negative findings related to others. These include findings that Medicaid expansion was associated with longer wait times for appointments or increased difficulty obtaining appointments with specialists. Most of these studies use early data from 2014 and 2015.[716,717,718,719,720,721,722,723,724,725,726,727]

Affordability and Financial Security

Research suggests that Medicaid expansion improves the affordability of health care. Several studies show that people in expansion states have experienced reductions in unmet medical need because of cost, with national and multi-state studies showing those reductions were greater than reductions in non-expansion states. Research also suggests that Medicaid expansion results in significant reductions in out-of-pocket medical spending, and multiple studies found larger declines in trouble paying as well as worry about paying future medical bills among people in expansion states relative to non-expansion states. A recent study in Washington state found that among trauma patients, expansion was associated with a 12.4 percentage point decrease in estimated catastrophic healthcare expenditure risk. One study found that previously uninsured prescription drug users who gained Medicaid coverage in 2014 saw, on average, a $205 reduction in annual out-of-pocket spending in 2014. A January 2018 study that focused on the 100-138% FPL population in expansion and non-expansion states also found that Medicaid expansion coverage produced greater reductions than subsidized Marketplace coverage in average total out-of-pocket spending, average out-of-pocket premium spending, and average cost-sharing spending.[728,729,730,731,732,733,734,735,736,737,738,739,740,741,742,743,744,745,746,747,748,749,750,751,752,753,754,755,756,757,758,759,760,761,762,763,764,765,766,767,768,769,770,771,772,773]

- Studies have found that Medicaid expansion significantly reduced the percentage of people with medical debt, reduced the average size of medical debt, and reduced the probability of having one or more medical bills go to collections in the past 6 months.[774,775,776,777,778,779,780,781,782,783,784]
- A study in Ohio showed lower medical debt holding levels among continuously-enrolled expansion enrollees compared to those who unenrolled from expansion and those who had a coverage gap, suggesting that medical debt levels rose even after a relatively short time without Medicaid expansion coverage.[785,786]

Research also suggests an association between Medicaid expansion and improvements in broader measures of financial stability.[787,788,789,790,791,792,793,794,795]

For example:

- A study found that Medicaid expansion was associated with a 2.2 percentage point decrease in very low food security (which is characterized by actual reduction of food intake due to unaffordability) among low-income childless adults.[796]
- Two 2019 national studies looked at the association between Medicaid expansion and poverty rates. One found that expansion was associated with a reduction in the rate of poverty by just under 1 percentage point (or an estimated 690,000 fewer Americans living in poverty). The other found that Medicaid expansion was associated with a 1.7 percentage point reduction in the health-inclusive poverty measure (HIPM) poverty rate and a 0.9 percentage point reduction in the HIPM deep poverty rate that were significant across all demographic groups considered except single-parent households and were particularly substantial for vulnerable groups including children, the near-elderly (age 55-64), black people, Hispanics, and those who have not completed high school. The same study showed no significant change in the Census Bureau's supplemental poverty measure (SPM).[797,798]
- Studies have found that Medicaid expansion significantly reduced the average number of collections, improved credit scores, reduced over limit credit card spending, reduced public records (such as evictions, bankruptcies, or wage garnishments), and reduced the probability of a new bankruptcy filing, among other improvements in measures of financial security. One 2019 study found that Medicaid expansion was associated with a 1.15 reduction in the rate of evictions per 1000 renter-occupied households and a 1.59 reduction in the rate of eviction filings.[799,800,801,802,803,804]
- A Michigan study found an association between expansion and improvements across a broad swath of financial measures.[805]

Multiple studies have found expansion to be associated with improvements in disparities by income or race/ethnicity in measures of affordability of care or financial security.[806,807,808,809,810,811]

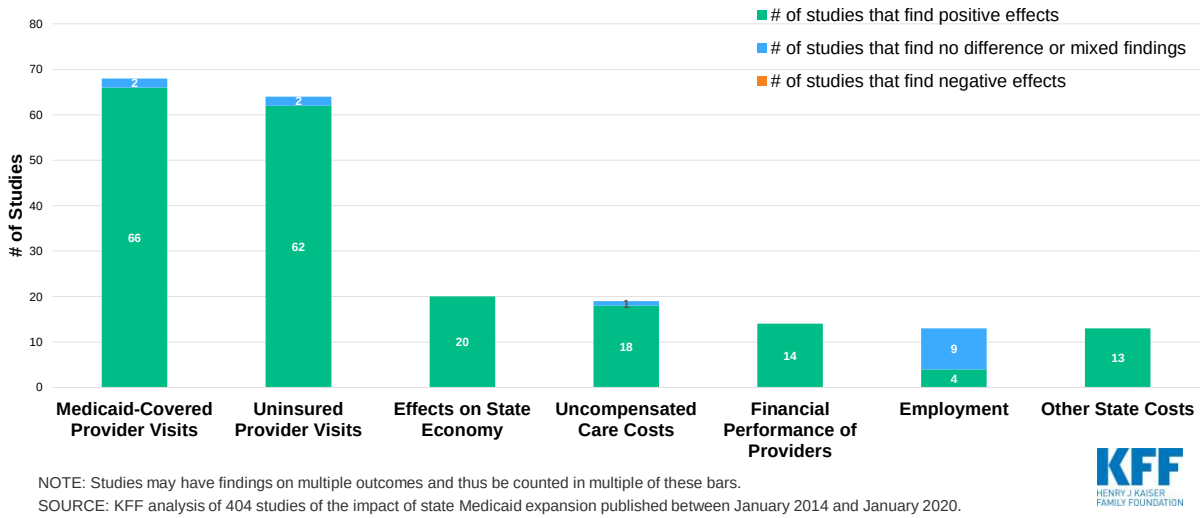
Some study findings did not show significant effects of expansion on measures of affordability or financial security. Several of these studies did not identify statistically significant differences in changes in unmet medical need due to cost between expansion and non-expansion states, though authors note that some of these findings may have been affected by study design or data limitations. Other studies did not find changes associated with expansion in trouble or worry about paying medical bills. Two studies did not find improvements in disparities by race/ethnicity associated with expansion in measures of unmet care needs due to cost.[812,813,814,815,816,817,818,819,820,821,822,823,824,825,826,827,828,829,830,831,832]

Economic Effects

Studies find positive effects of Medicaid expansion on a range of economic measures (Figure 5). Economic effects of expansion include changes to payer mix and other impacts on hospitals and other providers; effects on state budgets and economies; Medicaid spending per enrollee; marketplace effects; and employment and labor market effects.

Figure 5

Studies find positive effects of the ACA Medicaid expansion across a range of economic measures.



NOTE: Studies may have findings on multiple outcomes and thus be counted in multiple of these bars.
SOURCE: KFF analysis of 404 studies of the impact of state Medicaid expansion published between January 2014 and January 2020.

State Budgets and Economies

Analyses find effects of expansion on multiple state economic outcomes, including budget savings, revenue gains, and overall economic growth. These positive effects occurred despite Medicaid enrollment growth initially exceeding projections in many states and increases in total Medicaid spending, largely driven by increases in federal spending given the enhanced federal match rate for expansion population costs provided under the ACA (the federal share was 100% for 2014-2016). As of Summer 2019, most expansion states reported relying on general fund support to finance the state share of expansion costs, although some also use new or increased provider taxes/fees or savings accrued as a result of the expansion. While studies showed higher growth rates in total Medicaid spending (federal, state, and local) following initial expansion implementation in 2014 and 2015 compared to the previous few years, this growth rate slowed significantly beginning in 2016. There is limited research examining the fiscal effects at the federal level from the additional expenditures for the Medicaid expansion or the revenues to support that spending.[833,834,835,836,837,838,839,840,841,842,843,844,845,846,847,848,849,850,851,852,853,854,855]

- National research found that there were no significant increases in spending from state funds as a result of Medicaid expansion and no significant reductions in state spending on education,

transportation, or other state programs as a result of expansion during FYs 2010-2015. During this period, the federal government paid for 100% of the cost expansion. State spending could rise as the federal matching for the expansion phases down to 90%.[856]

- Single-state studies in Louisiana and Montana showed that expansion resulted in large infusions of federal funds into the states' economies and significant state savings. Louisiana studies showed increases in overall state and local tax receipts in 2017 and 2018. A study in Montana found positive financial effects for businesses due to infusion of federal dollars to fund health coverage for workers.[857,858,859,860,861]

Multiple studies suggest that Medicaid expansion resulted in state savings by offsetting state costs in other areas, including state costs related to behavioral health services and crime and the criminal justice system. For example, a study in Montana showed offsets for state SUD spending, a study in California showed reduced county safety-net spending, and a study in Michigan pointed to state savings for non-Medicaid health programs (including the state's community mental health system, its Adult Benefit Waiver program, and spending on health care for prisoners), which, combined with increased tax revenue associated with expansion, resulted in net fiscal benefits expected through 2021. Limited research also indicates possible federal and state savings due to decreased SSI participation associated with expansion.[862,863,864,865,866,867,868,869,870,871,872,873,874,875,876]

Medicaid Spending Per Enrollee

Studies have found lower Medicaid spending per enrollee for the new ACA adult eligibility group compared to traditional Medicaid enrollees (including seniors and people with disabilities in some studies and excluding those populations in others) and that per enrollee costs for newly eligible adults have declined over time since initial implementation of the expansion.[877,878,879,880,881,882,883,884]

- One analysis found that in 2014, among those states reporting both spending and enrollment data, spending per enrollee for the new adult group was much lower than spending per enrollee for traditional Medicaid enrollees. Similarly, an analysis of 2012-2014 data from expansion states found that average monthly expenditures for newly eligible Medicaid enrollees were $180, 21% less than the $228 average for previously eligible enrollees.[885,886]
- A June 2017 study showed that per enrollee Medicaid spending declined in expansion states (-5.1%) but increased in non-expansion states (5.1%) between 2013 and 2014. Researchers attributed these trends to the ACA Medicaid expansion, which increased the share of relatively less expensive enrollees in the Medicaid beneficiary population mix in expansion states.[887]

Marketplace Effects

Studies suggest that Medicaid expansion supports the ACA Marketplaces and may help to lower Marketplace premiums. Two national studies showed that Marketplace premiums were significantly lower in expansion compared to non-expansion states, with estimates ranging from 7% lower in 2015 to 11-12% lower in a later study that looked at 2015-2018 data. Another study found that the state average plan liability risk score was higher in non-expansion than expansion states in 2015 (higher risk scores are

associated with sicker state risk pools and likely translate to higher premiums). A study in Arkansas showed that the "private option" expansion has helped to boost the number of carriers offering Marketplace plans statewide, generated a younger and relatively healthy risk pool in the Marketplace, and contributed to a 2% drop in the average rate of Marketplace premiums between 2014 and 2015. A study of New Hampshire's Premium Assistance Program (PAP) population (Medicaid expansion population enrolled in the Marketplace), however, showed higher medical costs for the PAP population compared to other Marketplace enrollees.[888,889,890,891,892]

Impacts on Hospitals and Other Providers

Research shows that Medicaid expansions result in reductions in uninsured hospital, clinic, or other provider visits and uncompensated care costs, whereas providers in non-expansion states have experienced little or no decline in uninsured visits and uncompensated care. One study suggested that Medicaid expansion cut every dollar that a hospital in an expansion state spent on uncompensated care by 41 cents between 2013 and 2015, corresponding to a reduction in uncompensated care costs across all expansion states of $6.2 billion over that period.[893,894,895,896,897,898,899,900,901,902,903,904,905,906,907,908,909,910,911,912,913,914,915,916,917,918,919,920,921,922,923,924,925,926,927,928,929,930,931,932,933,934,935,936,937,938,939,940,941,942,943,944,945,946,947,948,949,950,951,952,953,954,955,956,957,958,959,960,961,962,963,964,965,966,967,968,969,970,971,972,973,974,975,976]

- Some studies point to changes in payer mix within emergency departments (EDs), specifically. Multiple studies found significant declines in uninsured ED visits and increases in Medicaid-covered ED visits following expansion implementation. In addition, one study found that expansion was associated with a 6.3% increase in ED physician reimbursement per visit in states that newly expanded coverage for adults from 0% to 138% FPL compared to non-expansion states.[977,978,979,980,981,982,983,984,985,986,987,988,989,990]

- Multiple studies found an association between expansion and significant increases in Medicaid coverage of patients/treatment at specialty substance use disorder (SUD) treatment facilities or treatment programs, with two studies also showing associated decreases in the probability that patients at these facilities were uninsured. An additional study found large shifts in sources of payment for SUD treatment among justice-involved individuals following Medicaid expansion in 2014, with significant increases in those reporting Medicaid as the source of payment.[991,992,993,994,995]

- Numerous recent studies found an association between expansion and payer mix (decreases in uninsured patients and increases in Medicaid patients) among patients hospitalized for certain specific conditions, including a range of cardiovascular conditions and operations; diabetes-related conditions; traumatic injury; and cancer surgery. Another analysis found expansion was associated with increases in Medicaid patient admissions for five of the eight types of cancer included in the study. Additional studies found that expansion was associated with increases in the proportion of transplant listings (for lung, liver, and pre-emptive kidney transplants, especially among racial and ethnic minorities) with Medicaid coverage, as well as increases in the proportion of received pre-emptive kidney transplantations that were covered by Medicaid. Two

additional studies also found an increase in the chances of enrolling in Medicaid during post-liver transplant care. A study using birth certificate data found that expansion was associated with an increased proportion of deliveries covered by Medicaid, which was offset by a decrease in the proportion covered by private insurers or other payers but no change in the proportion of women who were uninsured.[996,997,998,999,1000,1001,1002,1003,1004,1005,1006,1007,1008,1009,1010,1011,1012,1013,1014,1015,1016,1017,1018]

- Studies found that expansion's impact on payer mix and uncompensated care varied by the type and location of hospital. Two studies found larger decreases in uncompensated care and increases in Medicaid revenue among hospitals that treat a disproportionate share of low-income patients (DSH hospitals) compared to those that do not. A third study found no significant association of Medicaid expansion with changes in charge-to-cost ratio for certain surgical procedures in safety net hospitals vs. non-safety net hospitals, suggesting that safety net hospitals did not increase charges to private payers in response to expansion-related payer mix changes. A fourth study found that Medicaid expansion was significantly associated with increased Medicaid-covered discharges for rural hospitals but not for urban hospitals, but that urban hospitals saw significant reductions in uncompensated care costs while rural hospitals did not.[1019,1020,1021,1022]

Additional studies demonstrate that Medicaid expansion has significantly improved operating margins and financial performances for hospitals, other providers, and managed care organizations. A study published in January 2018 found that Medicaid expansion was associated with improved hospital financial performance and significant reductions in the probability of hospital closure, especially in rural areas and areas with higher pre-ACA uninsured rates. Another analysis found that expansion's effects on margins were strongest for small hospitals, for-profit and non-federal-government-operated hospitals, and hospitals located in non-metropolitan areas. A third study found larger expansion-related improvements in operating margins for public (compared to nonprofit or for-profit) hospitals and rural (compared to non-rural) hospitals.[1023,1024,1025,1026,1027,1028,1029,1030,1031,1032,1033,1034,1035]

- A study of Ascension Health hospitals nationwide found that the decrease in uncompensated care costs for hospitals in expansion states was greater than the increase in Medicaid shortfalls between 2013 and 2014, whereas for hospitals in non-expansion states, the increase in Medicaid shortfalls exceeded the decrease in uncompensated care.[1036]
- A survey of Medicaid managed care organizations found that nearly two-thirds of plans in expansion states reported that the expansion has had a positive effect on their financial performance.[1037]
- Recent studies on the association between expansion and hospital costs or charges for specific conditions have found mixed results. One study found expansion was associated with increased diagnosis-related group charges for lupus hospitalizations, but another study found an association between expansion and reduced hospital costs for ambulatory care-sensitive conditions and a third found lower total index hospital charges within the homeless population in expansion states. An additional study found that hospital costs for minimally-invasive surgical

care decreased for Medicaid-insured patients in expansion states, but increased for uninsured/self-pay patients.[1038,1039,1040,1041]

Some research suggests that savings to providers following expansion may be partially offset by increases in Medicaid shortfalls (the difference between what Medicaid pays and the cost of care for Medicaid patients). One recent study found that while expansion led to substantial reductions in hospitals' uncompensated care costs, savings were offset somewhat by increased Medicaid payment shortfalls (increases were greater in expansion relative to non-expansion states).[1042]

Employment and Labor Market Effects

State-specific studies have documented significant job growth resulting from expansion. Studies in Louisiana found that in FY 2017, the injection of federal expansion funds created and supported 19,195 jobs (while creating and supporting personal earnings of $1.12 billion) in sectors throughout the economy and across the state; in FY 2018, continued federal healthcare spending supported 14,263 jobs and $889.0 million in personal earnings. A study in Colorado found that the state supported 31,074 additional jobs due to Medicaid expansion as of FY 2015-2016.[1043,1044,1045,1046,1047]

Some studies found expansion was linked to increased employment. National research found increases in the share of individuals with disabilities reporting employment and decreases in the share reporting not working due to a disability in Medicaid expansion states following expansion implementation, with no corresponding trends observed in non-expansion states; other research found a decline in participation in Supplemental Security Income, which requires people to demonstrate having a work-limiting disability and limits their allowable earned income. Another national study found evidence that for many of the demographic groups included in the analysis, expansion was associated with an increase in labor force participation and employment. The study also found a significant decrease in involuntary part-time work for both the full population sample and the sample of those with incomes at or below 138% FPL. A multi-state study found that by the fourth year of expansion, growth in total employment was 1.3 percentage points higher and employment growth in the health care sector was 3.2 percentage points higher in the expansion states studied than in non-expansion states.[1048,1049,1050,1051,1052,1053]

Multiple studies showed that expansion supported enrollees' ability to work, seek work, or volunteer. Single-state studies in Ohio and Michigan showed that large percentages of expansion beneficiaries reported that Medicaid enrollment made it easier to seek employment (among those who were unemployed but looking for work) or continue working (among those who were employed). The Michigan study found that 69% of enrollees who were working said they performed better at work once they got expansion coverage. Another study found that 46% of primary care physicians surveyed in Michigan reported that Michigan's Medicaid expansion had a positive impact on patients' ability to work. An additional study in Michigan found that enrollees who reported improved health due to expansion were more likely to say that expansion coverage improved their ability to work and to seek a new job. In addition, a national study found an association between Medicaid expansion and volunteer work (both formal volunteering for organizations and informally helping a neighbor), with significant increases in

volunteer work occurring among low-income individuals in expansion states in the post-expansion period (through 2015) but no corresponding increase in non-expansion states. The researchers connect this finding to previous literature showing an association between improvements in individual health and household financial stabilization and an increased likelihood of volunteering.[1054,1055,1056,1057,1058]

Some studies found no effects of expansion on some measures of employment or employee behavior; just one study found a negative effect of expansion on these measures. Measures in this area that showed no changes related to expansion in some studies include measures of employment rates, transitions from employment to non-employment, the rate of job switches, transitions from full- to part-time employment, labor force participation, usual hours worked per week, self-employment, and Supplemental Security Income applications. Authors of two studies note that expansion had no effect on employment and job-seeking despite concerns that the availability of free non-employer health insurance could be a disincentive to finding employment. A 2019 study comparing pairs of bordering counties in expansion and non-expansion states found that expansion was associated with a temporary 1.2% decrease in employment one year after implementation (although this effect did not persist two years after expansion) and no effect on wages at any point.[1059,1060,1061,1062,1063,1064,1065,1066,1067,1068]

Emerging Studies

Medicaid expansion was associated with a statistically significant decrease in reported cases of neglect for children younger than six years, but no significant change in rates of physical abuse for children under six. Another 2019 study found that Medicaid expansion was associated with increased undercounting of Medicaid enrollment in the American Community Survey. A 2017 study found that expansion was negatively associated with the prevalence of divorce among those ages 50-64 and infers that this likely indicates a reduction in medical divorce. A study found that expansion was not associated with increased migration from non-expansion states to expansion states in 2014, indicating that individuals did not migrate in order to gain access to Medicaid benefits. An additional group of studies suggests that Medicaid expansion may have significant effects on measures related to individuals' political activity and views. Specifically, studies show associations between Medicaid expansion and increases in voter registration, ACA favorability, and gubernatorial approval. One study found that the increase in Medicaid enrollment following Medicaid expansion was associated with increases in voter turnout for U.S. House races in 2014 compared to 2012 (i.e., a reduction in the size of the usual midterm drop-off in turnout), but another study showed only weak evidence of a potential turnout effect of expansion in the 2014 election, and a consistent lack of any impact on turnout in 2016.[1069,1070,1071,10721073,1074,1075,1076,1077]

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Endnotes

[1] This is an update to four earlier versions of this issue brief that covered studies published through May 2016, January 2017, June 2017, February 2018, and June 2019.

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Are Medical Care Prices Still Declining? A Systematic Examination of Quality-Adjusted Price Index Alternatives for Medical Care

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ABSTRACT

More than two decades ago a well-known study provided evidence from heart attack treatments suggesting that prices in medical care were actually declining, when appropriately adjusted for quality. Our paper revisits this subject looking at a large number of conditions and more recent and more comprehensive data sources to compare alternative methods of quality adjustment. A method based on utility theory produces the most robust and accurate results, while the alternative methods used in recent work overstate inflation. Based on claims data for three medical conditions as well as data on medical innovations from over 7,000 cost-effectiveness studies spanning all major condition categories and types of treatment, we find that, when properly adjusted for quality, declining prices from innovation are a prevalent feature of this sector. These findings have important implications for the measurement of medical care output and productivity.

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1. Introduction

In a well-known paper in the health economics literature, Cutler et al. (1998) asked the question: "Are medical prices declining?" Measuring the prices of treatments for heart attacks, they find that after accounting for quality improvement, the price of treatment declined over their period of study, even while the unadjusted price of treatment rose. These findings suggest that the mismeasurement of medical care output and productivity could be substantial. It has major implications for individual welfare and economy-wide real output given that medical care is such a large share of the economy.

The topic has only grown in importance in the past two decades, as the share of the gross domestic product (GDP) devoted to medical care rose from 13 percent in 1998 to nearly 18 percent in 2017 (Martin et al. 2018). Health experts believe that much of the growth in this sector is driven by new technologies that improve treatment in the long run (Chernew and Newhouse 2011) and recent work has shown that new innovations have been a key factor behind the rapid growth in expenditures over this period for many conditions, including rheumatoid arthritis, cancer, hepatitis, and HIV (Dunn et al. 2018). Meanwhile, life expectancy at birth in the United States has increased by nearly two years over the same period with medical innovations likely playing a role (Anderson 2001;Kochanek et al. 2017). While innovations are a key contributing factor to the growth in spending for medical care, changes in the quality of medical care are not reflected in U.S. national statistics, leading official statistics to overstate inflation in this sector (Lebow and Rudd 2003; Groshen et al. 2017).

Some evidence of quality change may be gleaned from declining national mortality rates and individuals living more disability-free years (Cutler, Rosen, and Vijan 2006; Cutler et al. 2017). However, given that non-medical factors may influence health outcomes, it can be challenging to accurately attribute changes in the health of the population to changes in the medical care sector. Price measurement in medical care is further complicated by the rapid pace of technological change, third-party payers, and information asymmetries among other factors (Hall 2016; Sheiner and Malinovskaya 2016). Even for conditions that are more amenable to quality adjustment, there is no consensus on the best method for creating quality-adjusted price indexes. The papers in this literature use different methods of quality adjustment with no discussion of the connections among them (Hall 2016; Sheiner and Malinovskaya 2016).

The goals of this paper are to establish a framework relating the different methods, to illustrate the differences between them empirically, and to demonstrate that price declines are found in a different time period and over a wider set of conditions than previously studied. We show that both the theoretical and empirical differences across methods have substantial implications for measurement in this sector.

The methods we compare are: (1) a utility-based cost-of-living index (COLI) following Cutler et al. (1998); (2) an index measuring the price per unit of health produced from treatment; (3) a hedonic index.; and (4) an index based on the cost of producing the change in quality. The utility-based COLI method of Cutler et al. (1998) is our benchmark method because it is grounded in utility theory and we also show that it is robust to market distortions common in health care markets. Following utility theory, our benchmark method assigns a value to the quality change based on the dollar value of the marginal quality change to a consumer. The question to be addressed is whether the other methods produce similar results or have other distinguishing properties. We show that the second method is only consistent with our benchmark when there is a linear relationship between the health produced and dollars spent on treatment, so that quality changes are valued at the average price per unit of health produced. Stated

another way, the second method values quality changes as if individuals could purchase years of healthy life at a constant average price; when, in fact, quality should be valued at its marginal value, which we argue is significantly higher than the average price. Consequently, the second method tends to undervalue changes in quality. For researchers interested in using a market price to value quality improvements, researchers should target the marginal price of health improvement, and not the average price.

The other two methods also deliver higher price growth than our benchmark utility-based method because they both use changes in spending and costs as proxies for the value of changes in improvements in health. As we will show, however, typically the high valuation put on health and longer life imply that the increases in spending are well below the patient valuation of improved medical technology.

After reviewing the theoretical differences, we apply alternative methods to estimate price indexes to two distinct data sources. We first use claims data to study three acute conditions among FFS Medicare patients for the years 2001-2014: acute myocardial infarction (AMI), congestive heart failure (CHF), and pneumonia. The average expenditure per treatment for these conditions rise faster than general inflation, having an average excess growth rate of around 1 percent per year. However, treatments for these conditions also showed significant improvements in health outcomes as measured by post-hospitalization life expectancy. We find strong evidence that quality adjustment is important, with quality-adjusted indexes growing less than the unadjusted indexes even under the most conservative assumptions, highlighting the importance of quality adjustment.

As expected from our theoretical model, we find that our preferred utility-based COLI price index tends to fall much faster than other quality-adjustment methods because it is the only method that accounts for the full value of improvements in health. Overall the results of the utility-based method show that the average price across the three conditions is declining by 7.4 percent per year relative to an economy-wide deflator and based on the value of a statistical life year of $100,000. We find that the magnitude of the decline is highly dependent on the assumption about the value of extended life, but we estimate that the average price still falls annually by 3.1 percent, even when making the conservative assumption that the value of a statistical life year is worth $50,000.

Next, to determine if these price declines are representative of this sector more generally, we examine evidence from a database of over 7,000 clinical studies from the Tufts Medical Cost Effectiveness Analysis Registry (CEAR) database.[1] The database includes information on thousands of medical innovations including their health benefits and treatment costs, as well as the benefits and costs of prior treatment technologies. We first show that using a measure of the price per unit of health produced, as applied in Hult, Jaffe, and Philipson (2018), can significantly understate the value from new treatments and lead to improper conclusions about the importance of innovations in the sector. To fully capture the value of these innovations, we show that it necessary to apply a utility-based formula to the innovations reported in the CEAR database. Using our preferred index and conservative assumptions, we find price declines from innovations averaging 20 percent or more, relative to the prior standard of care. These declines are similar in magnitude to those observed in high-tech areas of the economy and provide suggestive evidence that the price declines observed for our three select conditions may be a prevalent feature of the health sector.

The main contribution of this paper is that it shows that the method of constructiong quality adjusted price indexes matters theoretically and empirically. Applying a consistent methodology of utility-based

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1. Center for the Evaluation of Value and Risk in Health.

quality adjustment across a wide range of studies (e.g., studies that differ on a variety of dimensions such as how they measure cost and quality and applying widely different data sources) produces surprisingly consistent results of quality adjusted prices declining. These estimates have important implications for the measurement of output and productivity growth. The Bureau of Labor Statistics (BLS) estimates multifactor productivity growth for the hospital and nursing home sector to be negative over the 2001-2014 period, with an annual decline of 0.3 percent. Under the strong assumption that our conservative utility-based measure of quality adjustment for our three conditions studied with the Medicare data is representative of the hospital sector more broadly, we apply the adjustment to the output price index. We find that it implies a multifactor productivity growth rate of 2.8 percent, holding inputs constant.

2. Background on price indexes in health care

Currently, the BLS measures the prices of individual medical services (e.g., price of a doctor's visit) and the Bureau of Economic Analysis (BEA) uses those indexes to deflate expenditures and measure real output for the health care sector.[2] However, there is general agreement among experts that the price in the medical care sector should track the full medical expenditures to treat an episode of a condition, rather than the price of an individual service (National Research Council 2010; World Health Organization 2011). With a treatment-based framework, analysts can better measure changes in practice patterns, technologies, outcomes, and associated expenditures on treatments relevant to a condition (National Research Council 2010). The BEA and BLS have already developed experimental treatment-based indexes (Bradley, Hunjan, and Rozental 2015; Dunn, Rittmueller, and Whitmire 2015), although these indexes currently do not control for quality.[3] Our paper focuses on quality adjustment for treatment-based indexes, as does most research on quality-adjusted medical care price indexes (Cutler et al. 1998; Shapiro, Shapiro, and Wilcox 2001; Berndt et al. 2002; Frank et al. 2004).

The measurement of medical care prices lies at the center of an important economic question about the forces driving medical expenditures higher. One explanation for the rise in health spending is a scenario suggested by Baumol (1967), where more expenditures are shifted toward labor-intensive sectors, such as health care, where official measures show low productivity growth. On the other hand, health care has seen significant technological change which has improved health and mortality outcomes over the past 60 years, as discussed in Cutler, Rosen, and Vijan (2006). If official measures of inflation are not capturing this quality improvement, the reverse scenario could be the case, that resources are shifting to health care in response to quality-adjusted prices for health care falling.[4] More accurate measures of

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2. The BLS has moved towards condition-based measurement for the PPI for general medical and surgical hospitals, but this includes only hospital spending.

3. The experimental indexes of the two agencies are related, although the BLS index contains a downward bias. See Roehrig (2017) for a comparison.

4. Chandra et al. (2016) show that consumers prefer higher performing hospitals and shift toward higher quality hospitals over time. A related economic puzzle is the current slowdown in measured productivity growth in the U.S. (1.6 percentage point lower growth in labor productivity since 2004), which has received considerable attention (Byrne, Fernald, and Reinsdorf 2016; Syverson, 2017). The full role of the medical care sector contributing to this slowdown is currently unknown given the substantial measurement challenges in this area.

price for the health care sector may challenge basic assumptions about price growth in this sector and have implications for understanding across-sector shifts and economy-wide growth.[5]

This work relates to a broader literature on the measurement of quality changes, the value of new goods, and quality-adjusted price indexes, such as the work by Feenstra (1994), Bresnahan and Gordon (1996), Bils and Klenow (2001), Petrin (2002), Broda and Weinstein (2010), Diewert and Feenstra (2018), Redding and Weinstein (2018), and Aghion et al. (2019). Our paper differs from these as it focuses on the medical care sector and applies a method adapted to the unique features of this sector. However, our paper shares the common feature with this literature that our preferred index is grounded in economic theory. Also similar to many of these papers, we find that the magnitude of the quality-adjustment is substantial and has important macroeconomic implications.

2.1 Theory

The guiding principles behind price measurement in the health care sector should have theoretical foundations shared by the rest of the economy. For this reason, we view the utility-based true COLI as the ideal foundation for a quality-adjusted index, following Fisher and Shell (1972) and in accordance with the guidelines laid out in "At What Price?" (National Research Council 2002).[6] A utility-based COLI is written as:

$$COLI = \frac{e(p_1,U_0)}{e(p_0,U_0)} = \frac{e(p_0,U_0)-(e(p_0,U_0)-e(p_1,U_0))}{e(p_0,U_0)} \quad (1)$$

where $e(\cdot)$ is the expenditure function that expresses the minimum expenditure to achieve a certain level of utility given a certain set of prices. The utility-based COLI is the change in expenditures necessary to maintain the same level of utility across periods, given the observed change in prices. The utility-based COLI may also be written as a measure of the change in welfare, as the term $e(p_0, U_0) - e(p_1, U_0)$ is a measure of compensating variation. A full COLI would account for all medical conditions and treatments, as well as all goods and services in the economy. However, following Cutler et al. (1998) we abstract from a more general COLI by estimating a price index specific to one medical condition.

A representative consumer's utility at time t is, $U(H(\alpha_t \cdot m_t), x_t)$ where m_t is the medical care input, $H(\alpha_t \cdot m_t)$ is the medical care technology function that translates medical care into health, and x_t is a numeraire good with a price normalized to 1. The term α_t captures the productivity of medical care in producing health. The consumer has an income Y and is subject to a budget constraint $p_t m_t + x_t \leq Y$.

To form our benchmark index, we start by defining the compensating variation (CV) in the following relationship:

$$U(H(\alpha_1 \cdot m_1), Y - p_1 m_1 + CV) = U(H(\alpha_0 \cdot m_0), Y - p_0 m_0) \quad (2)$$

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5. More generally, accurately measuring the price of health care may be important for understanding growth and sectoral shifts in economies, such as the recent decline in manufacturing and growth in the service sector (Ngai and Pissarides (2007); Herrendorf, Rogerson, and Valentinyi (2011); Duernecker, Herrendorf, and Velentinyi 2018). This recent literature is interested in understanding why resources shift to low productivity service sectors, where health care is typically defined as "low productivity" based on our official measures of inflation.

6. More formally, they recommend a conditional COLI, which is "conditional" in the sense that it ignores factors that are outside of a pre-defined scope, such as public goods or the weather. The COLI approach to quality adjustment is directly applicable to health care, as it is a component of final consumer spending.

The CV is the additional dollars necessary to make consumers indifferent between the first and second period treatments. Taking a first-order Taylor-series approximation at period 0 yields:

$$CV = \frac{U_H H_m(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)}{U_x} - (p_1 m_1 - p_0 m_0) \qquad (3)$$

where U_H is the marginal utility of health, H_m is the marginal effect of medical care on health, and U_x is the marginal utility of non-health consumption ($x_t = Y - p_t m_t$). The term α_t makes clear that technological change can lead to a higher CV, without any change in medical care inputs, m_t. Cutler et al. (1998) note that the first term in equation (3) is the monetary benefit from improvements in medical care treatment. The change in benefit is measured as the improvement in health due to medical care, $H_m(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)$, times the monetary benefit of improvements in health, $\frac{U_H}{U_x}$. The second term is the change in spending to treat the condition ($\Delta S = S_1 - S_0 = p_1 m_1 - p_0 m_0$) where $S_t = p_t m_t$.

We are interested in a price index specific to treating a medical care condition assuming all other prices and income do not change. We obtain this index by subtracting base period numeraire expenditures from the numerator and the denominator, so that the disease-specific index captures the change in medical expenditures necessary to maintain the same level of utility across periods:[7]

$$\frac{e(p_0,U_0) - x_0 - (e(p_0,U_0) - e(p_1,U_0))}{e(p_0,U_0) - x_0} = \frac{S_0 - CV}{S_0}.$$

Using the Taylor-series approximation for CV:

$$\frac{S_0 - CV}{S_0} = \frac{S_0 - \left(\frac{U_H H_m(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)}{U_x} - (p_1 m_1 - p_0 m_0)\right)}{S_0} = \frac{S_1 - \left(\frac{U_H H_m(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)}{U_x}\right)}{S_0}. \qquad (4)$$

Equation (4) gives the formula for our target COLI index. Intuitively it can be understood as adjusting the numerator of the unadjusted price index $\frac{S_1}{S_0}$ with the term $\frac{U_H H_m(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)}{U_x}$ which is the marginal monetary valuation of health $\frac{U_H}{U_x}$ times the change in health, $H_m(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)$, giving the total benefit to the patient of improvements in health in monetary terms. An advantage of this index is that the benefit to the consumer are derived from health changes (observed in practice or in clinical trials) and estimates

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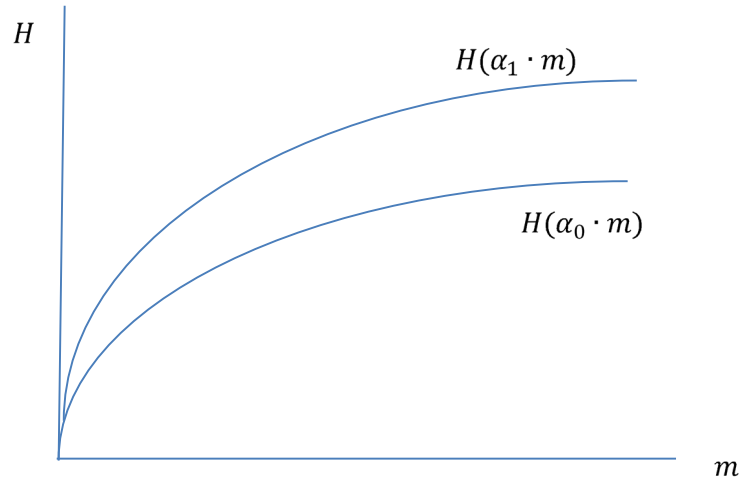
7. See Sheiner and Malinovskaya (2016) for a more complete discussion of a full COLI and how it relates to a disease-specific COLI. They importantly note some limitations of the COLI specified in Cutler et al. (1998) and propose an alternative. The disease-specific index in our paper builds on the insight from Sheiner and Malinovskaya (2016). To see how this relates to the aggregate index, suppose the share of expenditures on health is $\frac{e(p_0,U_0) - x_0}{e(p_0,U_0)}$ and the share on the numeraire good is $\frac{x_0}{e(p_0,U_0)}$ with a price index of 1, then individual indexes relate to the aggregate by multiplying by the spending share for each category: $\frac{e(p_0,U_0) - x_0 - CV}{e(p_0,U_0) - x_0}\left(\frac{e(p_0,U_0) - x_0}{e(p_0,U_0)}\right) + \frac{x_0}{e(p_0,U_0)} = \frac{e(p_0,U_0) - CV}{e(p_0,U_0)}$.

of the marginal value of health (e.g., based on the value of a statistical life year), so that the index is not reliant on equilibrium market conditions and is robust to potential market distortions.

When we apply this index to the data, we will refer to this target COLI as the life-expectancy (LE) index because the change in health, $H_m(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)$, is often measured by changes in life expectancy or changes in quality-adjusted life years.[8]

Health producing technology. The change in quality depends on the health production function, $H(\alpha_t \cdot m_t)$. While the health production technology is not necessary to form the LE index, it is helpful for understanding key differences in the quality-adjusted price indexes used in the literature. The health production function is unknown, but following Skinner and Staiger (2015), we assume that medical care technology is limited, so that additional medical care inputs have diminishing returns. For example, one can think of physicians applying the lowest price, highest impact medical treatments first (e.g., an aspirin after a heart attack is low cost and highly beneficial), but the last treatment applied may have a smaller impact on health per dollar spent (e.g., bypass surgery). In other words, we expect $H(m)$ to be concave as in Figure 1. Additional health may be delivered for the same level of medical care if technology improves, as reflected in the figure below by an increase in α_t.

Figure 1. Health production technology



A concave health production function implies that the price per marginal unit of health $\frac{p_t}{H_m \alpha_t}$ will be increasing in health. Therefore, if we express the consumer's budget constraint as a trade-off between health, H, and x, the numeraire good, the budget constraint will be curved, as shown in Figure 2. We follow Hall and Jones (2007) who argue that the marginal utility of health stays relatively constant with increasing health, unlike the marginal utility of other goods that

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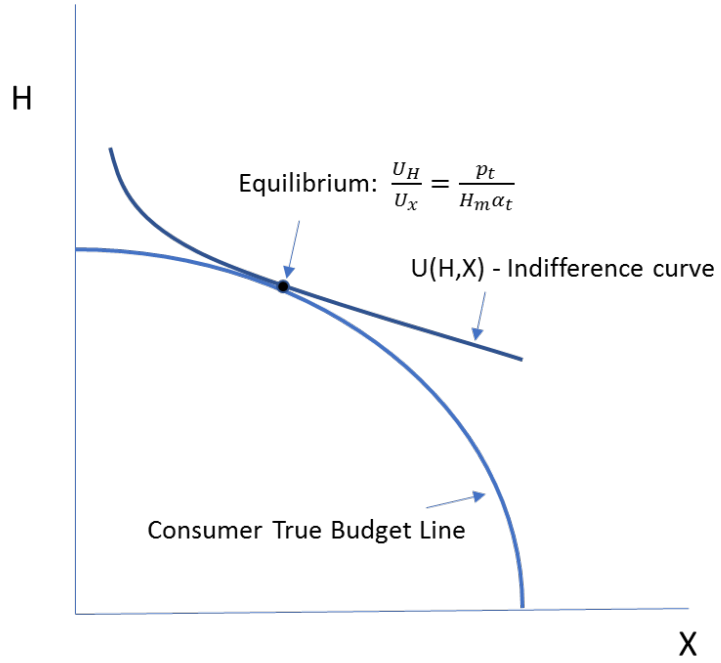
8. Ideally, life expectancy would account for not just the quantity of life, but also the quality of life through considering morbidity factors.

decline with additional units of consumption.[9] We therefore model the utility from health with a constant marginal valuation of health for all but the smallest values of x.

Figure 2. Consumer's utility maximization problem



In a hypothetical scenario where the consumer does not have health insurance, the consumer consumes up to the point where the marginal value of an additional unit of health, $\frac{U_H}{U_x}$, is equal to the marginal cost of an additional unit of health $\frac{p_t}{H_m \alpha_t}$:

$$\frac{U_H}{U_x} = \frac{p_t}{H_m \alpha_t}. \qquad (5)$$

The equilibrium condition from equation (5) is depicted in Figure 2 and implies that the consumer increases health consumption up to the point where the marginal value of health (the left-hand side) is equal to the marginal price of another unit of health (the right-hand side). Although equilibrium conditions are not necessary for our preferred index, alternative quality-adjusted methods use market prices as part of the quality-adjustment. Using the above hypothetical model can help us evaluate these indexes in a "best case" scenario where the prices reveal information about the value of treatment.

2.2 Alternative price indexes

Life-Expectancy index. The utility-based LE index $\frac{S_1 - \left(\frac{U_H H_m (\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)}{U_x}\right)}{S_0}$ values gains in health at the marginal monetary value of the gains in health, $\frac{U_H}{U_x}$. The valuation is consistent with the consumer's utility maximization problem (5), but also values health gains correctly, even when the first-order

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9. They specifically start with a utility function of the form $U(c) = B + \frac{c^{1-\gamma}}{1-\gamma}$, where B is a constant and the indifference curve for consumption quickly becomes flat. Consumers receive this level of utility for each year of life, so the full utility function is roughly, $U(c, H) = H(B + \frac{c^{1-\gamma}}{1-\gamma})$, leading to relatively flat indifference curves. Other functional forms for health and consumption give similar properties of declining marginal utility from consumption relative to health, which results in an indifference curve that is relatively constant at the equilibrium point.

conditions (5) do not hold.[10] This is because the estimated value of health to the consumer, $\frac{U_H}{U_x}$, is computed directly from external information regarding the consumer's value of additional health and does not depend on the price of medical care. In this way, it is robust to market distortions thought to affect the health care sector. We will contrast the LE index with three alternatives and show why, in most situations, the other indexes understate welfare gains from improvements in medical technology.

Treatment-Endpoint (TE) index. This index measures the price per unit of health produced from a treatment. If we let σ_t represent some measure of the health produced at time t, so that $\sigma_t \approx H_t$, then the index may be written as:

$$TE = \frac{S_1/\sigma_1}{S_0/\sigma_0} \quad (6)$$

Often the value σ_t is measured as the rate of obtaining a successful treatment endpoint (e.g., survival after 30 days or remission from a health condition), so we refer to the index as the treatment-endpoint (TE) index. Berndt et al. (2002) took this approach in measuring the incremental price of achieving remission of major depression with medical care relative to no treatment. More recently, Romley, Goldman, and Sood (2015) took a similar approach when they measured the output of hospitals by measuring the number of successful treatments, where they defined a successful treatment as survival through a certain time-period without an unplanned readmission.

One of the more popular implementations of this approach in recent years has been to measure the price per quality-adjusted life-years (QALYs) added by medical treatment (Lucarelli and Nicholson 2009; Howard et al. 2015; Hult, Jaffe, and Philipson 2018). The QALY is just another measure of the health produced from treatment, H_t, where a one value unit of a QALY represents one year of life in perfect health, typically accounting for morbidity and mortality factors. This type of index is effectively identical to the index formed based on a successful treatment endpoint. For example, if σ_t is the rate of achieving a successful treatment endpoint that adds M QALYs, an index that prices QALYs= $M \cdot \sigma_t$ would be written:

$$\frac{S_1/M\sigma_1}{S_0/M\sigma_0} \quad (7)$$

From this it can be seen that M cancels out and we are left with the TE index.

The TE index, although intuitive and popular, has the potential to substantially overstate quality-adjusted inflation in health care and understate welfare improvements from new medical technologies. If we assume that the rate of achieving a treatment endpoint, σ_t, is a reasonable proxy for health (as it is intended), $\sigma \approx H$, then the index may be written as: $TE = \frac{S_1/H(1)}{S_0/H(0)}$ where $H(\alpha_t \cdot m_t)$ is written as $H(t)$ to simplify notation. Following Sheiner and Malinovskaya (2016), we rewrite the TE index as:

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10. It also does not rely on knowing the shape of the health care production function.

$\frac{S_1 - \frac{S_1}{H(1)}(H(1)-H(0))}{S_0}$. The functional form is nearly identical to the LE index with the unadjusted price of treatment in the numerator subtracted by an adjustment term that accounts for the observed change in health, divided by the unadjusted price of treatment in the base period. The primary difference in the indexes is the value placed on improvements in health from treatment. The value of improvements in health in the TE index is proportional to the average price per unit of health produced, which may be seen by rewriting the adjustment term, $\frac{S_1}{H(1)} = \frac{p_t}{H(1)/m_1}$.

This adjustment term could be justified if consumers pay a constant dollar price for each additional unit of health. However, in the previous section we argued that the production of health has diminishing returns and therefore each additional unit of health is costlier than the last (Figure 1). The previous section showed that, under normal assumptions, the benefits of medical care should be measured with its marginal benefit to consumers. In the hypothetical scenario of equation (5), the marginal price per unit of health rises as a patient is treated until the last unit of medical care where the marginal price per unit of health $\frac{p_t}{H_m \alpha_t}$ is equal to the marginal benefit $\frac{U_H}{U_x}$. Therefore, the marginal price of the last unit of health purchased would be larger than the average price per unit of health from treatment, $\frac{p_t}{H_m \alpha_t} > \frac{p_t}{H(1)/m_1}$. Consequently, an adjustment based on the average price per unit of health will understate the value of the quality change.[11, 12]

This result may be seen graphically in the left panel of Figure 3 which depicts the budget constraint implied by the TE index overlaying the curved budget constraint of Figure 2. The TE index assumes a linear cost for producing additional health, which intersects at the same point as the curved budget constraint on the X-axis and at the equilibrium point. The TE index is adjusted with the average price of H, which is the slope of the straight-line TE budget constraint. The true marginal rate of substitution for health at the equilibrium point, however, will always be higher than the value assigned by the TE index. This leads the TE index to undervalue changes in quality. This argument is shown more formally in the appendix.

Furthermore, as the right panel of Figure 3 shows, the discrepancy between the TE index and the LE index will be greater if the marginal valuation of health is higher. At point A, the utility curve is drawn so that the marginal valuation of H is relatively higher and the difference between the slope of the tangency and the slope of the straight-line budget constraint is greater, while at point B, the marginal valuation is lower and the difference between the slopes is smaller.

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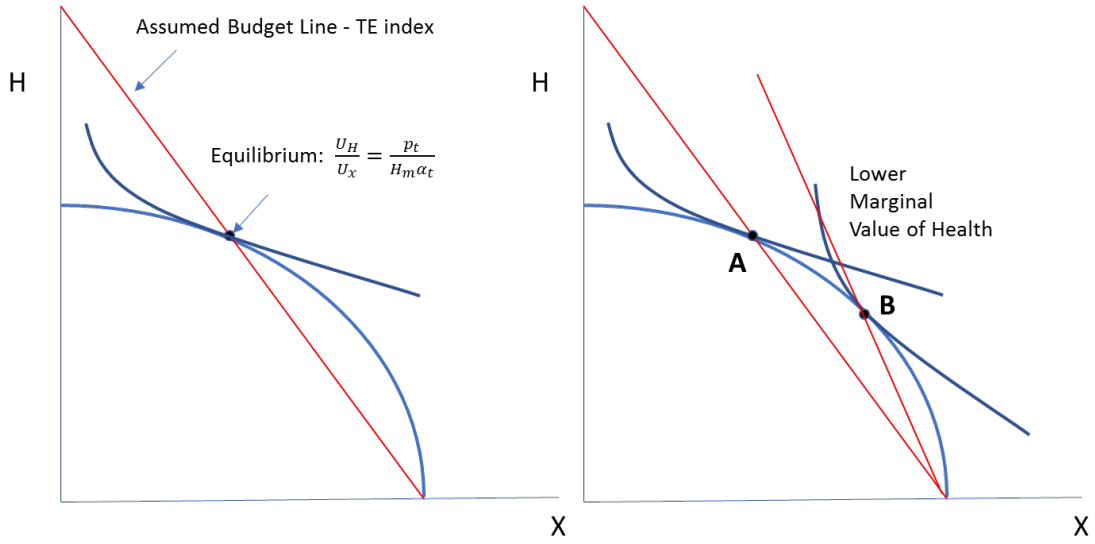
11. Even from the perspective of a producer maximizing revenue, quality should be valued at the marginal revenue received for producing a marginal improvement in health, not the average revenue per unit of health.

12. Sheiner and Malinovskaya (2016) find a similar result but their model assumes linear costs and then uses a technological constraint resulting in a corner solution to explain why a difference would arise between the LE and TE indexes. Here we show it is not necessary to have a corner solution for there to be a difference between the LE and TE indexes, but this difference should be expected more generally when there are diminishing returns to health inputs.

Figure 3. Consumer's utility maximization problem and the TE quality adjustment assumption



Overall, while the TE index is intuitively appealing, we would caution against its use if we believe that the marginal valuation of health is relatively high. For researchers interested in using a "market price" to value quality, the above discussion shows that the theoretically more relevant price is the marginal price, $\frac{p_t}{H_m \alpha_t}$, and not the average price.[13] While it is sometimes argued that an attractive feature of the TE index is that one does not have to place a value on a statistical life year, the formula $TE = \frac{S_1 - \frac{S_1}{H(1)}(H(1)-H(0))}{S_0}$ shows that this method unavoidably places a value on health that may have no economic foundation.

Hedonic index. The next method for constructing quality-adjusted medical price indexes is a hedonic index that uses a hedonic regression to control for the characteristics of treatment or new innovations following the work of Frank et al. (2004) who applied this method to study schizophrenia treatment.

In general, Pakes (2003) shows hedonic indexes provide an upper bound to a utility-based COLI index using arguments similar to Konüs (1939). The argument is applicable to the health care setting under the strong assumption of utility maximization and no market distortions. Let the hedonic function for period t be $g_t(m_t)$, which is an estimate of the price of purchasing medical technologies m_t in period t, so that $g_t(m_t) = S_t$. The function $g_t()$ captures relevant technologies and characteristics of medical care

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13. The market price for a marginal increase in health may be challenging to estimate because of selection issues. Moreover, if the goal of quality adjustment is a price index relevant for final consumption, this method will produce inaccurate estimates unless the FOC holds. The closest measure we are aware of in the literature to $\frac{p_t}{H_m \alpha_t}$ is Doyle et al. (2015). Exploiting exogenous variation in ambulance assignment, they find the implied cost of producing an additional year of life to be at least $80,000.

inputs m_t, in period t. The hedonic adjustment in period 1 is $g_0(m_0) - g_1(m_0)$, which is the dollar value in spending in period 0 minus the cost of purchasing the period 0 treatment in period 1. This difference is a lower bound for the CV because in period 1 individuals prefer treatment m_1, even though treatment m_0 is still available, so any change in the cost of purchasing m_0 is less than the full compensating variation adjustment: $\left(g_0(m_0) - g_1(m_0)\right) < CV$. The hedonic price index is then, $\frac{S_0 - (g_0(m_0) - g_1(m_0))}{S_0} = \frac{g_1(m_0)}{S_0}$, which is an upper bound for the price change implied by a full CV adjustment (i.e., $\frac{S_0 - (g_0(m_0) - g_1(m_0))}{S_0} > \frac{S_0 - \mathrm{CV})}{S_0}$).

There are three important considerations relevant for the application to health care. First, the hedonic index provides an upper bound, but Pakes (2003) warns that it may be far from the least upper bound that is desirable as it will not account for the full utility change, especially for innovative markets.[14] Second, determining what treatment characteristics to include is both important and challenging, as it may require significant understanding of treatment technologies.[15] Third, the assumptions needed for a hedonic adjustment may be violated because it is possible that inefficient technologies that do not add to societal welfare may be adopted. As a simple example, if an individual has an indemnity insurance plan that covers 90 percent of expenditures, she would have an incentive to seek treatment costing $1,000, even if the health benefit is worth only $500, because the out-of-pocket cost (i.e., $100) is less than the benefit. Empirically, Brot-Goldberg et al. (2017) show that consumers are not necessarily optimizing, as they found that beneficiaries who moved to an insurance plan with high cost-sharing reduced potentially high-value and low-value services at the same rate. These examples undermine the rationale for the hedonic adjustment, as society may be worse off with treatments selected in period 1, implying the hedonic index may overstate the gains in welfare.

In summary, it is challenging to control for the right product characteristics in this framework. If consumers and doctors are not making optimal decisions for society, then the hedonic adjustment may be far from the correct adjustment and could either overstate or understate changes in welfare. Even under ideal conditions, when the right characteristics are controlled for and consumers and doctors are making optimal decisions for society, the basket price index provides an upper bound to an index that accounts for the full CV adjustment.

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14. Specifically, when new goods enter a market, consumers purchase up until the marginal utility of the marginal consumer equals the marginal price. However, there may be large inframarginal gains from technological improvements, from consumers that are considerably better off because of the introduction of the new goods.

15. For example, in health care it is common to receive nearly identical treatments at lower costs (i.e., highly elastic treatment alternatives). Consumers switching toward lower-cost close substitutes such as from branded to generic drugs (Griliches and Cockburn 1994; Feenstra 1997) or shifts from inpatient to outpatient treatments (Aizcorbe and Nestoriak 2011) should theoretically be counted as a reduction in price. However, controlling for the characteristics of treatment, such as “generic” or “inpatient” erases these price changes that are theoretically appropriate and economically important for obtaining a tighter bound on CV.

Resource-cost index. Quality-adjusted price indexes may be formed from the perspective of a producer using inputs to produce treatments. This producer problem is the theoretical basis of a resource-cost index (Fisher and Shell 1972). The arguments for the producer are parallel to those presented from the consumer's perspective. Suppose the revenue function of a representative producer in the economy is $R(H(\alpha_t \cdot z_t^m), x_t)$ where z_t^m is an intermediate input devoted to medical care and x_t is the numeraire intermediate input.[16] As before, the function, $H(\alpha_t \cdot z_t^m)$ is the health production function and α_t captures health technology changes, but in this case z_t^m are the inputs of the producer. The resource constraint of the economy is $w_t \cdot z_t^m + x_t \leq M$ where w_t is the price of the medical care input and the price of the numeraire input has been normalized to 1.[17] The producer pays for the inputs at a price equal to its costs. We can then form parallel arguments to those presented for the consumer.[18] The ideal producer price index based on this framework is:

$$\frac{S_1 - \frac{R_H H_z \alpha_0}{R_x}(\alpha_1 z_1 - z_0 \alpha_0)}{S_0}. \quad (8)$$

In this framework, the quality adjustment term is based on the opportunity cost (measured in marginal revenue) of devoting additional resources to improving health, rather than producing additional units of the numeraire good.

The ideal producer price index in (8) is distinct from how the resource-cost index is applied in practice. First, the productivity improvement reflected in the technology change $(\alpha_1 - \alpha_0)$, may be of great importance, as large improvements in quality may involve a shift in technology, such as in Figure 1, where

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16. To keep the model simple, the revenue function produces has two inputs, medical care producing health and the numeraire good. For the producer, one could potentially extend the model to allow them to gain revenue based on the number of patients treated (i.e., $(\alpha_t \cdot z_t^m) \cdot \#of\ treatments$), rather than just the health produced per treatment. However, an additional treatment at a fixed quality would be quite similar to a change in a typical good in the economy. That is, we would assume a constant-returns to scale to the number of treatments, which poses no fundamental measurement challenges. We focus only on the health produced, which poses the measurement challenge.

17. Both inputs are produced one for one with labor $z_t^m = l_t^m$ and $x_t = l_t^x$ where there is a fixed amount of labor.

18. The dollar value in producer inputs, W, that holds revenues constant over the two periods is: $R(H(\alpha_1 \cdot z_1^m), M - w_1 \cdot z_1^m - W) = R(H(\alpha_0 \cdot z_0^m), M - w_0 \cdot z_0^m)$. Taking a first order Taylor series approximation at time 0, the value of the producer inputs necessary to hold revenues constant is: $W = \frac{R_H H_z \alpha_0}{R_x}(\alpha_1 z_1 - z_0 \alpha_0) - (w_1 z_1 - w_0 z_0)$. The first term measures the dollar value of a change in quality from a change in the input $(\alpha_1 z_1 - z_0 \alpha_0)$, where the dollar value is measured as the opportunity cost of output, $\frac{R_H H_z \alpha_0}{R_x}$, from producing additional health relative to the output that could be generated by the numeraire input, x_t. Assuming a competitive equilibrium, this will be equal to the marginal value of the quality change for the consumer. If we also assume that the output is competitively produced, so that the producer receives the marginal product of its output, then an alternative interpretation is a representative consumer utility model as in Aghion et al. (2019).

more output may be produced for the same level of inputs. In practice, this productivity term is ignored.[19] Second, it may be challenging to derive the opportunity cost of inputs, $\frac{R_H H_z \alpha_0}{R_x}$. However, if one assumes that the first order conditions of the producer holds, then $\frac{R_H H_z \alpha_0}{R_x} = w_0$ and the index becomes:

$$\frac{S_1 - w_0(z_1 - z_0)}{S_0} \qquad (9)$$

The quality-adjustment term is then, $w_0(z_1 - z_0)$, which is the cost of producing the change in quality, which is the resource-cost index that is typically applied in practice. A complication, for equation (9), is that capturing the actual resource-cost of the innovation may be tremendously complex for medical care (e.g., purchasing a new MRI machine improves diagnosis across many conditions). Moreover, this correction requires strong assumptions regarding the cost of inputs and their relationship to quality as quality cannot improve without costs going up. A simple counterexample is taking an aspirin after a heart attack event, which may have a large effect on the outcome, but costs almost nothing.

In general, the resource-cost approach using equation (9) ignores productivity changes, assumes that firms are producing efficiently in a competitive environment, and that they are receiving their marginal product for the quality that they produce. All of these assumptions may be problematic in health care. Similar to the other methods, this index will also be close to the LE index in cases where changes in benefits are similar to the change in cost but would tend to diverge in other cases. Due to the practical challenges of applying this method, we do not apply this approach in our empirical analysis.

Returning briefly to the ideal producer price index (8), one may be interested in estimating the ideal producer index directly, as this provides an economically meaningful quality-adjustment. Empirical work by Grieco and McDevitt (2016) provides insight to this topic. Specifically, they measure the production function of dialysis centers that consider two dimensions of output, quality and quantity. They find a quality-quantity trade-off and measure the opportunity cost of the production of an additional unit of quality, roughly providing a measure of $\frac{R_H H_z}{R_x}$.[20] They find that the opportunity cost of reducing one infection is $75,000 (i.e., the opportunity cost in revenue lost from the reduction in quantity to produce more quality). In contrast, the societal benefit of reducing one infection (using a conservative value of a statistical life of $50,000 and 1.8 life-years saved) is $90,000, plus the additional hospitalization costs averted of $25,000, for a total of $115,000. In the case of dialysis treatment, the value of quality from an ideal resource-cost perspective ($75,000) is below the value of quality from a utility-based perspective ($115,000). In this example, applying a quality adjustment using a value of $75,000 per infection

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19. For example, in regards to quality adjustment for new vehicles, the BLS writes: "Occasionally, new technology makes it possible to achieve recognizably better quality at no increase in cost—or possibly even at lower cost. While the values associated with these changes provide BLS with reference information, they are not reflected in BLS quality adjustment amounts."

20. They analyze productivity for Medicare enrollees where prices are fixed.

prevented would be a valid adjustment from the producer's perspective, but since we are concerned with measuring output for final consumption, this value understates our preferred measure.[21]

2.2 Summary of methods

The benchmark LE index gives the correct result across many scenarios, including circumstances where standard optimization assumptions are violated.[22] For the TE index, quality is adjusted based on the average price of producing health, which tends to understate the full marginal benefit (and marginal price) of quality improvements. For researchers interested in using a "market price" to value quality improvements, the marginal price of producing an additional unit of health is the theoretically more appropriate price measure. The validity of the hedonic and resource cost indexes rest on the assumption that quality changes are reflected in changes in spending, so they are invalid if quality rises (falls) but spending falls (rises). However, these scenarios could come to pass in health care, for example, if spending is lowered and quality increased simultaneously by reducing low-value and wasteful services.[23]

3. Data and methods

We calculate quality-adjusted price indexes for three acute high-mortality inpatient illnesses among Medicare beneficiaries based on short-term mortality outcomes during or after hospitalization. Following others in the literature, we use Medicare fee-for-service (FFS) claims where spending and details of treatments can be reliably connected to death dates of patients.[24] Our sample consists of elderly FFS Medicare beneficiaries who had an inpatient admission between 2001 and 2014 for one of the following conditions: acute myocardial infarction (AMI), congestive heart failure (CHF), or pneumonia. The three selected conditions account for a large number of inpatient hospital stays, ranking among the 10 most frequent conditions for inpatient admission for those over the age of 65 according to estimates from the Healthcare Cost and Utilization project (HCUP), Nationwide Inpatient Sample (NIS) 2010.[25] According to this data, over 65 percent of the stays for these conditions are for individuals over the age 65 captured in our Medicare data. This share understates the economic importance of these conditions for this

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21. For researchers interested in creating a price index from the producer's perspective, the methods of Grieco and McDevitt (2016) provide an alternative, which has not yet been applied in the literature. Similar to the LE index, the methods used in Grieco and McDevitt (2016) provide economic foundations for assigning value to quality, where value is assigned based on the measured opportunity cost of producing the quality change.

22. When a new higher cost technology is introduced, the correct adjustment is derived across several scenarios: when there is no observed change in technologies; when treatments are equally effective; or when the more expensive treatment is actually less effective. The correct adjustment is also derived when the treatments differ in effectiveness but have the same price.

23. A stylized model in the appendix presents a comparable analysis for the simple case of two discrete treatments of a condition, which highlights many of the same points made here.

24. Medicare beneficiaries may choose to remain in fee-for-service or "traditional" Medicare which is operated by the Center for Medicare and Medicaid Services (CMS), or they may enroll in a Medicare Advantage plan operated by a private insurer contracting with Medicare. In the former case, their medical claims are held by CMS.

25. The estimates are based on statistics available from the HCUP webstie: https://www.hcup-us.ahrq.gov/.

population as the the severity of the illnesses typically increases with age as reflected in longer lengths of inpatient stays and higher mortality rates for those over the age of 65 (HCUP 2016).

Beneficiaries were included if they had a full year of FFS enrollment prior to the index admission (to use comorbidities prior to the event to use in risk adjustment) and a full year after the admission or death within the year after the admission, to measure outcomes. Enrollment and death dates are taken from the enrollment file. The full details of how the sample was put together and how risk adjustment was performed are in the Appendix.

When measuring medical care quality, the challenge is to separate the effects of medical care (which should be included in the quality adjustment) from the effects of environmental factors (which ought to be held constant) such as behavior, risk factors, and demographics. Our analysis of the claims data follows many economics papers in this literature that choose to measure quality based on observed short-term mortality outcomes of acute illnesses because mortality outcomes are important health measures observed in the data, measuring them is relatively straightforward without medical expertise, and measuring around an acute event allows for isolating the effects of medical care (Hall 2016). To study conditions more generally, including non-acute conditions, clinical-trial data that randomizes patients across treatments may be necessary. Later in this paper we use a database of studies from the medical literature as the basis for the empirical analysis, which covers a broader range of medical treatments and conditions.

The analysis of these claims data has several limitations due to well-known data constraints. First, our study is limited to creating price indexes for these conditions for elderly FFS Medicare beneficiaries.[26] While the Medicare FFS population likely accounts for a majority of the population afflicted with the conditions studied in this paper, the price indexes may not be representative of the U.S. population because we have no information on non-Medicare FFS beneficiaries. Moreover, parallel to other papers in this literature, we only measure health outcomes with mortality and do not address quality of life. Finally, we lack spending and treatment data on outpatient pharmaceuticals for all the beneficiaries in our sample.

4. Descriptive statistics

Table 1 provides some descriptive statistics for individuals with one of the three select conditions. These conditions tend to afflict the oldest Medicare beneficiaries. Over 70 percent of the events in our sample are for individuals over the age of 75, even though half of the population in Medicare is between the ages of 65 and 75. Table 1 also shows that these beneficiaries have a high rate of comorbidities, with around 80 percent of patients having hypertension and over 36 percent with diabetes. The last line of Table 1 gives the number of patients observed with over 150,000 observations for each condition.[27] Additional demographic and condition information is provided in A1 and A2 of the appendix.

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26. We have removed the disabled and end-stage renal disease (ESRD) population to create a more homogenous population to evaluate the impact of quality change.

27. We observe around 8,000 to 30,000 observations per year for each condition.

Table 1
Summary statistics

	Acute myocardial infarction	Congestive heart failure	Pneumonia
Male	44.2%	37.6%	39.0%
Age group:			
Age: 65-69	12.0%	8.3%	9.1%
Age: 70-74	17.2%	13.0%	14.2%
Age: 75-79	19.7%	17.7%	18.3%
Age: 80-84	20.5%	21.9%	21.4%
Age: 85-89	17.4%	21.1%	19.7%
Age: >=90	13.2%	17.9%	17.3%
Cardiovascular conditions:			
History of PCI	6.4%	7.9%	4.6%
History of CABG	8.8%	13.2%	7.0%
History of AMI	13.3%	10.8%	5.4%
History of heart failure	29.6%	66.9%	36.9%
Unstable angina	23.9%	16.6%	8.3%
Chronic atherosclerosis	23.9%	24.8%	15.1%
Cardiopulmonary-respiratory failure and shock	25.6%	30.6%	32.2%
Valvular heart disease	31.2%	44.7%	23.8%
Other comorbidities:			
Hypertension	80.9%	84.0%	78.2%
Stroke	11.8%	12.1%	13.4%
Renal failure	30.4%	41.0%	27.2%
COPD	30.4%	43.4%	52.3%
Pneumonia	5.2%	6.8%	10.3%
Diabetes	41.7%	47.7%	36.7%
Number of observations for each condition	173,277	314,560	340,675

As discussed above, the goal is a conditional utility-based COLI with the environment held constant. In this application that means adjusting measures of spending and outcomes for patient demographics and comorbidities to accurately capture the changes in health care technology and quality conditional on those factors. We therefore adjust for severity by applying standard regression techniques that control for the demographic and health conditions of individuals. Details of these methods are outlined in Appendix 2. We include those health factors listed in Table 1 and additional factors listed in Appendix Table A1. The estimates of quality and spending measures are only as good as the risk adjustment applied to the data. Recent work by Doyle, Graves, and Gruber (2014) tests the validity of standard risk adjustment techniques by exploiting quasi-random assignment of patients to hospitals using ambulatory patterns and find that the standard methods perform quite well. Similar risk-adjustment methods have been applied in other recent work, such as Skinner and Staiger (2015) and Chandra et al. (2016).

The top panel of Figure 4 shows risk-adjusted trends in the 30-day price of treatment measured as the spending per patient in 2014 dollars using an economy-wide GDP deflator. For CHF and pneumonia, the risk-adjusted spending per patient in the year following the event rose from 2001 to 2014. Spending for AMI patients rose from 2001 to 2007 and has since declined to a level below its initial level in 2001. The decline in growth in expenditures later in the period corresponds to a reduction in the growth rates of Medicare fees after 2010. The higher price growth in the private sector would suggest slightly faster price growth for the full population, which we estimate to grow about 0.6 percent faster per year than the Medicare sample.[28] The bottom panel of Figure 4 shows the risk-adjusted 30-day mortality rates. For all three conditions, survival improved from 2001 to 2014. Most of the improvements, however, took place between 2001 and 2007; there is relatively little improvement in the second half of the period. The increases in survival are larger for AMI and pneumonia than for CHF, which had longer life expectancy and survival rates to begin with.[29] These improvements in survival rates occurred over a period where there are documented improvements in treatment quality. In particular, the Hospital Compare database tracks "process of care" measures of quality for each of these three conditions with these quality measures first being reported in 2004. For each of these conditions the data shows marked improvement in the share of patients given appropriate treatment, with much of the improvement occurring in the first couple of years (See Table A10). For the case of pneumonia, the percent of patients given the most appropriate initial antibiotic rose 18 percent from 2004 to 2009 (from 77 percent to 91 percent), with two-thirds of the improvement occurring in the first two years. For heart attacks, the improvements in the speed of treatment and coordination among hospital staff is believed to have greatly improved outcomes.[30] It is also interesting to note that many of the process of care measures of quality are not necessarily costly (e.g., given an aspirin), highlighting that increases in treatment quality are not necessarily accompanied by higher costs. Based on Figure 4, factoring in quality change is clearly important, but we will show that the impact on quality-adjusted price indexes greatly depends on the specific index and assumptions applied.

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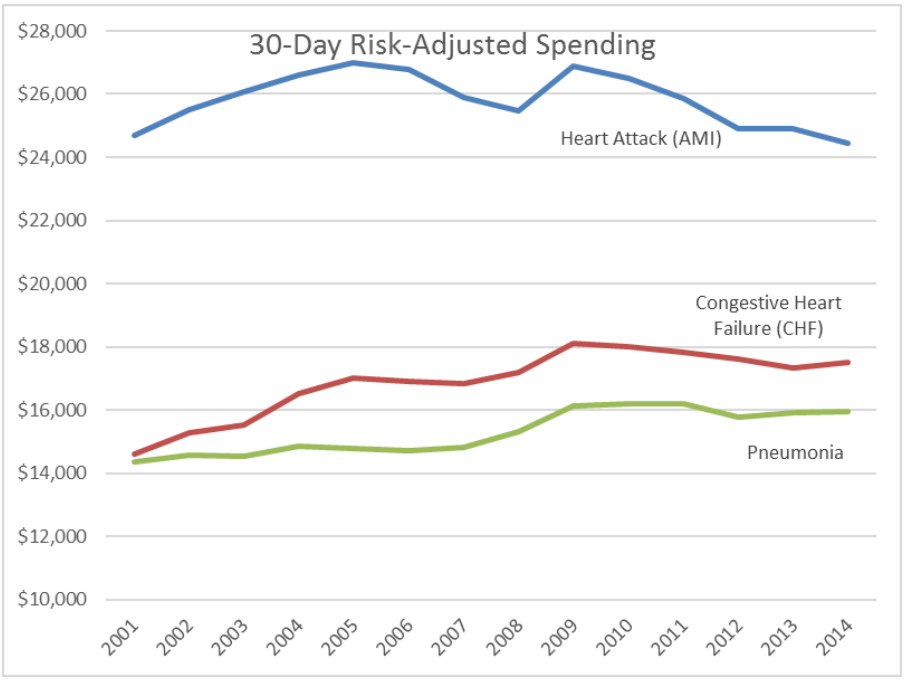
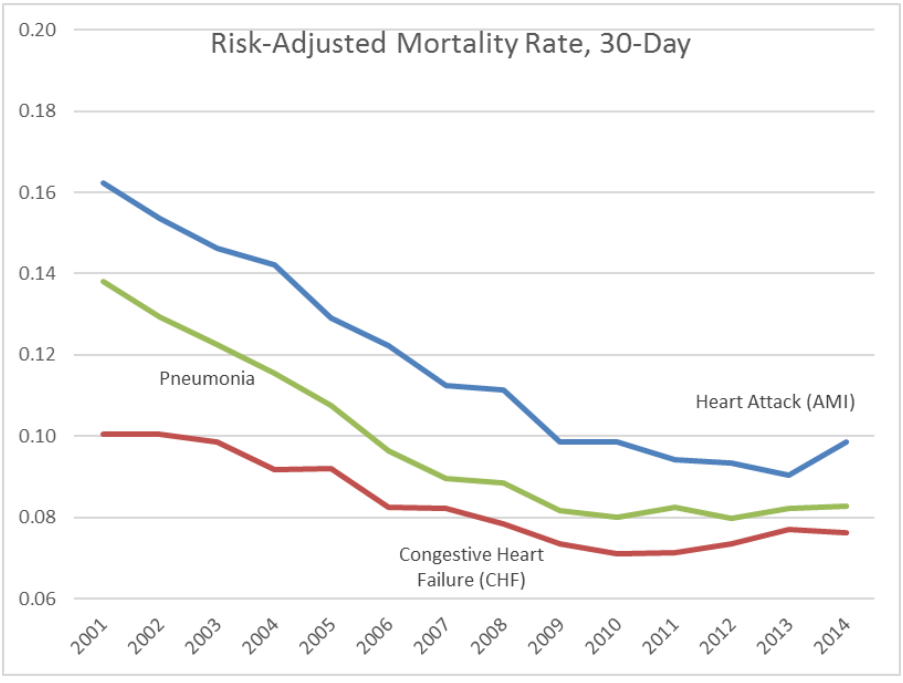
28. Estimates from the BLS PPI show the growth in both private and Medicare hospital prices. Assuming utilization changes are comparable across populations, this price difference may be used to estimate for the full population treatment price growth. Specifically, we find the growth rate for the private hospital market is 1.6 percent faster per year relative to Medicare. Assuming 65 percent of the relevant population is in Medicare, this would result in treatment price growth that is 0.6 percent faster per year than the Medicare estimates.

29. Similar patterns for the price of treatment and mortality may be observed when considering additional days after the initial event, such as a window of 60 or 90 days. These estimates are shown in the appendix in Tables A3 and A4.

30. "A Sea Change in Treating Heart Attacks", June 19, 2015. New York Times. https://www.nytimes.com/2015/06/21/health/saving-heart-attack-victims-stat.html

Figure 4. 30-Day risk-adjusted spending and mortality rates





5. Empirical approach and results

In this section empirically compare alternative quality-adjusted price indexes.

LE index: As discussed above, we construct the LE index as:

$$LE = \frac{S_1 - \frac{U_H}{U_x} \cdot H_m(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)}{S_0} \quad (4)$$

The key challenge of the LE index is evaluating the monetary benefit of the quality change, $\frac{U_H}{U_x} \cdot H_m(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)$. This term has two parts, the marginal valuation of health $\frac{U_H}{U_x}$ and the change in health delivered by medical care $H_m(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)$ which we will consider separately.

For the marginal valuation of health $\frac{U_H}{U_x}$, we follow Cutler et al. (1998) who used external research on the value of a statistical life (Viscusi 1993), which attempts to infer the value of life from individual's decisions (e.g., analyzing workers marginal willingness to take a riskier job for different wages). For selecting a range of estimates for the value of a statistical life year, we follow Pandya et al. (2015) in using estimates based on three values for a year of life: $50,000, $100,000 and $150,000 (in 2014 dollars).[31] These values are based on a variety of empirical sources such as surveys on willingness to pay and revealed preference studies.[32]

Similar to Cutler et al. (1998), we measure $H_m(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)$ with the increased life expectancy induced by improvements in treatment. However, simply measuring the observed life expectancy does not isolate the benefits of improved treatment for the condition because changes in treatments for other conditions may be affecting our outcome variable. Cutler et al. (1998; 2001) addressed this by comparing the mortality rate of the treated population with that of the general population, which has a few challenges for our application. First, we cannot guarantee that those that survive a heart attack, pneumonia or heart failure are comparable to the rest of the population (e.g., Table 1 shows the comorbidities afflicting each group are distinct). Second, it may be difficult to apply when looking at a broad set of conditions, as it would not be clear how to define the general population (e.g., should we choose those without the

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31. As Pandya et al. note, the $150,000 amount has been justified as an upper threshold by the World Health Organization (WHO) because it is approximately three times that of the GDP per capita (Neumann, Cohen, and Weinstein 2014). While there may be heterogeneity in the value of health in the population, it is often assumed in this literature that $\frac{U_H}{U_x}$ is a constant value representing the dollar value for an additional healthy year of life.

32. Government agencies often assign a value of a statistical life to conduct cost-benefit analysis. The Department of Transportation issues guidance on the value of a statistical life of $9.6 million in 2016 and the Environmental Protection Agency uses the value of $7.4 million in 2006 dollar values. However, these values would need to be transformed into a value of a statistical life year to be applicable in this study. Estimates of a value of a statistical life year reported in Aldy and Viscusi (2008) suggest that our values are relatively conservative as their value of a life year typically falls above $150k per year. However, no research we are aware of produces the value of a statistical life for the Medicare population age 65+.

particular condition or those without any condition).[33] Finally, one must wait for the resolution of long-term outcomes for the full population, resulting in a significant delay in the estimates.

For these reasons, we take a different approach. We focus on short time horizons around the events, as improvements in survival just after the event are likely attributable to the treatment. Specifically, we only allow the mortality changes to take place over a relatively short window (e.g., 60 days). However, over a longer horizon, trends in the treatment of other conditions and technologies may play an important role. To remove these other factors that affect outcomes over the longer horizon, we assume that the survival rate after the window (e.g., post-60 days) is fixed at the level observed for individuals surviving the event at the beginning of the sample. Additional details are provided in the appendix.

In calculating our LE indexes, we use a range of values for both the length of the mortality window over which we measure health outcomes and for the monetary value of a life-year. We allow the window to be 30, 60 or 90 days and we allow the value of a life year to be $50,000, $100,000, or $150,000.[34] The estimates of unadjusted indexes and indexes adjusted for the changes in quality are reported in Table 2.

Table 2
Annual growth rates of LE indexes across different assumptions

Window length	30 days			60 days			90 days		
Annual value of life	$50,000	$100,000	$150,000	$50,000	$100,000	$150,000	$50,000	$100,000	$150,000
Heart Attack (AMI)									
Unadjusted index	-0.1%			-0.1%			-0.1%		
COLI	-4.8%	-9.8%	-15.1%	-5.1%	-10.5%	-16.2%	-5.5%	-11.3%	-17.5%
Congestive heart failure (CHF)									
Unadjusted index	1.4%			1.5%			1.5%		
COLI	-0.4%	-2.3%	-4.4%	-0.2%	-2.1%	-4.2%	-0.1%	-2.0%	-4.1%
Pneumonia									
Unadjusted index	0.8%			0.9%			1.0%		
COLI	-4.4%	-9.9%	-15.8%	-4.3%	-10.0%	-16.1%	-4.1%	-9.6%	-15.6%

Notes: Estimates are computed as compound annual growth rates. The COLI estimates are computed by rebasing the amounts in each year. The price indexes are calculated with dollars deflated to 2014 values with the GDP deflator.

We make a few observations about the results in Table 2. First, quality adjustment turns out to be important across all assumptions. For each scenario, we observe the quality adjustment having a significant impact relative to the unadjusted index. The unadjusted indexes show annual price increases slightly above general inflation across conditions, while the growth rates of the quality-adjusted indexes are all negative.

Table 2 shows that for pneumonia and heart attacks, which saw greater drops in mortality rates, quality adjustment has a larger impact than for CHF. This result highlights the necessity of disease-

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33. In addition, there are likely to be improvements for other health conditions, leading to a reduction in relative benefits when looking at a control and comparison group.

34. The estimates are rebased by the amount each year and the index growth rate is chained across years. One advantage of this approach is that it avoides potentially negative values in the index that may occur from drastic changes in index values. For example, if the change in welfare is particularly large, then the numerator of the index could become negative. This issue is avoided by rebasing and chaining the index keeping the innovations incremental. This issue will be discussed further in a later section of this paper.

specific adjustment. Furthermore, for those conditions for which quality adjustment matters more, the estimates are much more sensitive to the variations in the value assigned to a life than to variations in the window over which we measure health benefits. Fixing the value of a statistical life year (VSLY) at $100,000, the table shows that the time period over which benefits are measured has a moderate impact on inflation for these conditions, with a difference of 1 to 2 percentage points. However, assigning the VSLY to be $50,000 compared to a value of $150,000 can change the inflation rate by a larger amount. Averaging across conditions based on expenditure share and holding the days of measured benefit to be 60, the average annual price decline is 3.1 percent for VSLY of $50,000, 12.0 percent for VSLY of $150,000, and our central estimate is a decline of 7.4 percent for VSLY of $100,000.[35]

Our results are similar to Cutler et al. (1998, 2001) in showing rapid price declines, although the declines we find over our period of study are smaller. Estimates in Cutler et al. (2001) show rapid price declines of around 14.4 percent a year based on the relatively conservative estimates that the value of a statistical life year is worth $25,000 in 1991 dollars ($39,000 in 2014).[36] In the period we study, for AMI specifically, we find an annual price decline of 4.8 percent for our most conservative estimate assuming $50,000 per statistical life year, relative to general inflation.[37] The faster decline found by Cutler et al. (2001) is in line with expectations, as Cutler et al. (2001) study price trends of heart attack treatments during a period of rapid technological improvement for treating this condition, including the expanded use of effective treatments such as bypass surgery, beta blockers, aspirin, ace inhibitors, and angioplasty.

TE index: We construct the treatment endpoint (TE) index in the same way as Berndt et al. (2002) construct their index but with the endpoints for the conditions as defined by Romley, Goldman, Sood (2015) who study the same acute inpatient conditions that we consider here. For each condition, we define the price in each period as the average annual incremental per patient cost of successfully achieving the treatment endpoint shown in equation (6), $\frac{S_1/\sigma_1}{S_0/\sigma_0}$, where S_t is average risk-adjusted spending as defined

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35. The expenditure share is calculated based on 60-day spending on treatment in the base year 2001 multiplied by the number of cases. Expenditure share for heart attacks is 29 percent, expenditure share for congestive heart failure is 35 percent, and expenditure share for pneumonia is 36 percent.

36. Sheiner and Malinovskaya (2016) use economy-wide COLI estimates reported in Cutler et al. (2001) to form a disease-specific index more comparable to our estimate, but consistent with the utility theory in Cutler et al. (2001). Cutler et al. (1998; 2001) find an annual inflation rate of around 1 to 2 percentage points below general inflation. However, there are some important differences in how they derive this estimate. As Sheiner and Malinovskaya (2016) note, the index formed by Cutler et al. (1998; 2001) uses income in the denominator, which provides more of an indicator of the change for the aggregate deflator, rather than forming a disease-specific index. Sheiner and Malinovskaya (2016) show how a disease-specific utility-based price index may be formed from data reported by Cutler et al. (2001).

37. Using our conservative value of a life year of $50,000 and allowing benefits to change up to a 30-day window we find that the average inflation rate across conditions, weighting by expenditure share across conditions, is 3.1 percentage points below general inflation. To construct the weights, we multiply the number of observations for each condition by the 60-day spending estimate for each condition. The weights are 29 percent for heart attacks, 35 percent for heart failure, and 36 percent for pneumonia.

above and σ_t is the risk-adjusted percent of treatments that are successful relative to no treatment.[38] Similar to Romley, Goldman, Sood (2015), we define "successful" treatment as surviving up to 30, 60 or 90 days without an unplanned readmission within 30, 60 or 90 days of discharge, with unplanned readmissions identified with the algorithm used by the Centers for Medicare & Medicaid Services (CMS).

A challenge of constructing a TE index is that, because it measures the change in the incremental price relative to no treatment, it is necessary to know or assume the rate of reaching the endpoint without any medical treatment. Berndt et al. (2002) estimated the rate of remission of major depression without any treatment based on expert opinion because it was not uncommon for major depression to go untreated. For the conditions we are considering, every patient we observe receives treatment, so it is difficult to know the success rate for untreated patients. At one extreme, the illnesses studied here are sufficiently severe that one may view non-treatment as a complete failure, so that the rate of success for untreated cases is arguably zero, as assumed in Romley, Goldman, Sood (2015). However, prior to the development of modern treatments, there was the potential for survival for all three conditions, so we estimate the quality-adjusted indexes based on different assumptions regarding the success of untreated cases.[39]

Table 3 shows alternative indexes based on differing assumptions for untreated cases and different window lengths for measuring outcomes and spending.[40] Again, adjusting for quality has a substantial impact on measured inflation and it has a larger impact on the indexes for AMI and pneumonia than for CHF. As we increase the assumed success rate of untreated cases, the incremental change in health has a larger impact on inflation. As expected based on our theoretical discussion, the inflation rates observed here are higher than the inflation rates observed based on the LE index.

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38. In the stylized model of Appendix 1, $\sigma_t = q_t\pi_1 + (1 - q_t)\pi_2 - \pi_3$, where π_3 is the success of the untreated cases and $q_t\pi_1 + (1 - q_t)\pi_2$ is the success of the treated cases.

39. For example, prior to the 1960s when modern treatments were unavailable, the in-hospital mortality rate for AMI was 30 percent (Braunwald 2012). Similarly, according to one cardiologist, in-hospital mortality from heart attacks in the 1970s for older patients was about 40 percent (National Heart, Lung, and Blood Institute, 2012). We view these estimates as an approximate baseline for "non-treatment."

40. The Appendix Table A6 shows some of the detail of the TE index calculations with the treatment/spending window held at 60 days and assuming a 20 percent survival rate for untreated cases. Using the TE index, the quality-adjusted price of AMI treatment, for example, is $72,022 in 2001 and drops to $56,565 in 2014 as survival greatly improved but per-case spending declined slightly.

Table 3
Annual growth rates of treatment endpoint index under alternative assumptions

	Window length								
	30 days			60 days			90 days		
	Assumed success rate of untreated cases								
	0%	20%	40%	0%	20%	40%	0%	20%	40%
Acute myocardial infarction									
Unadjusted index	-0.1%			-0.1%			-0.1%		
Quality-constant index	-1.0%	-1.4%	-2.1%	-1.3%	-1.8%	-3.3%	-1.5%	-2.2%	-4.4%
Congestive heart failure									
Unadjusted index	1.4%			1.5%			1.5%		
Quality-constant index	1.0%	0.8%	0.5%	0.9%	0.6%	-0.1%	0.8%	0.5%	-0.8%
Pneumonia									
Unadjusted index	0.8%			0.9%			1.0%		
Quality-constant index	0.2%	0.0%	-0.5%	0.1%	-0.3%	-1.2%	0.1%	-0.4%	-1.8%

Notes: Estimates are computed as compound annual growth rates. Price index is based on dollar figures deflated to 2014 dollars with the GDP deflator.

Hedonic index: The next method follows Frank et al. (2004), by using hedonics to control for the characteristics of treatment over time. Specifically, we run the following generalized linear model (GLM) regression, separately for each condition and year:

$$Y_i = \alpha_t + X_i\beta_t + Z_i\gamma_t + \varepsilon_i.$$

where Y_i is the annual health care spending related to the index admission of patient i, X_i is a vector of patient-level covariates as indicated above, and Z_i is a vector of evidence-based treatment types or therapies received within 30 days of the index admission.[41] We then construct a Laspeyres-type index where the average price for year t is the average predicted treatment price with the prediction run on the population and treatments from 2001 using the $\widehat{\alpha_t}$, $\widehat{\beta_t}$ and $\widehat{\gamma_t}$ from year t, essentially using the approach suggested by Pakes (2003). Next, we construct a Paasche-type index using the same method on the population and treatments in 2014. The final index is a Fisher index, that is the geometric average of the two, following the method of Frank et al. (2004).[42]

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41. We apply a GLM model using a log-link and gamma distribution due to the skewness of the expenditure data.

42. Rather than using only a base-period technology for our hedonic function, we use a Fisher index. Our results are robust to alternative methods. For instance, we ran a simple hedonic model with year dummies and hedonic controls and found similar results.

For both AMI and CHF, we are able to identify relevant technologies to include in Z_i.[43] Pneumonia treatment, however, mostly relies on antibiotics. Given the difficulty in using ICD-9 codes in the Medicare claims data to identify the many different antibiotic recommendations for treating pneumonia, we did not create hedonic indexes for the pneumonia cohort.

When we apply the hedonic method to AMI and CHF, we find that there is very little difference between the hedonic indexes and the unadjusted indexes. Given the limited change in these estimates relative to the unadjusted figures, we do not report these estimates separately but show them in the next section when we compare across methods (Figures 3-5).

The hedonic indexes diverge from the LE and TE indexes that explicitly incorporate health outcomes, and which decline substantially. This divergence suggests that the shift in the shares of the treatment baskets that we have defined are not actually related to the changes in observed outcomes captured in the two outcomes-based indexes. The improvements in mortality of AMI and CHF that we observe may have been caused by shifts among other treatments that are not contained in the claims data. As mentioned previously, for heart attacks, the improved speed of of treatment and coordination of care greatly improved outcomes, which are factors not captured by claims data sources. In addition, many of the "process of care" measures of quality reflected in the Hospital Compare database discussed previously showed large improvement, even though many of these quality measures did not involve costly treatment.

5.1 Across-method comparison

Next, we graphically compare results from three of the methods choosing a single index from each approach. For the LE index we choose the estimate using $100,000 value of a year of life, which is the middle value of our range of assumptions. For the TE index, we assume a 20 percent success rate without treatment, which is also in the middle of our assumptions. For both indexes, we select a 60-day window.

Figures 5 illustrate the differences between the indexes. Across the three conditions we find similar patterns. We find that the unadjusted index and the hedonic index are nearly identical within conditions. We find that inflation is considerably lower when measured by health outcomes in both the TE index and LE index, relative to the unadjusted index, but the amount of the adjustment is much larger for the LE index. While we are presenting the indexes based on a single set of assumptions, the difference in the growth rates in Tables 2 and 3 suggests that this difference between the TE and LE indexes is robust to alternative assumptions. Consistent with our theoretical discussion, the estimates for these conditions suggest that the TE and hedonic indexes tend to overstate the rate of inflation, relative to our preferred LE index.

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43. For the AMI cohorts, the treatments in Z_i are cardiac catheterization (CATH) only, percutaneous coronary intervention (PCI) only, coronary artery bypass grafting (CABG) only, and various combinations of CATH, PCI and CABG. The reference group is medical management which indicates the receipt of none of the heart attack procedure regimens. The medical management regimen is the least intensive, while CABG is the most intensive. The therapies for the CHF cohorts are the following: implantable cardioverter defibrillator (ICD) only, cardiac resynchronization therapy defibrillators (CRT-D) only, cardiac resynchronization therapy pacemaker (CRT-P) only and various treatment combinations of ICD, CRT-P, and CRT-D. We also include two infrequently used therapy options, which are present in the data: implantation of left ventricular assist device (LVAD), and heart transplantation. The reference group again is medical management, again indicating the receipt of none of the heart failure procedures identified above.

Figure 5. Comparison of indexes for heart attacks, congestive heart failure and pneumonia

6. Study of new innovations from the Tufts Cost-Effectiveness Database

We show that quality adjustment is important for the three selected conditions, but it is not clear if those conditions are representative of the impact of innovation on health care price more generally. To address this concern, we reconsider the findings of Hult, Jaffe, and Philipson (2018). Their study uses a dataset of cost-effectiveness studies from the Tufts Medical Center Cost-Effectiveness Analysis Registry (CEAR) database. The registry database, intended to be a comprehensive database of a wide variety of treatments and diseases, summarizes and reviews published original cost-effectiveness studies, where each article is screened and reviewed before inclusion in the registry. To satisfy the criteria for inclusion in the database the research must be published in English, be an original cost-effectiveness analysis, and measure health benefits as QALYs. Review articles, editorials, and articles missing key features (e.g., quality measures) are excluded. Each article is reviewed by two readers that have been trained in cost-effectiveness and

decision analysis. These readers follow a standardized set of forms and instructions and extract over 40 variables for each article, as well as provide specific ratings regarding the quality of the study. The studies vary on numerous dimensions that are recorded in the data: type of intervention (e.g., pharmaceutical), condition treated (e.g., cardiovascular), funding source (e.g., government), as well as numerous other variables. The types of studies vary in the methods that are applied, which are described in the abstract of each paper that is one of the included data elements. In contrast to claims-based approach applied in the previous section, which relies on risk adjustment to remove potential biases in the quality and cost estimates, the studies here present a diverse array of methods applied in the medical literature. Based on a word search of the title and abstract, we find that about 37 percent of the articles have the word "random" or "trial".[44] However, many of the studies may be meta-studies or disease-model simulations that are often based on randomized trials. The quality of each study is rated by the readers of the study based on a variety of criteria (e.g., health economic methodology, consideration of uncertainty, and transparency). The methods forming both the cost and QALY estimates vary depending on the study, but they are unified in their goal of estimating the key elements that are necessary to evaluate the cost effectiveness of treatment, which are the same elements needed to form a price index.

The latest version of this database applied in our study contains 7,287 cost-effectiveness studies with about 90 percent of the studies coming from the 2004 to 2017 period. Many of the studies in the database contain the critical four elements for understanding the price impact of new innovations: (1) the price of treatment for the new innovation (i.e., insurer plus patient costs); (2) the price of treatment for the previous standard of care (SOC); (3) the QALYs produced by the innovation; and (4) the QALYs produced by the previous standard of care. The standard of care treatment typically represents the incumbent treatment prior to the arrival of the new innovation. About 50 percent of the articles in the database includes all four of these elements, so not every study may be used to form a quality-adjusted price index. However, a single article may contain multiple comparisons of treatments, increasing the number of innovations that may be analyzed. Our version of the data contains three additional years relative to Hult, Jaffe, and Philipson (2018), and we have a total of 10,000 observations for which we observe the necessary elements to form quality-adjusted price indexes.

Before reporting our results from the Tufts database, we start by analyzing the results reported in Hult, Jaffe, and Philipson (2018). Hult, Jaffe, and Philipson (2018) use the database to calculate quality-adjusted prices for a wide set of medical treatments using a TE index formula based on the average price of a QALY, as described previously: $TE = \frac{s_1/QALY_1}{s_0/QALY_0}$ where the innovation corresponds to period 1 treatment and the standard of care corresponds to period 0 Based on this formula, they find the median quality-adjusted price change for a new innovation to be an increase of 4 percent relative to the prior standard of care. As we have shown, measuring the price per successful treatment or QALYs using a TE index may understate the gains in welfare relative to our preferred utility-based LE index. To relate the LE formula to estimates reported in Hult, Jaffe, and Philipson , we first re-write equation (4) where the innovation corresponds to period 1 treatment and the prior standard of care corresponds to the base period 0, as:

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44. This is based off of a simple search of the title and abstract for the word "random" or "trial".

$$LE = \frac{S_0 - \text{CV}}{S_0} = \frac{S_0 - \left((U_H/U_x)\Delta H \; - \; (S_1 - S_0)\right)}{S_0} = \frac{S_0 - \left(\frac{U_H}{U_x} - \frac{(S_1 - S_0)}{\Delta H}\right)\Delta H}{S_0}$$

where $\Delta \text{H} = QALY_1 - QALY_0$ is the change in health (assuming $\Delta \text{H} \neq 0$), measured by QALYs, added by the new innovation relative to the prior standard of care treatment (or $H_m(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)$). The second term in the numerator is a measure of compensating variation from the new innovation. In the above formula, the compensating variation is rewritten as the net value gained (or lost) per unit increase in health from the new innovation, $\left(\frac{U_H}{U_x} - \frac{(S_1 - S_0)}{\Delta H}\right)$, times the observed change in health, ΔH. The marginal cost per increase in health, $\frac{(S_1 - S_0)}{\Delta H}$, is often referred to as the incremental cost-effectiveness ratio (ICER). Based on estimates reported in Hult, Jaffe, and Philipson (2018) they find the median value of the ICER in their data is \$17,415. If we conservatively assume the value of a QALY ($\frac{U_H}{U_x}$) is \$50,000, then the term $\left(\frac{U_H}{U_x} - \frac{(p_1 m_1 - p_0 m_0)}{\Delta H}\right) = \$50{,}000 - \$17{,}415 = \$32{,}485$, which indicates the value gained per QALY for the median innovation. Since this value is positive, the LE index is less than one indicating falling quality-adjusted prices for the median innovation.[45] In other words, based on the estimates reported in Hult, Jaffe, and Philipson (2018) over half of the new innovations in the database lead to falling prices using the LE index formula.

Next, to obtain a more complete picture of the price decline we turn to the micro-data from CEAR to estimates the quality-adjusted price change for all innovations in the database. To clean the data, we first take the same steps outlined in the work by Hult, Jaffe, and Philipson to remove some of the outlier studies and estimates.[46] In the top of Table 4 we report the same descriptive statistics that are provided in Hult, Jaffe, and Philipson, but using our larger sample. This includes information for the "innovator" and the prior standard of care "SOC". These elements include the innovator QALY, SOC QALY, Innovator Price, SOC Price, Innovator Price per QALY, SOC Price per QALY and the ICER. Overall the descriptive statistics are very similar to those reported in Hult, Jaffe, and Philipson.

The bottom of the Table reports the distribution of quality-adjusted prices using both the TE index and the LE index.[47] The TE index shows a median index of 1.04, indicating a 4 percent increase, which matches the result in Hult, Jaffe, and Philipson. The mean price increase based on the TE index is 34

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45. This assumes that $\Delta H > 0$.

46. The selection rules outlined in Hult, Jaffe, and Philipson (2018): "We omit observations with quality values greater than 100, since it does not make sense for a treatment to add more than 100 years to someone's life. We also omit studies with negative quality values. We omit observations with negative cost for either the innovation or the SOC. We also omit observations where the ICER, price, or price per QALY for the innovation or the SOC is over \$10." In order to normalize expenditures in the studies across years to the year 2014, we use a medical care deflator to ensure that the same quantity of medical care may be purchased in 2014 as in the year of the study. We convert medical expenditures into 2014 dollars using the PCE deflator for medical care, rather than the medical CPI, which is only relevant for out-of-pocket costs (Dunn, Grosse, and Zuvekas2018). However, the main findings are not changed by the use of either index. We convert to U.S. dollars using yearly exchange rates.

47. For all indexes the top and bottom 1 percent of the indexes are not considered in the reported distribution. This is to avoid outliers influencing the mean estimate. Qualitatively the results are robust to the inclusion or exclusion of these extreme values in the distributions.

percent. In other words, based on the TE index the average innovation represents a price increase, again matching the finding in Hult, Jaffe, and Philipson. These estimates contrast with the estimates obtained from the LE index that shows clear quality-adjusted price declines at both the mean and median of the distribution across all VSLY estimates. In fact, the mean LE index level is negative for VSLY of $100k or $150k. The negative level is caused by the welfare improvement exceeding the treatment price, which is a problem that may occur for drastic improvements in technology (Trajtenberg 1990). This implies that for the individuals to be indifferent between receiving the standard of care and the innovation, they would need to receive the standard of care product for free and additional cash to make up for the total loss in quality from giving up the newer technology. While we can interpret these negative index levels, they cannot be used as deflators to calculate real output.

To avoid negative index values resulting from large technical change when examining pneumonia, heart attack, and heart failure for the Medicare population, we chained index growth rates, but this is not possible for examining the innovations where there is only one price change. Instead, we address this issue by following the advice of Trajtenberg (1990) and construct an alternative utility-based index based on the reservation price of the new technology. In this index, the denominator represents the reservation price of the new technology that makes individuals indifferent between the innovation and the previous technology (i.e., : LE reservation price$=\frac{e(p_1,U_1)-x_1}{e(p_0,U_1)-x_1}=\frac{e(p_1,U_1)-x_1}{e(p_1,U_1)+(e(p_0,U_1)-e(p_1,U_1))-x_1}=\frac{S_1}{S_1+CV}=\frac{S_1}{S_0+\left(\frac{U_H H_m(\alpha_1 \cdot m_1-\alpha_0 \cdot m_0)}{U_x}\right)}$). By construction, this LE reservation price index is positive for all values of improved quality. Both indexes are equally valid based on utility theory, and Trajtenberg (1990) suggests taking an average of the two, but using this average would still show a negative average price based on the VSLY of $100k or $150k. The LE reservation price index is shown at the bottom of Table 4 and shows clear declines in price from innovation at both the mean and median across all VSLYs.

We conclude that a conservative measure of the average price decline from innovation would be around 20 percent, since the mean price drop falls near 20 percent or more for five of the six average LE indexes and for four of the six median LE indexes. If medical care markets are responsive to price so that technologies with lower quality-adjusted prices are more likely to be adopted and diffused, then both the median and mean quality-adjusted prices could actually understate the impact of new technologies.

Table 4
Innovations and Quality Adjusted Price Estimates

	Mean	Median	p5	p95	sd	obs
Innovator QALY	9.76	8.05	0.19	25.56	9.90	10,066
SOC QALY	9.36	7.50	0.10	25.56	9.81	10,048
Innovator Price	$108,682	$22,799	$265	$372,886	$459,697	10,537
SOC Price	$92,513	$17,723	$77	$318,882	$414,086	10,525
Innovator Price per QALY	$22,630	$4,563	$28	$91,267	$142,215	9,905
SOC Price per QALY	$19,851	$3,796	$16	$84,969	$239,409	9,740
ICER	$69,437	$16,407	-$133,495	$405,937	$612,663	$17,459
			Quality-Adjusted Price Indexes			
TE Index	1.35	1.04	0.65	2.86	1.14	9,455
LE Index						
($50,000 VSLY)	0.21	0.94	-4.04	2.54	4.69	9,455
($100,000 VSLY)	-1.17	0.79	-10.26	2.51	9.55	9,455
($150,000 VSLY)	-2.55	0.63	-16.72	2.57	14.65	9,455
LE Reservation Price Index						
($50,000 VSLY)	0.80	0.92	0.07	1.64	6.69	9,453
($100,000 VSLY)	0.77	0.79	0.04	1.58	0.56	9,453
($150,000 VSLY)	0.75	0.69	0.02	1.60	3.22	9,453

Notes: Estimates with outlier values in QALYs and costs specified in the text have been removed prior to the construction of this table. For the indexes, the bottom and top 1 percent of the distribution have been removed for the construction of this table so that outliers have a limited effect on the mean. Results are robust to the outlier removal procedure. For instance, removing observations that are outliers for any one of the indexes produces nearly identical results.

As the TE index methodology values QALYs based on the price per QALY, it is clear that this approach will tend to undervalue technological change, as the median price per QALY is around $4,000 (far below any estimate of the value of a statistical life). This finding is consistent with the results of Figures 3, which suggests that the average price per unit of health will be much lower than the marginal value per unit of health, leading to the empirical difference we observe across the indexes. Showing the estimates from a well-known example helps to highlight this point. Consider the case of Sovaldi, a well-publicized hepatitis treatment, which was viewed as a costly, but effective new innovation. For a patient with cirrhosis the innovation using Sovaldi had a price of treatment of $99,908 with a QALY of 9.40, while the standard of care had a price of $76,915, with a QALY of 8.28. In this case, the TE index is 1.14, while the LE index is 0.57 (VSLY $50,000). The LE index shows the Sovaldi treatment to be lowering quality-adjusted prices, while the TE index implies that it is driving quality adjusted prices higher. This is caused by the TE index implicitly valuing the additional 1.12 years of life at just $10,000.

Tables A8 and Table A9 in the appendix show additional details based on disease categories of the innovation (e.g., cardiovascular or musculoskeletal),type of intervention (e.g., pharmaceutical or device), the funding sponsor (e.g., government or pharmaceutical maker), and type of study based on a simple

word searches of the title and abstract (e.g., randomized or simulation).[48] Table A8 shows estimates for the LE reservation price index (VSLY $100k) and Table A9 shows estimates for the TE index, respectively. These tables also show an additional breakout of high-quality studies based on the evaluations of the readers scoring the quality of the research studies along various dimensions. While there are some differences in the mean and median across disease categories, type of intervention, funding sponsor, and type of study, what stands out most is the persistent difference between the LE reservation price indexes and TE indexes within all categories. The LE index shows consistent price declines, while the TE index shows price increases. Overall, the LE indexes reported in Table A8 strongly suggests that price declines from innovation are a prevalent feature of the health care sector, showing declines at both the mean and median across all categories.

Simple correlations in these data suggest that not properly accounting for quality improvements will lead to systematic biases. A regression of the log price of the new innovation on the log price of the standard of care treatment, the log QALY of the standard of care treatment, and the log incremental gain in quality from the innovation is shown in Table 5. The regression shows three things. First, the cost of new treatments tend to be correlated with the costs of previous treatment, as we might expect. Second, holding the cost of the standard of care treatment constant, the magnitudes of improvements in treatment outcomes, relative to the standard of care, are correlated with higher prices of innovative treatments. Only the incremental improvement in the QALY is related to price, while the standard of care QALY alone shows little correlation. Consequently, not placing any value on quality improvement will lead to a systematic upward bias in the price of new innovations. As explained throughout this article, choosing the correct value to place on the quality improvements is critical for obtaining economically meaningful estimates.

Table 5
Regression of Log(Innovator Price) on log(QALY) difference, log(SOC Price), and log(SOC QALY)

	Full Sample	Year>=2013	Year<2013	Manufacturer Funded	Not Manufaturer Funded
log(QALY Innovation)-log(QALY SOC)	0.612***	0.754***	0.500***	0.632***	0.605***
	(0.0621)	(0.0427)	(0.0751)	(0.125)	(0.0525)
log(QALY SOC)	0.0255	0.0256	0.0289*	0.0409***	0.0193
	(0.0168)	(0.0248)	(0.0130)	(0.0106)	(0.0202)
log(SOC Price)	0.923***	0.939***	0.908***	0.924***	0.924***
	(0.00849)	(0.00563)	(0.0129)	(0.0156)	(0.0113)
Number of Observations	9571	5072	4499	2998	6573
Adjusted R2	0.926	0.930	0.923	0.937	0.921

Notes. Standard errors in parentheses with * p<0.10, ** p<0.05, *** p<0.01. Standard errors are clustered by disease category for all estimates.

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48. If the title or abstract contain the word random or trial and does not contain the word "meta", then we categorize the study as randomized. If the title does not contain the word random or meta, but includes the word simulation or markov, then we categorize the model as a simulation. If the word title contains the word meta, then we categorize it as a meta-study.

Hult, Jaffe, and Philipson (2018) note that their findings imply that health care is somehow different from other high-technology industries that are typically characterized by large quality-adjusted price drops. However, here we show that when a more theoretically grounded method is applied, the price changes we observe from new innovations actually seem to be quite similar to those in other high-technology industries.

8. Implications for productivity

If official health care price indexes do not account for changes in quality, this has implications for official measures of output and multifactor productivity growth that rely on these indexes. The official estimate of multifactor productivity growth most related to our study is from BLS and covers Hospitals and Nursing and Residential Care Facilities (North American Industry Classification System (NAICS) industries 622 and 623). The official estimate shows a multifactor productivity growth rate that declines by 0.3 percent per year from 2000-2014.

The potential effect of quality adjustment on multifactor productivity growth depends on the magnitude of the quality adjustment bias. Evidence from the Tufts registry implies that the quality-adjustment bias from new innovations is prevalent and potentially quite large, but it is difficult to determine the specific annual quality-adjusted price change that would be broadly representative based on these data. Instead, we turn to the price indexes based on the three conditions we studied. To keep our estimates conservative, we use the value of a statistical life year of $50,000, which implies a bias adjustment amount of 3.1 percent per year.[49] We incorporate the quality adjustment by deflating the output price index by 3.1 percent per year over the period of study and then re-computing a new quality-adjusted output and new productivity index (see Table A7 of the Appendix). With this alternative estimate, we find that the quality-adjusted productivity growth rate becomes 2.8 percent per year. Figure 6 shows the multifactor productivity estimates from BLS for three categories for comparison: computer & electronic products, manufacturing, and hospital and nursing (NAICS 622, 623). For hospital and nursing we also show the quality-adjusted estimate as the dashed line. After the quality-adjustment, the hospital productivity estimate exceeds that of the manufacturing sector and is more comparable to a high productivity growth sector such as computer and electronic products.

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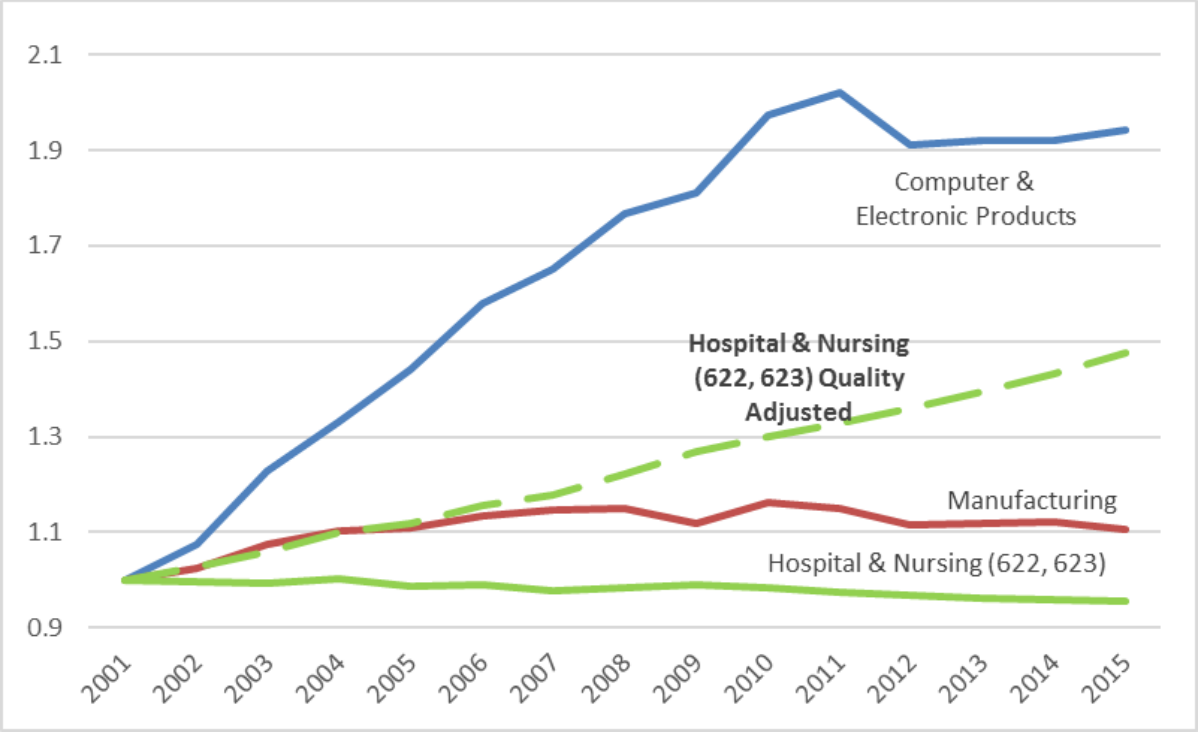
49. We calculate the bias by taking the difference between a weighted average of the 60-day $50,000 per life-year LE indexes, where the weights are the total 60-day expenditure shares of each condition in 2001. The average of the unadjusted indexes grows at 0.8 percent per year while the average of the LE indexes falls at 3.1 percent per year so the bias is 3.9 percentage points. We restrict our adjustment only to the hospital sector by applying the quality adjustment to 80 percent of output because hospitals account for 80 percent of expenditures for NAICS industries 622 and 623. Therefore, the adjustment amount becomes 3.1 percent per year.

Figure 6. Multifactor productivity growth comparison (based to 1 in 2001)



This hypothetical estimate makes the strong assumption that the magnitude of the quality-adjustment bias that we estimate for our select conditions can apply to a wider set of medical conditions than those we consider here. While this estimate should be viewed as a bit crude, the broad evidence from both the three conditions and the CEAR database, suggest that price declines from innovation are broadly occurring and with a substantial magnitude. Given the prevalence and magnitude of the declines from innovation, we view our measure of the quality-adjustment bias as a reasonable lower bound.

8.1 Conclusion

This paper provides comprehensive evidence that innovations commonly lead to quality-adjusted price declines in the medical care sector. We find that applying the appropriate quality-adjustment methodology is critical for obtaining a meaningful quality-adjusted index. The utility-based COLI price index whose quality adjustment is based on the monetized value of the increase in the health benefits of treatment, such as that constructed by Cutler et al. (1998; 2001), gives the most theoretically accurate and robust results. Important differences can arise between the utility-based method and other indexes when the marginal valuation of life differs from the average price per unit of health produced. These differences are found to be of great empirical importance for the thousands of cost-effectiveness studies in the Tuft's CEAR database and for the three actue conditions studied using Medicare claims.

Applying the utility-based method of quality-adjustment to the three conditions from our claims database as well as the more comprehensive CEAR database suggest substantial quality-adjusted price declines from new innovations. The robustness of these findings across data sources, disease categories and types of interventions suggest that quality-adjusted prices declining from new innovations is a prevalent feature of the sector. Although quality-adjustment from innovations is shown to be substantial

in this study, these quality changes are not currently reflected in official estimates. This work suggests that quality-adjustment may be of great practical importance for understanding price trends, output and productivity in the health care.

An observed decline in quality-adjusted prices in itself does not imply that the health care system is functioning optimally following the price fall since it alone says nothing about whether or not full efficiency has been achieved. If the decline results from better employment of existing technology (either a reduction in non-cost-effective technology or an increase in cost-effective technology), the decline will correspond to an improvement in health-care efficiency but further improvements (and price declines) may yet still be possible.

While we are able to show that there may be substantial quality-adjusted price declines from new innovation, more work is needed to incorporate this information into annual disease-based price indexes. It will be important for academic researchers and statistical agencies to continue research to build a consensus around quality adjustment methods that may be applied to the health care sector more broadly (Schreyer 2010). Until a consensus is formed, it may be important to report a range of estimates for the quality-adjusted prices, rather than applying a single method or set of assumptions. There is considerable promise for further development of quality-adjusted price indexes for medical conditions as measurements of quality of life are improved, more detailed data become available, and valuations of health become more certain.

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APPENDIX 1.

Difference between the LE and TE index. The understatement of the TE quality adjustment can be shown in a few ways. First, for the index to be equal to the LE index requires the quality adjustment terms to be the same: $\frac{S_1}{H(\alpha_1 \cdot m_1)}(H(\alpha_1 \cdot m_1) - H(\alpha_0 \cdot m_0)) = \frac{U_H H_m}{U_x}(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)$. For small changes in m we have: $H(\alpha_1 \cdot m_1) - H(\alpha_1 \cdot m_1) = H_m(\alpha_1 \cdot m_1 - \alpha_0 \cdot m_0)$. This implies that the indexes are equal when $\frac{S_1}{H(m_1)} = \frac{U_H}{U_x}$. Rearranging the equation and substituting $S_1 = p_1 m_1$ we have the indexes are equal when,

$$p_1 m_1 = \frac{U_H}{U_x} H(\alpha_1 \cdot m_1). \quad (7)$$

Equation (7) implies that the consumer is indifferent between gaining the full health benefit of treatment, $\frac{U_H}{U_x} H(\alpha_1 \cdot m_1)$, and paying for treatment, $p_1 m_1$. In other words, the consumer receives no net benefit from treatment and is indifferent to receiving any medical care. If we expect that consumers receive some value from treatment, then $p_1 m_1 < \frac{U_H}{U_x} H(\alpha_1 \cdot m_1)$.[50]

The equality (7) also contradicts with what we would expect in a typical market. The first order condition (5) implies that the "market value" of the quality change should be measured at the price of purchasing a marginal change in health, $\frac{p_1}{H_m \cdot \alpha_1}$, which is larger than the average cost of producing health. This can be shown by substituting in the first order condition (5), $\frac{U_H}{U_x} = \frac{p_1}{H_m \cdot \alpha_1}$, into equation (6). In this case, the treatment endpoint index is equal to the LE index if $\frac{p_1 m_1}{H(m_1 \cdot \alpha_1)} = \frac{p_1}{H_m(\alpha_1 \cdot m_1) \cdot \alpha_1}$. This may be re-written as $\frac{p_1}{H(m_1 \cdot \alpha_1)/m_1} = \frac{p_1}{H_m(\alpha_1 \cdot m_1) \cdot \alpha_1}$. These terms are equal if the marginal gain in health, $H_m(\alpha_1 \cdot m_1) \cdot \alpha_1$, is equal to the average gain in health, $\frac{H(m_1 \cdot \alpha_1)}{m_1}$. However, because $H(m)$ is concave, we know that $H_m(m_1 \cdot \alpha_1) \cdot \alpha_1 < \frac{H(m_1 \cdot \alpha_1)}{m_1}$, which shows that the treatment endpoint approach provides a lower bound for the quality-adjustment term. The TE quality adjustment term is only similar to the LE adjustment term when health, $H(m)$, increases linearly with additional medical care inputs, m. In addition, equation (7) suggests that the costs would need to be equal to the benefit.

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50. In an idealized market the consumer receives a benefit greater than its price for all units of medical care service, except the last unit of medical care, m_1. That is, if the first order condition (5) holds we should expect $p_1 < \frac{U_H}{U_x} H_m(\alpha_1 \cdot m) \cdot \alpha_1$ for all $m < m_1$. If all infra-marginal units of consumption provide positive welfare, then so should total consumption.

APPENDIX 2

Data sources

This study uses 2000-2015 Medicare claims data from the inpatient, outpatient, and carrier (physician) files. However, we perform the analysis only for the period 2001-2014. The 2000 data sets were used to identify a 365-day history of certain conditions for index admissions occurring in 2001 and the 2015 data sets were used to get the full 365-day spending and survival measures for index admissions occurring in 2014. We obtain patient demographic, enrollment and mortality information from the enrollment files.

Patient disease cohorts

In constructing the sample, we generally followed the method of Chandra, Dalton, and Homes (2013). The analytical sample includes Medicare beneficiaries aged at least 65 years with an inpatient hospitalization and a primary discharge diagnosis for acute myocardial infarction (AMI), congestive heart failure (CHF), or pneumonia between 2001 and 2014. The index event was restricted to an inpatient setting in order to consider only acute cases of the condition. The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) diagnosis codes were used to identify the conditions. The heart attack cohort was identified using the diagnosis code 410.xx, excluding the fifth digit of 2 (that is, subsequent episode of care). The cohort of CHF patients was identified using the following diagnosis codes: 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93, 428.x, and 428.xx. For the pneumonia cohort, the following diagnosis codes were used: 481, 482.x, 482.xx, 483.x, 485, 486, and 487.x. The choice of these codes for each cohort was based on prior studies (Krumholz et al. 2006a, 2006b; Bratzler et al. 2011).

We restrict the samples to fee-for-service beneficiaries who were continuously enrolled for at least 365 days before the index admission and for at least 365 days (or until death) after the index admission. The requirement for enrollment for at least 365 days prior to the index admission is to ensure that we have a full 1-year history of certain conditions that we use as risk adjusters and the requirement for enrollment for at least 365 days after the index admission is to ensure that we are able to capture the full 1-year spending and survival measures after the index admission. We require at least a 365-day window after an index admission of a particular patient before that patient can have another index admission. However, a patient can appear in a different disease cohort during the 365-day window of one cohort. A single beneficiary can therefore appear multiple times within a particular disease cohort or appear in different disease cohorts during the sample period.

Outcome variables

The outcome measures used are life expectancy (number of days survived after the index admission), survival rates up to a certain period and spending up to a certain period. As discussed in the paper, the periods over which health outcomes and spending are measured range from 30 days to 365 days. The spending variable encapsulates all medical care expenses incurred in an inpatient, outpatient or physician

office setting during and after the index admission and is inflation-adjusted to 2014 dollars using the U.S. gross domestic product implicit price deflator.

Risk adjusters

To obtain risk-adjusted average survival days, survival rates and spending for each disease cohort, we estimated a generalized linear model (GLM) with a logit link function and assuming a negative binomial, binomial and gamma distributions for observed survival days, survival rates and spending, respectively. We adjusted for a number of patient-level covariates. In particular, we control for age groups (i.e., 5-year intervals with those aged at least 90 years as one group), sex and racial/ethnic groups (i.e., non-Hispanic Whites, non-Hispanic Blacks, non-Hispanic Asians, and Hispanics – the reference group is "Others") in each cohort regression. Additionally, we control for certain hierarchical condition categories (HCC) that prior studies have found to be important risk-adjusters (Krumholz et al. 2006a, 2006b; Bratzler et al. 2011).[51] The particular HCC variables were obtained using all diagnosis and procedure fields in the inpatient, outpatient, and physician claims data for the 365 days prior to the index admission and the secondary diagnosis and procedure fields in the index hospitalization. Specifically in each cohort regression, we control for the history (excluding the index hospitalization) of the following conditions: Percutaneous coronary intervention (PCI), Coronary artery bypass graft (CABG), AMI, and Heart failure and for the following HCC groupings: Unstable angina, Chronic atherosclerosis, Cardiopulmonary-respiratory failure and shock, Valvular heart disease, Hypertension, Stroke, Renal failure, COPD, Pneumonia, Diabetes, Protein-calorie malnutrition, Dementia, Hemiplegia-paraplegia-paralysis-functional disability, Peripheral vascular disease, Metastatic cancer, Trauma in last year, Major psychiatric disorders, and Chronic liver disease. Additional cohort-specific covariates include two dummy variables for the AMI locations in the AMI cohort, Cerebrovascular diseases in the CHF and pneumonia cohorts and Severe hematological disorders, Iron deficiency and other/unspecified anemias and blood disease, Depression, Parkinson's and Huntington's diseases, Seizure disorders and convulsions, Fibrosis of lung and other chronic lung disorders, Asthma, and Vertebral fractures in the pneumonia cohorts.[52]

LE index details

Life expectancy window

We begin with the assumption that there is a point in time after the acute event, γ, where survival of the event up to that point γ can be attributed to medical care. However, after point in time γ it is determined by other factors such as lifestyle and medical care for other conditions. However, life expectancy will still overall be shorter after the event than it would be for similar patients who did not have the event. Life expectancy for patients who have the event is mechanically a weighted average of the life expectancy of those who die before γ and that of those who die after. If we let B_t = the share of patients who die before γ, $LE_{\gamma,t}$ = the life expectancy of patients who die before γ in period t, and $LE_{p,t}| \gamma$ = life expectancy of survivors who die post-γ, then:

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51. Hierarchical Condition Categories (HCC) is a grouping of the over 15, 000 ICD-9-CM codes into 189 clinically coherent groups

52. The two dummy variables are for codes 410.1x and codes 410.2x, 410.3x, 410.4x, 410.5x, and 410.6x, respectively. The reference group is all others.

$$LE_{MC,t} = B_t LE_{\gamma,t} + (1 - B_t) LE_{p,t}|\gamma \quad (10)$$

The change in LE of these patients over time is given by:

$$\Delta LE_1 = \left[B_1 LE_{\gamma,1} + (1 - B_1) LE_{p,1}|\gamma\right] - \left[B_0 LE_{\gamma,0} + (1 - B_0) LE_{p,0}|\gamma\right] \quad (11)$$

$$\Delta LE_1 = B_1 LE_{\gamma,1} - B_0 LE_{\gamma,0} + (1 - B_1) LE_{p,1}|\gamma - (1 - B_0) LE_{p,0}|\gamma \quad (12)$$

B_t and $LE_{\gamma,t}$ can be measured from the data in the short term. The question then is how to approximate $LE_{p,t}$. The disadvantage of measuring this term directly in the data is that, as described above, it is affected by improvements in treatments of other conditions and measuring it fully requires waiting for the resolution of long-term outcomes. To solve both those problems, we hold $LE_{p,t}|\gamma$ constant at its 2001 level. Then:

$$\Delta LE_1 = m_1 LE_{\gamma,1} - m_0 LE_{\gamma,0} + (m_0 - m_1) LE_{p,0}|\gamma(\#\#)$$

Because it is unclear at what point medical care for the event ceases to influence post-event life expectancy, we create indexes with γ set at either 30, 60 or 90 days, which is the window in which we allow the benefits to change. After the 30-, 60- or 90-day window, we assume that the health of the population that experienced the event is identical to the health of the population that survived the event in the initial period of the data.[53]

Table A5 shows the results of these calculations for all three conditions and the 60-day window. The last column, the synthetic life expectancy, is a weighted average of life expectancy before 60 days in each year and life expectancy conditional on surviving past 60 days in 2001, with the weights being the 30-day mortality rate and its inverse. With the window set at 60 days, this synthetic life expectancy following a hospitalization for an AMI increased nearly 144 days between 2001 and 2014. The improvements in this synthetic life expectancy are almost entirely driven by the improvement in the 60-day survival rate from 80 percent to 87 percent with a small contribution from the 2-day increase in life expectancy of those who die in the first 60 days. When the window is set at 30 days, life expectancy post-AMI increases less, around 115 days, and when it is set at 90 days, life expectancy increases more, around 170 days. These differences are driven by the fact that 90-day mortality improved more than 60-day mortality and 60-day mortality improved more than 30-day mortality. Short-term survival and synthetic life expectancy rose for all three conditions from 2001 to 2014; however, Table A5 shows that the bulk of the increases were between 2001 and 2007, with little improvements between 2007 and 2014.

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53. For example, if the window is selected to be 30 days, and an individual in 2006 survives a heart attack for more than 30 days, we assume that the number of years that the person survives after the 30-day window is the same as someone that survived the 30-day window in 2001, where we observe survival over a 13-year period. In other words, conditional on surviving through the initial window (i.e., 30, 60 or 90 days), we hold life expectancy to be the same for the following 13-year period. This approach only allows for benefits to be realized if they occur in the window around the event, so that changes in the treatments for other conditions are less likely to play a role in the changes in outcomes. For example, if the window is 30 days and we see no change in 30-day life expectancy, then we would measure no change in quality. The shorter the window, the lower the likelihood that other conditions will impact the outcome measure. However, a shorter window may also miss some of the benefits if treatments influence long-term outcomes after the window. For example, a new treatment may not affect 30-day life-expectancy, but could improve survival between 30 and 60 days.

Table A1
Rates of comorbidities

	Acute myocardial infarction	Congestive heart failure	Pneumonia
Race			
White	88.6%	85.9%	88.6%
Black	7.3%	10.3%	7.1%
Asian	1.0%	0.9%	1.1%
Hispanic	1.7%	1.8%	1.8%
Others	1.4%	1.2%	1.5%
Other comorbidities:			
Protein-calorie malnutrition	4.8%	7.3%	10.8%
Dementia	14.3%	17.1%	25.3%
Hemiplegia, paraplegia, paralysis, functional disability	6.2%	7.1%	8.5%
Peripheral vascular disease	30.6%	36.2%	31.2%
Metastatic cancer	3.8%	4.3%	8.4%
Trauma in last year	4.9%	6.6%	7.6%
Major psychiatric disorders	4.4%	5.8%	8.1%
Chronic liver disease	1.1%	2.0%	1.6%
Cerebrovascular disease		29.9%	29.4%
Severe hematological disorders			3.5%
Iron deficiency and other blood disease			54.7%
Depression			21.2%
Parkinson's and Huntington's diseases			4.4%
Seizure disorders and convulsions			6.0%
Fibrosis of lung and other chronic lung disorders			58.5%
Asthma			15.5%
Vertebral fractures			5.2%
Number of observations for each condition	173,277	314,560	340,675

Table A2: The number of events for each condition in each year.

Year	Acute myocardial infarction	Congestive heart failure	Pneumonia
2001	15,839	24,596	27,184
2002	16,224	25,030	29,097
2003	15,942	26,683	30,393
2004	14,953	26,653	27,955
2005	13,703	25,744	30,230
2006	12,753	24,945	26,557
2007	12,066	23,023	24,299
2008	11,719	21,956	24,276
2009	10,699	21,569	21,766
2010	10,830	21,012	21,312
2011	10,099	19,799	21,462
2012	10,164	18,862	20,297
2013	9,539	18,113	19,643
2014	8,747	16,575	16,204
Total	173,277	314,560	340,675

Table A3
Mean total spending per patient

	Days after hospitalization		
	30	60	90
Acute myocardial infarction			
2001	$24,693	$28,593	$31,185
2007	$25,901	$30,159	$33,129
2014	$24,430	$28,322	$30,966
Congestive heart failure			
2001	$14,613	$18,736	$21,864
2007	$16,829	$21,561	$25,227
2014	$17,521	$22,685	$26,479
Pneumonia			
2001	$14,351	$17,725	$20,047
2007	$14,807	$18,570	$21,177
2014	$15,966	$19,986	$22,883

Notes: Figures are deflated with the GDP deflator to 2014 levels.

Table A4. Risk-adjusted survival rates and life expectancy following hospitalizations

	Number of days after hospitalization		
	30	60	90
Year	Survival rates		
Acute myocardial infarction			
2001	83.8%	79.5%	76.8%
2007	88.7%	85.5%	83.2%
2014	90.1%	87.0%	85.2%
Congestive heart failure			
2001	90.0%	84.6%	80.7%
2007	91.8%	87.1%	83.5%
2014	92.4%	87.1%	83.3%
Pneumonia			
2001	86.2%	80.8%	77.4%
2007	91.1%	86.6%	83.5%
2014	91.7%	87.0%	83.9%

Notes: Survival rates and life expectancy are risk-adjusted as described in Appendix 2.

Table A5

Syntheic life expectancy post-event holding long-term life expectancy constant at its 2001 level, 60-day window

Year	Life expectancy (days) before 60 days	60-day survival rate	Life expectancy (days) conditional on surviving 60 days in 2001	Synthetic life expectancy (days)
Acute myocardial infarction				
2001	13.3	79.5%	1941.9	1547.1
2007	14.5	85.5%	1941.9	1662.0
2014	15.3	87.0%	1941.9	1691.1
Congestive heart failure				
2001	22.2	84.6%	1254.2	1064.6
2007	23.2	87.1%	1254.2	1094.9
2014	24.8	87.1%	1254.2	1095.9
Pneumonia				
2001	19.3	80.8%	1418.7	1150.3
2007	22.0	86.6%	1418.7	1230.8
2014	23.1	87.0%	1418.7	1237.5

Notes: Life expectancies and survival rate are risk-adjusted as described in Appendix 2. Long-term life expectancy is measured

Table A6. Prices per incremental successful outcome 2001-2014

Year	Mean total 60-day spending per patient	Rate of successful treatment (survival to 60 days without an unplanned readmission)	Assumed success rate of untreated cases	Price per incremental successful treatment
Acute myocardial infarction				
2001	$28,593	59.7%	20.0%	$72,022
2007	$30,159	66.6%	20.0%	$64,760
2014	$28,322	70.1%	20.0%	$56,565
Congestive heart failure				
2001	$18,736	61.4%	20.0%	$45,290
2007	$21,561	64.7%	20.0%	$48,289
2014	$22,685	66.2%	20.0%	$49,144
Pneumonia				
2001	$17,725	63.0%	20.0%	$41,259
2007	$18,570	68.7%	20.0%	$38,170
2014	$19,986	70.1%	20.0%	$39,900

Notes: Spending is deflated to 2014 dollars with the GDP deflator.
Spending and survival rates are risk-adjusted as described in appendix 2.

Table A7. Hypothetical Adjustment to BLS Multifactor Productivity Estimate for Hospitals and Nursing and Residential Care Facilities (NAICS 622, 623)

	BLS (current)								Alternative Adjusted Productivity		
	Real output	Price indexes	Nominal output	Annual Price Index Growth	New Price Index	Real combined inputs	Productivity	Productivity growth	New price index (rebased)	New real output	New productivity
2001	74.66	79.87	5963.49	1.00	51.80	73.92	1.01	-0.01	1.02	58.30	0.79
2002	79.44	81.90	6506.37	0.99	51.50	78.81	1.01	0.00	1.02	63.98	0.81
2003	81.96	84.32	6911.45	1.00	51.41	81.58	1.00	0.00	1.02	68.08	0.83
2004	84.00	87.16	7321.44	1.00	51.52	82.96	1.01	0.01	1.02	71.97	0.87
2005	88.77	90.01	7989.74	1.00	51.59	88.97	1.00	-0.01	1.02	78.44	0.88
2006	91.27	92.93	8480.89	1.00	51.64	91.27	1.00	0.00	1.02	83.18	0.91
2007	93.82	95.66	8974.81	1.00	51.54	95.03	0.99	-0.01	1.02	88.19	0.93
2008	95.87	98.77	9469.09	1.00	51.59	96.33	1.00	0.01	1.02	92.95	0.96
2009	100.00	100.00	10000.00	0.98	50.64	100.00	1.00	0.00	1.00	100.00	1.00
2010	103.41	101.94	10541.61	0.99	50.05	104.11	0.99	-0.01	0.99	106.66	1.02
2011	106.24	105.00	11154.78	1.00	49.99	107.84	0.99	-0.01	0.99	113.01	1.05
2012	111.13	106.07	11787.47	0.98	48.96	113.74	0.98	-0.01	0.97	121.93	1.07
2013	114.05	108.06	12324.27	0.99	48.36	117.31	0.97	0.00	0.95	129.06	1.10
2014	117.17	110.06	12894.83	0.99	47.75	121.08	0.97	0.00	0.94	136.76	1.13
2015	124.61	110.96	13826.60	0.98	46.68	128.89	0.97	0.00	0.92	150.02	1.16

Notes: The BLS estimates of multifactor productivity taken from the table of productivity for the nonmanufacturing industries (https://www.bls.gov/mfp/mprdload.htm). The adjustment to the BLS estimates is based on the difference in the weighted unadjusted price index, which grows at 1.1 percent per year, and the LE quality-adjusted index that grows at -3.1 percent per year, assuming a 60 day window and a value of a life of $50,000 per year.

Table A8
LE Reservation Price Index for Innovations (VSLY $100k): By Disease Category, Type Of Intervention, Funding Sponsor, and Type of Study

	All			High Score		
Disease Category	Obs.	Mean	Median	Obs	Mean	Median
Cardiovascular	1,577	0.77	0.78	1,149	0.76	0.77
Digestive	479	0.90	0.91	277	0.85	0.90
Endocrine Disorders	700	0.71	0.74	466	0.76	0.82
Infectious	1,792	0.65	0.64	1,234	0.65	0.64
Malignant Neoplasms	1,855	0.83	0.85	1,267	0.85	0.86
Maternal/Child	68	0.74	0.89	32	0.79	0.91
Musculoskeletal/Rheumatologic	804	0.81	0.87	509	0.80	0.88
Neuro-Psychiatric/Neurological	718	0.88	0.90	500	0.92	0.92
Other	1024	0.73	0.73	519	0.77	0.81
Respiratory	278	0.76	0.74	184	0.78	0.75
Sense Organ	158	0.74	0.73	101	0.76	0.69
Intervention						
Care Delivery	342	0.75	0.80	198	0.74	0.82
Device	324	0.68	0.68	202	0.67	0.66
Diagnositc	372	0.85	0.93	253	0.91	0.96
Education	204	0.75	0.76	141	0.78	0.87
Immunization	276	0.68	0.76	195	0.74	0.80
Pharmaceutical	4,951	0.77	0.77	3,474	0.79	0.78
Procedure	1,200	0.75	0.75	746	0.73	0.75
Screening	1,196	0.83	0.96	724	0.84	0.97
Surgical	497	0.72	0.68	268	0.71	0.75
Funding Sponsor						
Foundation	679	0.72	0.86	463	0.74	0.88
Government	2,702	0.79	0.87	1,761	0.81	0.88
Health Care Organization	442	0.85	0.86	317	0.83	0.86
Other	2,525	0.76	0.76	1,609	0.78	0.80
Pharma or Device Manuf.	2,969	0.75	0.75	2,035	0.75	0.76
Prof Member Organization	136	0.71	0.66	53	0.67	0.62
Type of Study						
Meta-Analysis	565	0.82	0.82	415	0.84	0.85
Other	2,112	0.83	0.85	1,146	0.84	0.88
Randomized	3,147	0.76	0.76	2,115	0.77	0.77
Simulation	3,629	0.73	0.80	2,562	0.74	0.81

Notes: The indexes are reported along two categorical dimensions in this table: disease chapter of the illness being treated and the type of innovation being tested in the study. The reviewers of the medical studies that enter the studies in the CEA database score the quality of the research on various dimensions. An overall rating is included in the database indicating the quality of the study. Following Hult et al. we report overall estimates and estimates based only on those studies with a rating at or above the median. The indexes at the bottom and top 1 percent of the distribution have been removed for the construction of this table.

Table A9
TE Index for Innovations: By Disease Category, By Type Of Intervention, Funding Sponsor, and Type of Study

	All			High Score		
Disease Category	Obs.	Mean	Median	Obs	Mean	Median
Cardiovascular	1,592	1.29	1.03	1,156	1.23	1.03
Digestive	487	1.35	1.06	280	1.26	1.04
Endocrine Disorders	702	1.20	1.02	466	1.21	1.03
Infectious	1,788	1.37	1.08	1,229	1.36	1.08
Malignant Neoplasms	1,859	1.44	1.09	1,273	1.49	1.10
Maternal/Child	64	1.26	1.00	29	1.12	1.00
Musculoskeletal/Rheumatologic	809	1.30	1.03	518	1.33	1.03
Neuro-Psychiatric/Neurological	721	1.24	1.01	502	1.17	1.02
Other	1005	1.45	1.03	521	1.40	1.04
Respiratory	273	1.44	1.08	180	1.53	1.08
Sense Organ	155	1.57	1.10	100	1.66	1.13
Intervention						
Care Delivery	340	1.26	1.01	198	1.13	1.02
Device	328	1.32	1.04	204	1.26	1.04
Diagnositc	379	1.16	1.01	256	1.16	1.01
Education	196	1.27	1.02	138	1.24	1.03
Immunization	272	1.62	1.05	192	1.38	1.04
Pharmaceutical	4,975	1.39	1.05	3,493	1.35	1.05
Procedure	1,203	1.34	1.06	755	1.35	1.06
Screening	1,174	1.28	1.04	712	1.40	1.06
Surgical	499	1.29	1.06	270	1.37	1.10
Funding Sponsor						
Foundation	682	1.41	1.06	466	1.41	1.08
Government	2,720	1.38	1.06	1,772	1.40	1.06
Health Care Organization	431	1.37	1.06	306	1.41	1.05
Other	2,519	1.44	1.06	1,614	1.42	1.07
Pharma or Device Manuf.	2,970	1.24	1.02	2,046	1.20	1.02
Prof Member Organization	133	1.40	1.12	50	1.42	1.02
Type of Study						
Meta-Analysis	569	1.28	1.03	420	1.26	1.03
Other	2,119	1.37	1.05	1,155	1.38	1.04
Randomized	3,125	1.31	1.04	2,105	1.30	1.05
Simulation	3,642	1.39	1.05	2,574	1.37	1.05

Notes: The indexes are reported along two categorical dimensions in this table: disease chapter of the illness being treated and the type of innovation being tested in the study. The reviewers of the medical studies that enter the studies in the CEA database score the quality of the research on various dimensions. An overall rating is included in the database indicating the quality of the study. Following Hult et al. we report overall estimates and estimates based only on those studies with a rating at or above the median. The indexes at the bottom and top 1 percent of the distribution have been removed for the construction of this table.

Table A10. Process Measures of Quality from Hospital Compare

	Percent of patients given the following recommended treatment						
Process Measure for Patients Given:	2004	2005	2006	2007	2008	2009	% Increase
Condition: Heart Attack							
ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD)	82	83	87	91	94	96	16.8%
Aspirin at Arrival	94	95	97	97	98	98	4.2%
Aspirin at Discharge	94	96	97	97	98	98	4.2%
Beta Blocker at Discharge	93	95	96	97	98	98	6.0%
Smoking Cessation Advice/Counseling	87	92	97	98	99	99	14.9%
Condition: Heart Failure							
ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD)	81	83	86	90	92	94	16.2%
Assessment of Left Ventricular Function (LVF)	87	90	93	94	96	98	11.7%
Discharge Instructions	52	58	71	76	82	88	68.9%
Smoking Cessation Advice/Counseling	74	83	92	95	97	98	33.5%
Condition: Pneumonia							
Patients Assessed and Given Pneumococcal Vaccination	52	62	78	83	88	93	78.0%
Initial Antibiotic(s) within 4 Hours After Arrival	72	75	81	93	94	95	31.1%
Smoking Cessation Advice/Counseling	70	79	90	92	95	97	38.5%
The Most Appropriate Initial Antibiotic(s)	77	80	87	89	89	91	18.3%
Blood Culture Performed Prior to First Antibiotic Received in Hospital	82	83	90	91	93	95	15.7%
Surgical Infection Prevention							
Received Preventative Antibiotic(s) One Hour Before Incision	77	81	86	89	93	96	24.7%
Preventative Antibiotic(s) are Stopped Within 24 hours After Surgery	64	69	78	84	90	94	45.7%

Notes: The estimates from this table come from authors calculation from the Hospital Compare database archives from the Center for Medicare and Medicaid services (https://data.medicare.gov/data/archives/hospital-compare). The estimates are based on a simple weighted averages across all hospitals in the database where the weight is determined by the sample size at each hospital. Quality measures that were discontinued or continued in the middle of the sample range are not shown. The year reported in this table is based on the year the information was gathered from the hospital, which is typically lagged one year in the database. For instance, the process measures for 2004 are from the 2005 hospital compare database.

APPENDIX 3

Additional theoretical discussion

A simple model for comparing across methods for discrete technologies: To further compare these methods for creating quality-adjusted or quality-constant price indexes for medical care, and to deepen our understanding of how they relate to one another, consider the following simple model for a condition that has two differentiated treatments (T_1 and T_2) and has an endpoint that delivers a mean value of M QALYs. M multiplied by the monetary value of one QALY is equal to B:

- T_i has cost C_{it} in period t and patients receiving T_i reach the endpoint with a mean probability of π_i.
- The proportion of patients in period t receiving T_1 is q_t so $1 - q_t$ receive T_2.
- If the condition receives no medical care, patients reach the endpoint with a probability of π_3. While π_3 in this model represents the case without medical care, in practice everyone receives medical care.
- $C_{1t} > C_{2t}$ in each period t and $\pi_1 > \pi_2 > \pi_3$. T_1 is both more expensive and more effective than T_2, and T_2 is more expensive and more effective than no medical treatment at all.
- T_i is reimbursed to the provider at $R_{it} = C_{it} * m_t$ where m_t is the markup in period t.
- There are two periods, 0 and 1.

From this set-up it can be extrapolated that:

- The average spending on the condition in period t is given as $S_t = q_t R_{1t} + (1 - q_t) R_{2t}$.
- The percent reaching the endpoint of treatment in period t is equal to $q_t \pi_1 + (1 - q_t)\pi_2$.
- The incremental percent of total cases for which medical care is responsible for reaching the endpoint is equal to $q_t \pi_1 + (1 - q_t)\pi_2 - \pi_3$, i.e., the percent receiving the endpoint if no one received medical care subtracted from the percent reaching the endpoint in actuality.
- The change in the percent of patients reaching the treatment endpoint between period 0 and period 1 is written $\Delta q * (\pi_1 - \pi_2)$, where $\Delta q = q_1 - q_0$.
- The unadjusted index (UI) is written $UI = \frac{S_1}{S_0}$.

We can then write down the associated formulas each of the four indexes, assuming data for all of the variables above are available.

Life expectancy (LE) index: An index adjusted for quality by making a direct quality adjustment based on the changes in the benefits of medical care is written $\frac{S_1 - \Delta q * (\pi_1 - \pi_2) * B}{S_0} = UI - \frac{\Delta q * (\pi_1 - \pi_2) * B}{S_0}$.

Treatment endpoint (TE) index: A constant-quality index that measures the relative change in price of meeting the treatment endpoint, such as that created by Berndt et al. (2002), will be written

$$\frac{\frac{S_1}{q_1\pi_1+(1-q_1)\pi_2-\pi_3}}{\frac{S_0}{q_0\pi_1+(1-q_0)\pi_2-\pi_3}} = UI * \frac{q_0\pi_1+(1-q_0)\pi_2-\pi_3}{q_1\pi_1+(1-q_1)\pi_2-\pi_3}.$$

Hedonic index: A constant-technology index that measures the changes in the prices of treatment baskets and aggregates these prices holding the shares receiving the treatment or technology constant using a Fisher index formula, such as that created by Frank et al. (2004), will be written

$$\sqrt{\frac{q_0R_{11}+(1-q_0)R_{21}}{q_0R_{10}+(1-q_0)R_{20}} * \frac{q_1R_{11}+(1-q_1)R_{21}}{q_1R_{10}+(1-q_1)R_{20}}} = \sqrt{UI * \frac{q_0R_{11}+(1-q_0)R_{21}}{q_1R_{10}+(1-q_1)R_{20}}}.$$

Resource-cost (RC) index: An index based on the change in costs originating from quality improvements will be constructed by applying that change to the unadjusted index. The total change in spending can be written:

$$S_1 - S_0 = \Delta q * (C_{11}m_1 - C_{21}m_1) + q_0 * (C_{11}m_1 - C_{10}m_0) + (1 - q_0) * (C_{21}m_1 - C_{20}m_0)$$

The first term represents the change in spending coming from the change in quality and is therefore the quality adjustment to be put into the cost-based index, which we will call the RC index: $\frac{S_1-\Delta q*(C_{11}m_1-C_{21}m_1)}{S_0} = UI - \frac{\Delta q*(C_{11}m_1-C_{21}m_1)}{S_0}$. When constructing this type of index based on production costs, the BLS includes the markup to costs in the adjustment so this index can then be written: $UI - \frac{\Delta q*(R_{11}-R_{21})}{S_0}$ (BLS, 2014). The last two terms measure the changes in the reimbursements of the same treatments over time and therefore capture pure inflation.

Next, we examine how the different indexes may deviate from each other and from a COLI estimate of a quality change. We explore how the other indexes perform relative to the LE index under alternative scenarios:

1. If $q_1 = q_0$, there are no changes in treatment patterns and therefore no need for quality adjustment. In that case, all four indexes are appropriately equal to the unadjusted index.
2. If $B = 0$, that is, if achieving the treatment endpoint does not deliver any benefit at all, the LE index will be appropriately equal to the unadjusted index but the other three indexes will not. The TE index, for example, will still measure the changes in the price of achieving the treatment endpoint whether or not achieving that endpoint has any meaning. It is essential therefore when constructing this type of index to choose a treatment endpoint that is medically meaningful.
3. If $\pi_1 = \pi_2$, that is, if both treatments are equally effective and there is therefore no actual change in quality, the LE index and the TE index are both appropriately equal to the unadjusted index. The hedonic and RC indexes, however, will differ from the unadjusted index. This reflects a weakness of these indexes, that whether or not they are meaningful depends on whether the shifts in q reflect actual improvements in treatment. However, it is questionable whether shifts to newer, more expensive treatments or increases in intensity of treatment always reflect actual differences in efficacy in health care.

4. If both treatments cost the same in both periods but $q_1 \neq q_0$, so there is quality change but no change in spending other than general inflation, the hedonic and RC indexes are inappropriately equal to the unadjusted index. These indexes assume quality changes are only reflected in changes in spending. However, as noted above, quality in health care can improve (decline) without increases (decreases) in spending.

In general, the other indexes approximate the LE index most closely when the value of the changes in quality lines up with the changes in spending.

If we set the LE and TE indexes equal, for example, and solve the value of the change in quality $\Delta q * (\pi_1 - \pi_2) * B$, they are equal when $B = \frac{S_1}{q_1\pi_1+(1-q_1)\pi_2-\pi_3}$, or in other words, when the monetized medical value of achieving the treatment endpoint is equal to the price of achieving that endpoint in period 1. This equality holds when consumers are indifferent between receiving health benefits or paying medical care expenditures. In a more realistic scenario, consumers actually receive some net benefit from treatment, so we should expect $B > \frac{S_1}{q_1\pi_1+(1-q_1)\pi_2-\pi_3}$. Specifically, one could think of consumers as sorted across treatments based on their preferences and the preferences of their doctors, which may be viewed as random. Under this scenario, all the inframarginal consumers receive a benefit from treatment and only the marginal consumer pays an amount equal to her benefit.

Similarly, if we set the LE and hedonic indexes equal, we find they are equal when $\Delta q * (\pi_1 - \pi_2) * B = S_0 * (UI - hedonic) = S_0$*(%Δspending - %Δquality-constant spending)*. They are therefore equal when the monetized value of the change in outcomes is equal to the rise in spending that is due to quality change.

Finally, the LE and RC indexes are equal when $(\pi_1 - \pi_2) * B = R_{11} - R_{21}$ or when the monetized value of the differences in outcomes between the two treatments is exactly equal to the difference in their prices in period 1.

Incorporating innovative new treatments: Let us hypothesize a medical innovation with a new treatment endpoint that delivers $B_2 > B$ in monetized quality-adjusted life years (QALYs), that costs R_{31}, and that 100% of patients receive in period 1, the first period it is available. The LE index can be calculated as $\frac{S_1-B_2}{S_0}$ and the QALY index can be calculated as $\frac{\frac{S_1}{B_2}}{\frac{S_0}{q_0\pi_1+(1-q_0)\pi_2-\pi_3}}$ because monetized QALYs are a universal metric that can be used to compare the values of all treatments. However, constructing the other indexes require treatments to be comparable across periods. The TE and hedonic indexes cannot be calculated without identical endpoints or treatment baskets across periods. The RC index is challenging to calculate as well because $S_1 - S_0 = R_{31} - (q_0R_{10} + (1 - q_0)R_{20})$, so it may be difficult to split up spending into those components deriving from general inflation and those deriving from the quality change. The advantage of the hedonic and RC indexes, however, is that they can be constructed without knowing B or observing outcomes, information which is often unknown to the economist constructing the

index. They do, however, require creating treatment baskets or characteristics which cannot be computed without medical expertise.

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Message Testing to Combat Public Charge's Chilling Effect in California

MARCH 2020

AUTHOR
Vision Strategy and Insights

Contents

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Project Background

Historically, the public charge rule allowed immigration officials to deny an application for permanent residence ("green card") or certain other visas if the applicant was determined likely to depend on the government as their primary source of support. In the past, use of cash welfare and government-funded long-term care were the only public benefit programs that counted against applicants.

In 2018 the Trump administration proposed changes that redefined public charge, including expanding the list of public benefits that count against applicants to include nonemergency Medicaid ("Medi-Cal" in California) for those 21 and over (unless pregnant), federal housing assistance, and SNAP ("CalFresh" in California).

The changes to the public charge rule, along with other federal immigration policy and rhetoric, has created fear and confusion. Many low-income California immigrants and their families, **including those who aren't subject to public charge**, are avoiding use of public benefit programs.

This confusion extends to low-income undocumented young adults who are newly eligible for state-funded full-scope Medi-Cal starting in 2020.

Project Objectives

This study focused on **California immigrants who are not subject to public charge** but who are at high risk of avoiding public benefits. It examined respondents' knowledge of the public charge rule and its impact on their willingness to enroll or stay enrolled in public benefit programs.

Key objectives of the study included:

- Quickly identify legally accurate messages and trusted messengers effective at encouraging **low-income California immigrants not subject to public charge** to keep using the public benefits they are eligible for, CalFresh and Medi-Cal.
- Better understand what messages work across diverse immigrant groups and important differences between groups when it comes to effective messaging.
- Based on testing, provide messaging recommendations to organizations and individuals who are communicating with immigrant populations about enrollment in public benefits and about public charge.

One focus group was designed to identify effective messages and messengers to specifically encourage low-income, young adult immigrants to enroll in Medi-Cal.

Study Limitations

Shifting Policy on Public Charge

This study took place in December 2019, when the new public charge rule **was not in effect**, due to a nationwide preliminary injunction. On January 27, 2020, the Supreme Court struck down the nationwide preliminary injunction. As of February 24, 2020, the new public charge rule went into effect in all states.

Although research was conducted in a different policy environment, it still offers useful insights. We highlight recommendations that still apply, even though the new rule is now in effect. We also identify unknowns around messaging that may need to be addressed with future testing, given the change in the policy environment.

Scope and Applicability

Focus groups took place in a single location in California.

Focus was on messaging to immigrants who, based on their immigration status, are **not** subject to the public charge test, rather than those subject to the test. Recommendations for communicating with individuals subject to public charge is beyond the scope of this project.

Methodology

Six focus groups were conducted in Los Angeles in December 2019. Six to eight respondents participated in each two-hour group.

Five were focused on public charge, and one (group 6) on Medi-Cal expansion in the context of public charge.

Recruiting criteria included self-reported household incomes that would qualify them for CalFresh and Medi-Cal. Groups 1 to 5 reported immigration statuses not subject to public charge.

With each group, the moderator explored questions about the immigrant experience generally, familiarity with public charge and public programs, and reactions to existing sample print materials in use and to KeepYourBenefits.org, an online interactive tool.

Groups were conducted by bilingual, bicultural moderators reflecting each group.

Table 1. Focus Groups, by Segment and Language

GROUP	SEGMENT	LANGUAGE
1	Latinx / Spanish-preferred / recent immigrants	Spanish
2	Latinx / Spanish-preferred / long-term* US residents	Spanish
3	Latinx / English-preferred / long-term* US residents	English
4	Asian American	Chinese
5	Asian American	Vietnamese
6	Young adults 19–25 / undocumented/DACA/ other status / English-preferred	English

**Long-term* is defined as 10 or more years in the United States.

Key Findings and Recommendations: Public Charge

Usage of Public Benefits

Respondents described uncertainty and fear about enrolling in benefits, even when they knew they qualified.

"As a matter of fact, my son when he goes to school, some people apply for subsidies from the government, but we dare not do that. Because we are afraid that if we get benefits, when we go to get our status legalized there will be some problems for that."

— Chinese respondent

"Last week, my wife had an appointment with a social worker for Medi-Cal and food stamps, but they started asking for income tax and she decided not to. First of all, we're in the process of her becoming a resident, so I don't want any trouble. I decided not to take any government aid. I don't know for sure, but I decided not to do anything. . . ."

— Latinx respondent

"I think somebody said that if we receive too many benefits later on if we want to be a US citizen, it will be harder to become a citizen."

— Vietnamese respondent

Respondents were also concerned that sponsors or their children would be charged the value of the public benefits that they utilized.

Food stamps (which was *not* included in the public charge test at the time of the research) was viewed as similar to "cash benefits" and therefore respondents believed it "counted against you" in a public charge determination.

Sources of Information

Sources of information about "public charge" among Latinx respondents were primarily lawyers and social workers. Among Chinese respondents, the primary sources of information on this issue had been insurance agents, and among Vietnamese respondents, the primary information source was Vietnamese TV.

Other sources of information included the Mexican Consulate, US Immigration Services website, online research, organizations who serve immigrants like Medi- Cal, Twitter (Chinese), WeChat (Chinese), government offices, and word of mouth.

Media sources of information include Al Rojo Vivo, Channels 34 (Univision) and 52 (Telemundo), local radio (Vietnamese), *World Journal* (Chinese), *Total Headline News* (Chinese), *World News* (Chinese), newspapers (Vietnamese), and YouTube (Vietnamese)

Respondents identified sources of incorrect information on public charge as Al Rojo Vivo, social media like Facebook and WeChat, newspapers (Vietnamese), and word of mouth.

Messaging: Key Findings

In general, findings were consistent across groups, except when noted below.

Participants viewed government agencies as the most credible source of information on the subject of public charge (can depend on municipality; may not be the case outside of California).

- Immigrant advocacy organizations were also credible, but not as much as government.
- Participants considered .gov websites more credible than .org websites.

There is high awareness of the issue of public charge — most expressed that applying for and/or using public benefits might put your immigration status at risk.

- However, not all participants were familiar with the term "public charge."
- There is also confusion over whether "public charge" applies to them, and for some, whether it applies to their families.
- Confusion is further fueled by some imprecise translations of public charge–related terms into Vietnamese and Chinese.

Misinformation and cautious advice from friends, family, and community, as well as trusted sources, such as lawyers and social workers, foster confusion.

- Many are reticent to do anything to put their future immigration status (and those of their family) in jeopardy.
- Even when questions are answered, there is still reticence to take a risk, which is fueled by concern that the rules could change at any time.
- Misinformation/cautious advice is less of a concern to Vietnamese participants.

Respondents were just as much interested in understanding that they are not subject to public charge as in knowing who is subject. This serves as a double validation tool.

Most were not aware that benefits available to the children of immigrants would not impact the parents' immigration status.

Respondents reported getting very little information about public charge where and when they need it most, such as Medi-Cal and other social service offices, legal offices, etc.

- Many are also combatting a lack of information among family, friends, and community members.

Top Messaging Recommendations

1. **Include the publication "sponsor," ideally a government agency.**
2. **Provide a consistent definition of public charge, including:**
   - A clear list or grouping of those who *are not* affected by public charge as well as a clear list or grouping of those who *are* affected by public charge.
   - Specify that "conditional" green card holders, like other green card holders, are not subject to public charge.
3. **Be explicit that benefits available to the children of immigrants do not impact the parents' immigration status.**
4. **Feature a website and telephone number(s)** to obtain more information and to further verify the source, and thus credibility, of the information.
5. **Date materials** so that readers can assess the timeliness of the publication; note any updates with a date as well.

Other Recommendations

Design Elements

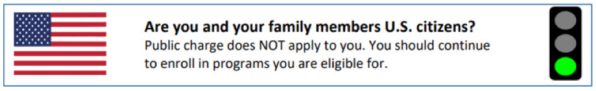
Factual information was a higher priority for respondents than layout or design. However, visuals help draw the eye and provide relief from lots of copy. These tested particularly well:

- Stoplight motif and clearly demarcated boxes (below) were useful in showing which populations are subject to public charge and which aren't. (Some respondents wanted to see green, yellow, and red lights if stoplights used.)

Does "Public Charge" in the Immigration Process Apply to Me?

NOT If You Are:

- A Citizen
- A Legal Permanent Resident
- A Refugee
- An Asylee
- A T-Visa Applicant
- Applying for or holding a U-Visa
- A self petitioner under VAWA
- Applying or re-registering for TPS
- An Afghan and Iraqi Special Immigrant
- A Special Immigrant Juvenile
- An Individual Granted Relief Under CCA, NACARA, or HRIFA



- Visuals of people using benefits (below). Be sure to include benefit programs for individuals as well as families. (Participants also noted they preferred photographs over illustrations.)

Distribution

Provide trusted and reliable public charge information in key community locations and through channels that immigrants and their families rely on. Participants said this is where they would want to see materials on public charge:

- Churches
- Hospitals, clinics
- County social services and other public services offices
- Public libraries
- Children's schools
- Lawyers' offices
- Social media
- TV commercials
- Morning shows (Spanish TV)

What We Don't Know

Because the study was conducted before the new rule went into effect, more testing may be needed to understand whether certain findings hold. For example:

- One key finding of the study was that participants liked seeing clear lists of the public benefits considered under public charge (at the time of the study, only long-term care and cash welfare), and those that are not.
- Similar to the "Who is subject to public charge?" question, the "double validation" of seeing a certain benefit, like Medi-Cal, on the "safe" list and *NOT* on the "risky" list was reassuring.

NOW . . .

- Would it still be effective to list the benefits considered under public charge, as it will now include nonemergency Medi-Cal for nonpregnant adults and CalFresh?
- While the study's target population remains not subject to public charge, would simply seeing that those benefits are considered under public charge stoke fear and serve as a deterrent?

Key Findings and Recommendations: Medi-Cal Expansion

Public Charge

None of the respondents knew the term "public charge," but they had heard that using public benefits could impact future changes in immigration status, cost them money in the future, or lead to deportation.

None of the respondents were aware that undocumented young adults would be eligible for full-scope Medi-Cal in January 2020.

- Many had been enrolled in Medi-Cal as children but had aged out. Most had not pursued other options out of risk aversion.

RECOMMENDATION

Communications materials should be clear on the following:

- All low-income Californians 19–25 qualify "regardless of immigration status."
- The requirements to sign up (e.g., "all you need is your ID and a check stub").
- Which benefits and services are covered under Medi-Cal.
- The information shared on applications won't be shared with immigration.
- Services through Medi-Cal are provided at little to no cost.
- Specify that it's a State of California program.
- Add a phone number and/or website to indicate available assistance.

Distribution

Respondents identified ".org" and ".gov" websites as more likely to be reliable sources, compared to other sources that come up when searching the web.

These younger adults are more reliant on electronic mediums to fulfill their information needs.

RECOMMENDATION

Leverage online media utilized more frequently by these young people to distribute Medi-Cal expansion information:

- Social media (Facebook, Instagram)
- Videos from experts — people like them who have already applied / been accepted

Design Elements

Some of the communications materials shown in the groups received a positive reaction to the graphic elements, while others received a more negative reaction.

- An arm in a cast making a fist was perceived to be empowering.
- Comic book style graphics were seen as cartoon-like and for a much younger audience.

RECOMMENDATION

Use graphics that respondents can relate to, such as:

- Elements that represent the life, struggles, and opportunities experienced by immigrants .
- Photographs that directly relate to obtaining medical services, as illustrations run the danger of being perceived to be cartoonish. Appropriate examples include Medical providers, Latinx and people of other ethnicities receiving medical care, and people going online.
- Balance of graphics and copy. Use of bullet points helps to cut copy to most salient points.

Questions?

Findings also available at:
www.chcf.org/public-charge-msg

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Resources

Interactive tools to help immigrants and those who assist them understand recent changes in public charge rules:

- Online at KeepYourBenefitsCA.org or tusbeneficiospublicos.org. The online tools are available in English, Spanish, and Chinese at either site.
- By texting "benefits" (for English), "libre" (for Spanish), "福利" (for Chinese), or "lợiích" (for Vietnamese) to 650-376-8006.