Reports and Research
Table of Contents
June 26, 2019 Board Meeting

About Covered California

- *Affordability on California's Individual Market Under the ACA: Despite Tremendous Progress, Coverage Still Too Expensive for Many – **California Health Care Foundation***
  May 1, 2019

- *Nonparametric Estimates of Demand in the California Health Insurance Exchange – **National Bureau of Economic Research***
  May 1, 2019

- *What are Consumers Willing to Pay for a Broad Network Health Plan?: Evidence from Covered California – **Journal of Health Economics***
  May 1, 2019

Other Reports and Research

- *Unplugging the Third Rail: Choices for Affordable Medicare – **CATO Institute***
  June 7, 2019

- *Proposed Change to ACA Enrollment Policies Would Boost Insured Rate, Improve Continuity of Coverage – **Center on Budget and Policy Priorities***
  June 5, 2019

- *Silver Linings For Silver Loading – **Health Affairs Blog***
  June 3, 2019

- *Effects of Alternative Insurer Responses to Discontinued Federal Cost-Sharing Reduction Payments – **Rand Corporation***
  June 1, 2019

- *Health Care Programs for California Immigrants – **Insure the Uninsured Project***
  June 1, 2019

- *FAQ: The Trump Administration's Proposal to Lower the Federal Poverty Line – **Center on Budget and Policy Priorities***
  May 30, 2019

- *Healthcare Costs Top Financial Problem for U.S. Families – **Gallup***
  May 30, 2019

- *Trump Administration's Overbroad Public Charge Definition Could Deny Those Without Substantial Means a Chance to Come to or Stay in the U.S. – **Center on Budget and Policy Priorities***
  May 30, 2019

- *One in Seven Adults in Immigrant Families Reported Avoiding Public Benefit Programs in 2018 – **Urban Institute***
  May 22, 2019

- *Poverty Line Proposal Would Cut Medicaid, Medicare, and Premium Tax Credits, Causing Millions to Lose or See Reduced Benefits Over Time – **Center on Budget and Policy Priorities***
  May 22, 2019

- *Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2019 to 2029 in 12 Slides – **Congressional Budget Office***
  May 20, 2019

- *Coverage for Abortion Services in Medicaid, Marketplace Plans and Private Plans – **Kaiser Family Foundation***
  May 17, 2019

- *2019-20 Governor's Budget May Revision Highlights – **Insure the Uninsured Project***
  May 14, 2019

- *Individual Insurance Market Performance in 2018 – **Kaiser Family Foundation***
  May 7, 2019

- *Federal Subsidies for Health Insurance Coverage for People Under Age 65: Tables From CBO's May 2019 Projections – **Congressional Budget Office***
  May 2, 2019

- *Erasing the Affordable Care Act: Using Government Web Censorship to Undermine the Law – **Sunlight Foundation***
  May 1, 2019

- *Evolving Care Models - Aligning Care Delivery to Emerging Payment Models –* ***American Hospital Association***
  May 1, 2019

- *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey, 2018 –* ***National Center for Health Statistics***
  May 1, 2019

- *Insurance-Based Disparities in Access, Utilization, and Financial Strain for Adults with Psychological Distress –* ***Health Affairs***
  May 1, 2019

- *Medicaid Investments to Address Social Needs In Oregon and California –* ***Health Affairs***
  May 1, 2019

- *Policy Principles to Guide Health Care's Role in Social Interventions –* ***Community Catalyst***
  May 1, 2019

- *Zero-Premium Health Insurance Plans Became More Prevalent In Federal Marketplaces In 2018 –* ***Health Affairs***
  May 1, 2019

- *IMPACT! How Consumers Have Shaped Health System Delivery Reform –* ***Center for Consumer Engagement in Health Innovation***
  April 23, 2019

- *Risk Equalization in Competitive Health Insurance Markets: Identifying Healthy Individuals on the Basis of Multiple Year Low Spending –* ***Health Services Research***
  April 1, 2019

California Health Care Foundation

Affordability on California's Individual Market Under the ACA: Despite Tremendous Progress, Coverage Still Too Expensive for Many

The Affordable Care Act (ACA) created new, more-affordable health coverage options for low- and moderate-income consumers by expanding Medicaid (called Medi-Cal in California) and providing subsidies to those purchasing their own coverage on the individual market. Five years into the full implementation of the ACA, close to five million Californians benefit from these new options. However, costs remain high for some, particularly for many purchasing coverage in the individual market.

This issue brief explores trends in key data on the affordability of health coverage in California, to highlight both progress and remaining challenges to affordability on the state's individual market under the ACA.

Introduction

California's individual health insurance market is a crucial backstop for people who cannot access affordable health insurance through the ways most Californians gain coverage — jobs, Medi-Cal, and Medicare. About 2.2 million Californians currently participate in the individual market, with about 1.3 million buying through Covered California, the state's ACA health insurance marketplace, and the rest purchasing coverage off-exchange.[1]

Affordability challenges have always tended to be worse for those on the individual market because these consumers don't have an employer helping to cover the cost of their health care. The ACA was designed to help by offering premium subsidies and other assistance to reduce out-of-pocket costs for low- and moderate-income consumers who purchase insurance through the ACA health insurance marketplace. Roughly 1.2 million Californians receive financial assistance when purchasing coverage on the individual market through Covered California.[2]

Despite this progress, a 2017 survey found that 40% of enrollees in California's individual market reported that it was somewhat or very difficult to afford their premiums in the past year. Roughly one-third reported having difficulty paying for deductibles, co-insurance, and copays when they access health care. Nearly a third reported overall financial stress due to

Issue Brief

health care costs, which resulted in cutting back on necessities like food and rent, borrowing money, or both.[3]

To better understand affordability challenges for Californians purchasing insurance through the individual market, this brief will explore three key data points:

▶ Californians' median out-of-pocket spending for health care, which includes costs for premiums and cost sharing such as deductibles, copays, and co-insurance

▶ The share of Californians who report "high-burden" spending on health care, which is defined as spending more than 10% of family income on premiums and cost sharing such as deductibles, copays, and co-insurance

▶ The share of Californians reporting cost as a reason for delaying or forgoing care

To understand how Californians' spending and health care cost burden have changed since the ACA was implemented, the authors examine trends from 2013, the last year before full implementation of the ACA, to 2017, the most recent year for which these data are available. To put individual market affordability challenges in context, the authors also compare spending and cost burden experienced by those relying on the individual market to Californians with employer-sponsored coverage.
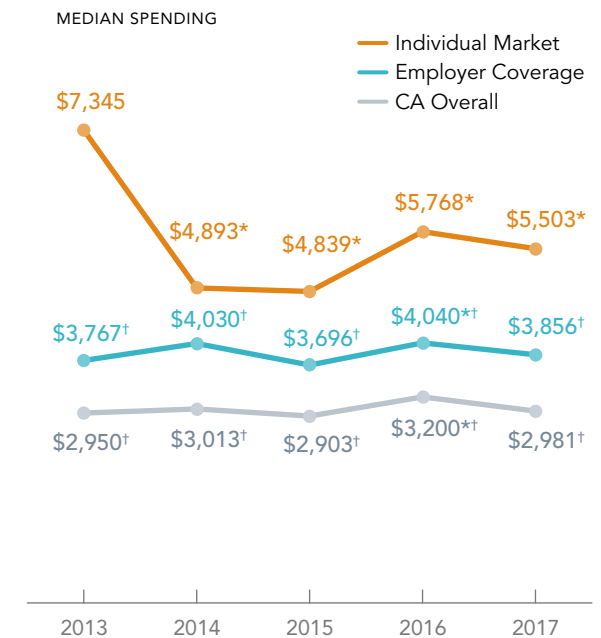
Key Findings

Under the ACA, spending on health care dropped dramatically for Californians relying on the individual market, but still remained higher than for those with employer-sponsored coverage.

Median spending on health care (defined as family spending on premiums and other out-of-pocket costs such copays, co-insurance, and deductibles) among all Californians was statistically unchanged from $2,950 in 2013 to $2,981 in 2017 (Figure 1). Among Californians in the individual market, however, median spending declined dramatically — from $7,345 in 2013 to $5,503 in 2017, a change that was statistically significant. This decline was likely driven by the availability of ACA subsidies for consumers on Covered California.

Despite this decline, however, median spending for Californians with individual coverage remained significantly higher than those with employer coverage ($3,856). This finding reflects the fact that many in the individual market, particularly those who do not receive subsidies, continued to shoulder much higher costs than those who got coverage through their jobs, usually with the employer contributing to cover the cost.

Figure 1. Family Spending on Health Care, by Coverage Type, California, 2013–17

MEDIAN SPENDING

— Individual Market
— Employer Coverage
— CA Overall

$7,345

$4,893* $4,839* $5,768* $5,503*

$3,767† $4,030† $3,696† $4,040*† $3,856†

$2,950† $3,013† $2,903† $3,200*† $2,981†

2013   2014   2015   2016   2017

*Statistically significant difference from 2013 at the 95% level.

† Statistically significant difference from individual market coverage at the 95% level.

Definitions: *Median spending* includes amounts for premiums and cost sharing such as deductibles, copays, and coinsurance.

Source: SHADAC analysis of Current Population Survey (CPS) data.

Statistical significance is a mathematical test that helps researchers assess whether differences are real or the result of random chance. If a change is "statistically significant," researchers are confident the change occurred due to a factor other than random chance. "Statistically unchanged" differences and changes that are "not statistically significant" may be due to random chance.

Individual market consumers saw the greatest decline in high-burden spending after ACA implementation, but still fared worse than those with employer-sponsored coverage.
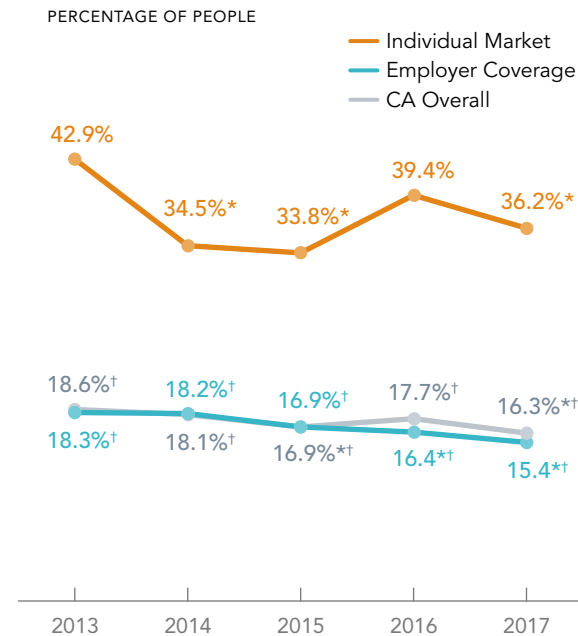
Statewide, the share of people who reported high-burden spending (spending more than 10% of family income for premiums and cost sharing such as copays, co-insurance, and deductibles) declined from 18.6% to 16.3% between 2013 and 2017, a change that was statistically significant.

As with median spending, the largest improvements on this measure under the ACA were among those with individual coverage (Figure 2). The share of those in the individual market reporting high-burden spending dropped from 42.9% in 2013 to 36.2% in 2017. However, the share of those with individual coverage reporting high-burden spending remained more than double the share with employer-sponsored insurance (15.4%), a difference that is statistically significant.

Individual market consumers were far more likely to report cost as the reason for delaying or forgoing care than those with employer-sponsored coverage.

The share of Californians who report forgoing or delaying care has declined following the ACA, from 13.9% in 2013 to 11% in 2017, a drop that was statistically significant (Figure 3). Similarly, those who do report delaying or forgoing care were less likely to report cost as the main reason for doing so following implementation of the ACA, dropping from 55.4% in 2013 to 45.1% in 2017, also a statistically significant difference.

Figure 2. High-Burden Spending on Health Care, by Coverage Type, California, 2013–17

PERCENTAGE OF PEOPLE

Legend: Individual Market, Employer Coverage, CA Overall

Individual Market: 42.9% (2013), 34.5%* (2014), 33.8%* (2015), 39.4% (2016), 36.2%* (2017)

CA Overall: 18.6%† (2013), 18.2%† (2014), 16.9%† (2015), 17.7%† (2016), 16.3%*† (2017)

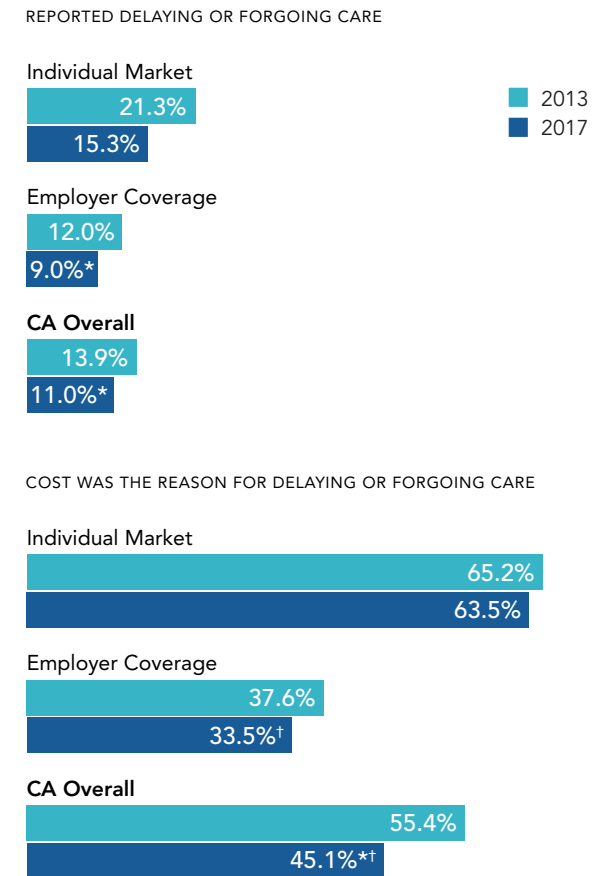Employer Coverage: 18.3%† (2013), 18.1%† (2014), 16.9%*† (2015), 16.4%*† (2016), 15.4%*† (2017)

*Statistically significant difference from 2013 at the 95% level.

†Statistically significant difference from individual market coverage at the 95% level.

Definitions: *High-burden spending* is spending more than 10% of family income on health care, which includes amounts for premiums and cost sharing such as deductibles, copays, and coinsurance.

Source: SHADAC analysis of Current Population Survey (CPS) data.

Figure 3. Delaying or Forgoing Care, by Coverage Type, California, 2013 and 2017

REPORTED DELAYING OR FORGOING CARE

Legend: 2013, 2017

Individual Market: 21.3% (2013), 15.3% (2017)

Employer Coverage: 12.0% (2013), 9.0%* (2017)

CA Overall: 13.9% (2013), 11.0%* (2017)

COST WAS THE REASON FOR DELAYING OR FORGOING CARE

Individual Market: 65.2% (2013), 63.5% (2017)

Employer Coverage: 37.6% (2013), 33.5%† (2017)

CA Overall: 55.4% (2013), 45.1%*† (2017)

*Statistically significant difference from 2013 at the 95% level.

†Statistically significant difference from individual market coverage at the 95% level.

Source: SHADAC analysis of Current Population Survey (CPS) data.

However, despite statewide progress following implementation of the ACA, Californians with individual coverage who do delay or forgo care were much more likely to cite cost as the main reason. The share of those with individual coverage who report cost as the main reason for delaying or forgoing care (63.5%) was nearly double that of those with employer-sponsored coverage (33.5%), a difference that is statistically significant.

There could be multiple reasons that cost remained a more common reason for delaying or forgoing care among people with individual coverage compared to those with employer-sponsored coverage. Those who receive premium subsidies may still struggle to cover the costs of deductibles, copays, and coinsurance. Those ineligible for premium subsidies may face these challenges as well as high premium costs; this could be particularly challenging among Californians with modest incomes just above 400% FPL, the income limit to qualify for subsidies ($48,560 for an individual, or $100,400 for a family of four for coverage effective in 2019). Unsubsidized consumers who are older and/or live in particularly high-cost regions are also particularly vulnerable.[4]

Find more resources for understanding the individual health insurance market at www.chcf.org/individualmarketaffordability.

Looking Ahead

California's robust implementation of the Affordable Care Act has improved affordability on the individual market. Yet affordability challenges are still greater for those in the individual market compared to those with employer-sponsored coverage, and many individual market consumers report difficulty paying for coverage and care.

In recognition of these problems, California policymakers are considering a range of proposals to improve affordability on the individual market. If they are enacted, it will be important to continue to monitor the data discussed above and other key indicators of affordability to assess the impact of new policies.

Methods

Estimates of median out-of-pocket and high-burden spending were based on State Health Access Data Assistance Center (SHADAC) analysis of the Current Population Survey's Annual Social and Economic Supplements public use microdata files. *Family* is defined as the health insurance unit, which includes one or more individuals in a household who would likely be considered a family unit in determining eligibility for private or public coverage.

Estimates of delayed and forgone care were based on UCLA Center for Health Policy Research analysis of the California Health Interview Survey data.

Statistical significance for all estimates was calculated at the 95% confidence level.

About the Author

Lacey Hartman, MPP, is a senior research fellow at the State Health Access Data Assistance Center (SHADAC), where she leads a range of projects aimed at helping states use data to inform policy.

About the Foundation

The California Health Care Foundation is dedicated to advancing meaningful, measurable improvements in the way the health care delivery system provides care to the people of California, particularly those with low incomes and those whose needs are not well served by the status quo. We work to ensure that people have access to the care they need, when they need it, at a price they can afford.

CHCF informs policymakers and industry leaders, invests in ideas and innovations, and connects with changemakers to create a more responsive, patient-centered health care system.

For more information, visit www.chcf.org.

Endnotes

1. Katherine Wilson, *California Health Insurance Enrollment*, California Health Care Foundation (CHCF), November 2018, www.chcf.org; and "State Releases Data on California 2017 Health Insurance Enrollment," CHCF, August 1, 2018, www.chcf.org/blog. See also *Covered California and Individual Health Insurance*, Insure the Uninsured Project, March 12, 2019, www.itup.org.

2. Marian Mulkey and Katherine Wilson, *Affordability on California's Individual Market*, CHCF, April 2019, www.chcf.org. Based on Covered California, Active Member Profile, June 2018.

3. Vicki Fung, Catherine Liang, and John Hsu, *Health Insurance and Health Care Affordability Perceptions Among Individual Insurance Market Enrollees in California in 2017*, California Health Care Foundation, May 2018, www.chcf.org. Includes those purchasing coverage through Covered California and outside of the state-based marketplace.

4. See Laurel Lucia and Ken Jacobs, *Towards Universal Health Coverage: California Policy Options for Improving Individual Market Affordability and Enrollment*, UC Berkeley Labor Center, laborcenter.berkeley.edu; and Mulkey and Wilson, *Affordability*.

NONPARAMETRIC ESTIMATES OF DEMAND IN THE CALIFORNIA HEALTH
INSURANCE EXCHANGE

Pietro Tebaldi
Alexander Torgovitsky
Hanbin Yang

Nonparametric Estimates of Demand in the California Health Insurance Exchange
Pietro Tebaldi, Alexander Torgovitsky, and Hanbin Yang
NBER Working Paper No. 25827
May 2019
JEL No. C14,C3,C5,I13

ABSTRACT

We estimate the demand for health insurance in the California Affordable Care Act marketplace (Covered California) without using parametric assumptions about the unobserved components of utility. To do this, we develop a computational method for constructing sharp identified sets in a nonparametric discrete choice model. The model allows for endogeneity in prices (premiums) and for the use of instrumental variables to address this endogeneity. We use the method to estimate bounds on the effects of changing premium subsidies on coverage choices, consumer surplus, and government spending. We find that a $10 decrease in monthly premium subsidies would cause between a 1.6% and 7.0% decline in the proportion of low-income adults with coverage. The reduction in total annual consumer surplus would be between $63 and $78 million, while the savings in yearly subsidy outlays would be between $238 and $604 million. Comparable logit models yield price sensitivity estimates towards the lower end of the bounds.

Pietro Tebaldi
Department of Economics
University of Chicago
5757 S. University Avenue
Chicago, IL 60637
and NBER
ptebaldi@uchicago.edu

Alexander Torgovitsky
University of Chicago
1126 E. 59th Street
Chicago, IL, 60637
atorgovitsky@gmail.com

Hanbin Yang
Harvard University
hanbin.v.yang@gmail.com

1 Introduction

Under the Patient Protection and Affordable Care Act of 2010 ("ACA"), the United States federal government spends over $40 billion per year on subsidizing health insurance premiums for low-income individuals (Congressional Budget Office, 2017). The design of the ACA and the regulation of non-group health insurance remain objects of intense debate among policy makers. Addressing several key design issues, such as the structure of premium subsidies, requires estimating demand at counterfactual prices.

Recent research has filled this need using discrete choice models in the style of Mc-Fadden (1974). For example, Chan and Gruber (2010) and Ericson and Starc (2015) used conditional logit models to estimate demand in Massachusetts' Commonwealth Care program, Saltzman (2019) used a nested logit to estimate demand in the California and Washington ACA exchanges, and Tebaldi (2017) estimated demand in the California ACA exchange with a variety of logit, nested logit, and mixed (random coefficient) logit models.

These various flavors of logit models differ in the way they deal with the independence of irrelevant alternatives property (e.g. Goldberg, 1995; McFadden and Train, 2000), and in how they deal with the potential endogeneity of prices (e.g. Berry, 1994; Hausman, 1996; Berry et al., 1995). However, they are all fully parametric, with the logistic and normal distributions playing a central role in the parameterization. This raises the possibility that demand estimates from these models are significantly driven by functional form.

In this paper, we use a nonparametric model to estimate the effects of changing premium subsidies on demand, consumer surplus, and government spending in the California ACA exchange (Covered California). The model is a distribution-free counterpart of a standard discrete choice model in which a consumer's indirect utility for an insurance option depends on its price (premium) and on their unobserved valuation for the option. In contrast to parametric models, we do not assume that these valuations follow a specific distribution such as normal (probit) or type I extreme value (logit). The main restriction of the model is that indirect utility is additively separable in premiums and latent valuations. The model allows for premiums to be endogenous (correlated with latent valuations), and allows a researcher to use instrumental variables to address this endogeneity.[1]

Nonparametric point identification arguments for discrete choice models are often

---

[1] While we develop the methodology with a focus on health insurance, it may also be useful for analyzing demand in other markets, as well as for discrete choice analysis more generally. However, an important difference with many discrete choice analyses is that in our context we observe more than one price per market. See Sections 2, 3.3, and Appendix C for more detail.

premised on the assumption of a large amount of exogenous variation in prices or other observable characteristics (e.g. Thompson, 1989; Matzkin, 1993). When prices are endogenous, these arguments shift the variation requirement to the instruments, sometimes with an additional completeness condition (Chiappori and Komunjer, 2009; Berry and Haile, 2010, 2014). In the Covered California data, we only observe limited variation in premiums, so these conditions are unlikely to be satisfied. This leads us to consider a partial identification framework (see Ho and Rosen, 2017, for a recent review).

The primary challenge with allowing for partial identification is finding a way to characterize and compute sharp bounds for target parameters of interest. We develop a characterization based on the observation that in a discrete choice model, many different realizations of latent valuations would lead to identical choice behavior under all relevant observed and counterfactual prices. Using this idea, we partition the space of unobserved valuations according to choice behavior by constructing a collection of sets that we call the minimal relevant partition (MRP). We prove that sharp bounds for typical target parameters can be characterized by considering only the way the distribution of valuations places mass on sets in the MRP. We then use this result to develop estimators of these bounds, which we implement using linear programming.

We apply the empirical methodology with administrative data to estimate demand counterfactuals for Covered California. We focus on the choice of metal tier for low-income individuals who are not covered under employer-sponsored insurance or public programs. Our main counterfactual of interest is how changes in premium subsidies would affect the proportion of this population that chooses to purchase health insurance, as well as their chosen coverage tiers and their realized consumer surplus. To identify these quantities, we use the additively separable structure of utility in the nonparametric model together with institutionally-induced variation in premiums across consumers of different ages and incomes. We exploit this variation by restricting the degree to which preferences (latent valuations) can differ across consumers of similar age and income who live in the same market.

Since the nonparametric model is partially identified, this strategy yields bounds rather than point estimates. However, the estimated bounds are quite informative. Using our preferred specification, we estimate that a \$10 decrease in monthly premium subsidies would cause between a 1.6% and 7.0% decline in the proportion of low-income adults with coverage. The average consumer surplus reduction would be between \$1.99 and \$2.45 per person, per month, or between \$63 and \$78 million annually when aggregated. Total annual savings on subsidy outlays would be between \$238 and \$604 million. When we analyze heterogeneity by income, we find that poorer consumers

incur the bulk of the surplus loss from decreasing subsidies. Overall, our estimates reinforce and amplify the finding that the demand for health insurance in this segment of the population is highly price elastic (e.g. Abraham et al., 2017; Finkelstein et al., 2019).[2]

We show that comparable estimates using parametric logit and probit models tend to yield price responses close to the lower bounds, and so may substantially understate price sensitivity. This possibility becomes more acute when considering larger price changes that involve more distant extrapolations. It also remains when considering richer parametric models, such as mixed logit, that allow for valuations to be correlated across options. Our findings provide an example in which the shape of the logistic distribution can have an important impact on empirical conclusions.[3] The nonparametric model we use presents a remedy for this problem, and in this case provides empirical conclusions that differ significantly along a policy-relevant dimension.

In Appendix A, we provide a detailed review of the related methodological literature on semi- and nonparametric discrete choice models. Here, we briefly mention the two papers most closely related to ours. Chesher et al. (2013) use random set theory to derive moment inequalities in general discrete choice models. They demonstrate their results by computing identified sets for some parametric models in numerical simulations. As we explain further in Appendix A, applying their approach to a nonparametric model is infeasible. Compiani (2019) develops a nonparametric estimator and applies it to study consumer demand for strawberries in California using aggregated scanner data. His approach is based on identification arguments developed by Berry and Haile (2014), which use assumptions different than ours.

The remainder of the paper is organized as follows. In Section 2, we begin with a discussion of the key institutional aspects of Covered California. In Section 3, we develop our nonparametric discrete choice methodology for estimating the demand for health insurance. In Section 4, we discuss the data, our empirical implementation, and the main findings. In Section 5 we contrast these findings with estimates from parametric models. Section 6 contains some brief concluding remarks.

---

[2] We do not model supply, so all of these estimates should be interpreted as holding insurers' decisions fixed. Tebaldi (2017) considers equilibrium price responses under different subsidy designs with a parametric demand model.

[3] Other examples include Ho and Pakes (2014) and Compiani (2019), who also found that logit models underestimate price elasticities relative to less parametric alternatives, albeit using different methods in different empirical settings.

2 Covered California

Covered California is one of the largest state health insurance exchanges regulated by the ACA, accounting for more than 10% of national enrollment. The purpose of the exchange is to provide health insurance options for individuals not covered by an employer or a public program, such as Medicaid or Medicare.

The basic structure of Covered California is determined by federal regulation, and so is common to ACA marketplaces in all states. The regulation splits states into geographic rating regions comprised of groups of contiguous counties or zip codes. In California, there are 19 such rating regions. Insurers are allowed to vary premiums across (but not within) rating regions, and consumers face the premiums set for their resident region. Each year in the spring, insurers announce their intention to enter a region in the subsequent calendar year and undergo a state certification process. Consumers are then able to purchase insurance for the subsequent year during an open enrollment period at the end of the year.

However, Covered California also differs from other ACA marketplaces in several important aspects. One difference is that an insurer who intends to participate in a rating region is required to offer a menu of four plans classified into metal tiers of increasing actuarial value: Bronze, Silver, Gold and Platinum.[4] Unlike other marketplaces, the insurer must provide the entire menu of four plans in any region where it enters.[5] Moreover, the actuarial features of the plans are standardized to have the characteristics shown in Table 1 (among others not shown). Insurers who enter a rating region must therefore offer each of the plans listed in Table 1 with the features shown there.

Insurers are also regulated in the way in which they can set premiums. Each insurer chooses a base premium for each metal tier in each rating region. This base premium is then transformed through federal regulation into premiums that vary by the consumer's age.[6] The insurer is not permitted to adjust premiums based on any other characteristic of the consumer.[7] Premiums are therefore a deterministic function of a consumer's age and resident rating region.

---

[4] There is a fifth coverage tier called minimum (or catastrophic) coverage. This tier is not available to the subsidized buyers we focus on (with a few, rare exceptions), so we omit it from the analysis.

[5] In other ACA marketplaces, insurers are required to offer one Silver and one Gold plan, while additional plans are optional.

[6] This transformation involves multiplying base premiums by an adjustment factor that starts at 1 for individuals at age 21 and increases smoothly to 3 at age 64. These factors are set by the Center for Medicare and Medicaid Services. See Orsini and Tebaldi (2017) for further discussion. Individuals 65 and older are covered by Medicare.

[7] Some states also allow for adjustments based on tobacco use, but California is not one of these states.

Table 1: *Standardized Plan Characteristics in Covered California*

Panel (a): Characteristics by metal tier before cost-sharing reductions

Tier	Annual deductible	Annual max out-of-pocket	Primary visit	E.R. visit	Specialist visit	Preferred drugs	Advertised AV$^{(*)}$
Bronze	$5,000	$6,250	$60	$300	$70	$50	60%
Silver	$2,250	$6,250	$45	$250	$65	$50	70%
Gold	$0	$6,250	$30	$250	$50	$50	79%
Platinum	$0	$4,000	$20	$150	$40	$15	90%

Panel (b): Silver plan characteristics after cost-sharing reductions

Income (%FPL)	Annual deductible	Annual max out-of-pocket	Primary visit	E.R. visit	Specialist visit	Preferred drugs	Advertised AV$^{(*)}$
200-250% FPL	$1,850	$5,200	$40	$250	$50	$35	74%
150-200% FPL	$550	$2,250	$15	$75	$20	$15	88%
100-150% FPL	$0	$2,250	$3	$25	$5	$5	95%

Source: http://www.coveredca.com/PDFs/2015-Health-Benefits-Table.pdf .
(*): Actuarial value (AV) is advertised to consumers as a percentage of medical expenses covered by the plan.

Individuals with household income below 400% of the Federal Poverty Level (FPL) pay lower premiums than received by the insurer, with the difference being made up by premium subsidies. We focus our analysis on these individuals, since they constitute a large group of key policy interest.[8] The premium subsidies vary across individuals according to federal regulations. These ensure that the subsidized premium of the second-cheapest Silver plan is lower than a maximum affordable amount that varies by household income.[9] Post-subsidy premiums are therefore a deterministic function of a consumer's age, resident rating region, and household income.

In addition to premium subsidies, the ACA also provides cost-sharing reductions (CSRs) for individuals with household income lower than 250% of the FPL. CSRs are implemented by changing the actuarial terms of the Silver plan for eligible individuals according to their income, with discrete changes at 150%, 200%, and 250% of the FPL; see Table 1. CSRs make Silver plans very attractive for low-income individuals relative to the more expensive Gold and Platinum plans.

To further incentivize insurance uptake, the ACA had a universal coverage mandate which determined an income tax penalty for remaining uninsured. We treat this tax penalty as affecting the value of the outside option of not purchasing any Covered

---

[8] In 2014, this group comprised nearly 90% of contracts in Covered California.

[9] The reduction in subsidies we consider in the counterfactuals is equivalent to an increase in this maximum affordable amount, holding insurers' decisions fixed.

California plan. The universal mandate was weak in 2014, and generally unenforced between 2014–2017 (Miller, 2017). It was repealed under the Tax Cuts and Jobs Act of 2017.

3 Empirical Methodology

3.1 Nonparametric Discrete Choice Model

We consider a model in which a population of consumers indexed by i each choose a single health insurance plan Y_i from a set $\mathcal{J} \equiv \{0, 1, \ldots, J\}$ of $J+1$ choices. Each plan j has a premium, P_{ij}, which is indexed by the consumer, i, since different consumers face different post-subsidy premiums depending on their sociodemographic characteristics. Choice $j = 0$ represents the outside option of not choosing any of the insurance plans, and has premium normalized to 0, so that $P_{i0} = 0$. When we take the model to the Covered California data in Section 4, we will have five choices ($J = 4$) with options $1, 2, 3$, and 4 representing Bronze, Silver, Gold, and Platinum plans, respectively.

Consumer i has a vector $V_i \equiv (V_{i0}, V_{i1}, \ldots, V_{iJ})$ of valuations for each plan, with the standard normalization that $V_{i0} = 0$.[10] The valuations are known to the consumer, but latent from the perspective of the researcher. We assume that consumer i's indirect utility from choosing plan j is given by $V_{ij} - P_{ij}$, so that their plan choice is given by

$$Y_i = \arg\max_{j \in \mathcal{J}} V_{ij} - P_{ij}. \tag{1}$$

We do not assume that the distribution of V_i follows a specific functional form such as type I extreme value (logit) or multivariate normal (probit). We also allow V_{ij} and V_{ik} to be dependent for $j \neq k$.

Models like (1) in which valuations and premiums are additively separable have been widely used in the recent literature on insurance demand, see e.g. Einav et al. (2010a), Einav et al. (2010b), and Bundorf et al. (2012). In Appendix B, we derive (1) from an insurance choice model similar to the ones in Handel (2013) and Handel et al. (2015), in which consumers have quasilinear utility and constant absolute risk aversion preferences. In this model, differences in V_i across consumers arise from heterogeneity in their unobserved preferences, risk factors, and risk aversion.

The additive separability (quasilinearity) of premiums in (1) imposes restrictions on substitution patterns. In particular, if all premiums were to increase by the same amount, then a consumer who chose to purchase plan $j \geq 1$ before the premium increase

---

[10] Choosing $j = 0$ may incur a tax penalty due to the universal coverage mandate. Normalizing $V_{i0} = 0$ means that V_{ij} also incorporates the value of not facing the tax penalty.

will either continue to choose plan j after the premium increase, or will switch to the outside option ($j = 0$), but they will not switch to a different plan $k \geq 1$, $k \neq j$. This limits the role of income effects to the extensive margin of purchasing any insurance plan versus taking the outside option.

However, it is important to note that (1) is a model of a given consumer i. When we take (1) to the data, we combine observations on many consumers, so in practice we can allow for income effects by allowing for dependence between a consumer's income and their valuations. To formalize this, we treat a consumer's income and other observed characteristics as part of a vector, X_i, and then restrict the dependence between V_i and the various components of X_i. We discuss these restrictions in Section 3.5.1 and our specific implementation of them in Section 4.2.

One observable characteristic of consumer i that will be particularly important is their market, which in Covered California is their resident rating region. In particular, when we estimate demand we will do so conditional on a market, so that market-level unobservables responsible for price endogeneity are held fixed in the counterfactual (see e.g. Berry and Haile, 2010, pg. 5). To emphasize this, we let M_i denote consumer i's market, and we treat M_i as separate from X_i.

3.2 Comparison with a Common Parametric Model

A common parametric specification for discrete choice demand models is

$$Y_{im} = \arg\max_{j \in \mathcal{J}} \ X'_{ijm}\beta_{im} - \alpha_{im}P_{ijm} + \xi_{jm} + \epsilon_{ijm}, \tag{2}$$

where i, j, and m index consumers, products, and markets, P_{ijm} is price, X_{ijm} are observed characteristics, ξ_{jm} are unobserved product-market characteristics, β_{im} and α_{im} are individual-level random coefficients, and ϵ_{ijm} are idiosyncratic unobservables.[11] In the influential model of Berry et al. (1995), ϵ_{ijm} are assumed to be i.i.d. logit (type I extreme value), and $(\beta_{im}, \alpha_{im})$ are assumed to be normally distributed. Our motivation for considering (1) is to preserve the utility maximization structure in (2), while avoiding these types of parametric assumptions.[12]

The three indices in (2) reflect different possible levels of data aggregation. If only market-level data is available, as in Berry et al. (1995) or Nevo (2001), then (2) is

---

[11] For example, see equation (6) of Nevo (2011), or equation (1) of Berry and Haile (2015). We include i indices on X_{ijm} and P_{ijm} to maintain consistency with our notation.

[12] Fox et al. (2012) provide conditions under which the distribution of $(\beta_{im}, \alpha_{im})$ is nonparametrically point identified, and Fox et al. (2011) develop an estimator based on discretizing this distribution. Their results maintain the logit assumption on ϵ_{ijm}, and require additional structure to allow for price endogeneity.

aggregated to the (j, m) level, and the data is viewed as drawn from a population of markets and/or products (Berry et al., 2004b; Armstrong, 2016). Our analysis presumes richer individual-level choice data as in Berry et al. (2004a) or Berry and Haile (2010), but the number of markets we study is small and fixed. To emphasize this, we index the nonparametric model (1) only over i and j, and we record the identity of consumer i's market using the random variable M_i.

After subsuming m subscripts into i subscripts, (1) can be seen to nest (2) by dividing through by α_i and taking $V_{ij} \equiv \alpha_i^{-1}(X'_{ij}\beta_i + \xi_{ij} + \epsilon_{ij})$.[13] This relationship highlights two important considerations for our analysis. First, we do not want to assume that V_i and P_i are independent, since V_i depends on $\xi_i \equiv (\xi_{i1}, \ldots, \xi_{iJ})$, which captures unobserved product characteristics in consumer i's market (Berry, 1994). We address this by conditioning on the market, M_i, after which ξ_i is nonstochastic. Second, we want to allow for V_{ij} and V_{ik} to be arbitrarily dependent for $j \neq k$, in order to avoid imposing the unattractive substitution patterns associated with the logit model (Hausman and Wise, 1978; Goldberg, 1995; Berry et al., 1995; McFadden and Train, 2000).

3.3 Price Variation

In Covered California, post-subsidy premiums are a deterministic function of the market, M_i, and consumer demographics, X_i. We denote this function by $P_i \equiv \pi(M_i, X_i)$.

Throughout the paper, our estimates of demand condition on the market, so the price variation we use for identification comes from variation across consumer demographics within a market. This could be problematic if these characteristics are related to valuations, V_i. Our empirical strategy, which we describe in more detail later, will be to use demographic variation only within relatively homogenous groups of consumers, so that valuations can be reasonably assumed to be independent of prices within these groups.

Our setting is different than many discrete choice applications in which prices only vary at the market level, such as Berry et al. (1995) or Nevo (2001). In terms of our notation, these settings would have $\pi(M_i, X_i)$ constant in X_i. The methodology we develop in the main text is not immediately useful for this case. In Appendix C, we propose two ways in which one can extend our approach to handle more aggregated price variation. One proposal uses within-market variation in non-price product or consumer characteristics, as in Berry and Haile (2010), while the other uses an index restriction, as in Berry and Haile (2014).

---

[13] This requires the mild assumption that $\alpha_i > 0$ with probability 1.

3.4 Target Parameters

The primitive object in model (1) is the distribution of valuations, V_i, conditional on market, M_i, and other covariates, X_i. We will assume throughout the paper that this distribution is continuous so that ties between choices in (1) occur with zero probability. In addition to ensuring no ties, this also means we can associate the conditional distribution of valuations with a conditional density function $f(\cdot|m, x)$ for each realization $M_i = m$, and $X_i = x$.[14]

The density f is a key object in the following. Common counterfactual quantities of interest can be written as integrals or sums of integrals of f (see e.g. Section 4.2 of Berry and Haile, 2014, or Section 3.4.1 of Berry and Haile, 2015). For example, a natural counterfactual quantity is the proportion of consumers who would choose plan j at a new premium vector, $p^\star$. This proportion can be written in terms of f as

$$\int \underbrace{\mathbb{1}[v_j - p_j^\star \geq v_k - p_k^\star \text{ for all } k]}_{\text{choose } j \text{ if premiums were } p^\star} f(v|m, x) \, dv, \tag{3}$$

where we are conditioning on market, m, and other consumer characteristics, x. Another natural counterfactual quantity is the impact on average consumer surplus caused by changing premiums from p to $p^\star$. This can be written as

$$\underbrace{\int \left\{ \max_{j \in \mathcal{J}} v_j - p_j^\star \right\} f(v|m, x) \, dv}_{\text{consumer surplus under } p^\star} - \underbrace{\int \left\{ \max_{j \in \mathcal{J}} v_j - p_j \right\} f(v|m, x) \, dv}_{\text{consumer surplus under } p}, \tag{4}$$

where again the market, m, is being held fixed in the counterfactual.

Conceptually, we view both (3) and (4) as scalar-valued functionals (functions) of f. The functions vary in their form, and will further vary when we consider different counterfactual premiums, $p^\star$, choice probabilities for plans other than j in (3), and different values of (or averages over) the covariates, x. In Section 4, we also estimate a third class of quantities that measure changes in government spending on premium subsidies.

To handle this generality, we consider all such quantities to be examples of *target parameters*, $\theta : \mathcal{F} \to \mathbb{R}^{d_\theta}$, where $\mathcal{F}$ is the collection of all conditional density functions on $\mathbb{R}^J$. A target parameter is just a function of the conditional density of valuations, f. In the examples just given, the target parameter is scalar-valued, so that $d_\theta = 1$.

---

[14] More formally, this requires the assumption that the distribution of V_i, conditional on $(M_i, X_i) = (m, x)$ is absolutely continuously distributed with respect to Lebesgue measure on $\mathbb{R}^J$ for every (m, x) in the support of (M_i, X_i).

However, we will also consider cases with $d_\theta > 1$, for example to understand the joint identified set for two related target parameters, such as consumer surplus and government expenditure. Our goal is to infer the values of $\theta(f)$ that are consistent with both the observed data and our assumptions.

3.5 Assumptions

We augment (1) with two types of assumptions. The first assumption is that one or more components of X_i are suitable instruments. The second assumption is that the density of valuations has support contained within a known set.

3.5.1 Instrumental Variables

To describe the first type of assumption, let W_i and Z_i be two subvectors (or more general functions) of the market and covariates, M_i and X_i. The Z_i subvector consists of instruments that satisfy an exogeneity assumption discussed ahead. This exogeneity assumption will be conditional on W_i, which are viewed as control variables. Note that W_i could be chosen to be empty.

Stating the instrumental variable assumption requires the density of valuations conditional on W_i and Z_i. We can construct this object by averaging over f as follows:

$$f_{V|WZ}(v|w,z) \equiv \mathbb{E}\left[f(v|M_i, X_i) \Big| W_i = w, Z_i = z \right].\tag{5}$$

Our assumption that Z_i is an instrument, conditional on W_i, can then be stated as:

$$f_{V|WZ}(v|w,z) = f_{V|WZ}(v|w,z') \quad \text{for all } z, z', w, \text{ and } v.\tag{6}$$

In words, (6) says that the distribution of valuations is invariant to shifts in Z_i, conditional on W_i. That is, Z_i is exogenous. In our application, W_i includes M_i and coarse age and income bins, and Z_i is residual variation in age and income within these bins.

In order for (6) to be a useful assumption, shifts in the instrument Z_i (still conditioning on W_i) should have an effect on premiums. This follows the usual intuition: If Z_i is exogenous, then changes in observed choice shares as Z_i varies reflect changes in premiums, rather than changes in valuations. The more that premiums vary with Z_i, the more information we will have to pin down different parts of the density of valuations, f, and therefore the target parameter, θ. In our application, this premium variation comes from the age-rating and income subsidies legislated by the ACA.

It is common to justify point identification of nonparametric discrete choice models

by assuming that the instrument has a large amount of variation.[15] However, in our data this seems unlikely to be the case. For this reason, we consider the partial identification framework discussed ahead. This framework does not require the instrument to have any particular amount of variation. However, greater variation is still rewarded in the form of more informative bounds.

3.5.2 Support

The second assumption we use is that the support of f is concentrated on a known set. For each realization of W_i, defined as in the previous section, we choose a set $\mathcal{V}^{\bullet}(w)$ and then assume that f is such that

$$\int_{\mathcal{V}^{\bullet}(w)} f_{V|WZ}(v|w,z)\,dv = 1 \quad \text{for all } w, z. \tag{7}$$

By choosing $\mathcal{V}^{\bullet}(w) = \mathbb{R}^J$, one can make this assumption trivially satisfied.

We use (7) to exploit the vertical structure of the ACA. For example, a Platinum plan is actuarially more generous than a Bronze plan (see Table 1). We can use (7) to impose the assumption that consumers would always prefer Platinum ($j = 4$) to Bronze ($j = 1$) at equal premiums by taking $\mathcal{V}^{\bullet}(w) = \{v \in \mathbb{R}^J : v_4 \geq v_1\}$. Since $\mathcal{V}^{\bullet}(w)$ depends on w, we can allow the definition of this set to change with income, which allows us to account for CSRs. We list the support assumptions we use for the application in Section 4.2.

3.6 The Identified Set

We now define the set of possible values that the target parameter $\theta(f)$ could take over valuation densities f that both satisfy the assumptions in the preceding section, and are consistent with the observed data. To do this, we assume that the researcher has at their disposal a collection of conditional choice shares denoted as

$$s_j(m,x) \equiv \mathbb{P}[Y_i = j | M_i = m, X_i = x]. \tag{8}$$

In our application, we estimate these shares from a combination of administrative data on enrollment and survey data used to construct the market size. Here, the

---

[15] These types of "large support" assumptions, and the closely related concept of identification-at-infinity, have had a prominent role in the literature on nonparametric identification more generally. Early examples of their use include Manski (1985), Thompson (1989), Heckman and Honoré (1990), and Lewbel (2000). More recent applications of this argument to discrete choice include Heckman and Navarro (2007) and Fox and Gandhi (2016).

identification analysis is premised on the thought experiment of perfect knowledge of these choice shares.

Each density of valuations implies a set of choice shares. In particular, a consumer would choose option j when faced with a premium p if and only if they have valuations in the set

$$\mathcal{V}_j(p) \equiv \left\{ (v_1, \ldots, v_J) \in \mathbb{R}^J : v_j - p_j \geq v_k - p_k \ \text{ for all } k \right\}. \tag{9}$$

The choice shares for plan j implied by the density f are determined by the mass that f places on $\mathcal{V}_j(p)$ when prices are $p = \pi(m, x)$. We denote these implied choice shares by

$$s_j(m, x; f) \equiv \int_{\mathcal{V}_j(\pi(m,x))} f(v|m, x) \, dv. \tag{10}$$

A density f is consistent with the observed choice shares if

$$s_j(m, x; f) = s_j(m, x) \quad \text{for all } j, \, m \text{ and } x. \tag{11}$$

The identified set of valuation densities is the set of all f that both match the observed choice shares and satisfy the assumptions laid out in the previous section. We call this set $\mathcal{F}^\star$:

$$\mathcal{F}^\star \equiv \{ f \in \mathcal{F} : \ f \text{ satisfies (6), (7), and (11)} \}. \tag{12}$$

However, our real interest centers on the target parameter, θ, examples of which include counterfactual demand (3) and changes in consumer surplus (4). The identified set for θ is the image of the identified set for $\mathcal{F}^\star$ under θ. That is,

$$\Theta^\star \equiv \{ \theta(f) : f \in \mathcal{F}^\star \}.$$

The set $\Theta^\star$ consists of all values of the target parameter that are consistent with both the data and the instrumental variable and support assumptions (6) and (7). It is the central object of interest.

The difficulty lies in characterizing $\Theta^\star$. In the following, we develop an argument that enables us to compute $\Theta^\star$ exactly. The idea is to partition $\mathbb{R}^J$ into the smallest collection of sets within which choice behavior would remain constant under all premiums observed in the data, as well as all premiums that are required to compute the target parameter. We call this collection of sets the *minimal relevant partition* (MRP)

of valuations. We then reduce the problem of characterizing $\Theta^\star$ from one of searching over densities f to one of searching over mass functions defined on the sets that constitute the MRP. For cases in which the target parameter is scalar-valued ($d_\theta = 1$), this latter problem can often be solved with two linear programs.

3.7 The Minimal Relevant Partition of Valuations

We illustrate the definition and construction of the MRP using a simple example with $J = 2$, so that a consumer's valuations (and the premiums of the plans in their choice set) can be represented as points in the plane. A general, formal definition of the MRP is given in Section 3.9.

Suppose that the data consists of a single observed premium vector, p^a, and that we are concerned with behavior under a counterfactual premium vector, $p^\star$, which we do not observe in the data. The idea behind the MRP is illustrated in Figure 1. Panel (a) shows that considering behavior under premium p^a divides $\mathbb{R}^2$ into three sets depending on whether a consumer would choose options 0, 1, or 2 when faced with p^a.[16] Panel (b) shows the analogous situation under premium $p^\star$. Intersecting these two three-set collections creates the collection of six sets shown in panel (c). This collection of six sets is the MRP for this example.[17]

The MRP is minimal in the sense that any two consumers who have valuations in the same set would exhibit the same choice behavior under both premiums p^a and $p^\star$. Conversely, any two consumers with valuations in different sets would exhibit different choice behavior under at least one of these premiums. For example, consumers with valuations in the set marked $\mathcal{V}_2$ in Figure 1c make the same choices as those with valuations in $\mathcal{V}_4$ under p^a, but make different choices under $p^\star$, where the first group chooses the outside option, and the second group chooses plan 1. Similarly, consumers with valuations in $\mathcal{V}_2$ and $\mathcal{V}_6$ both choose the outside option at $p^\star$, but at p^a the first group chooses plan 2 and the second group chooses plan 1.

In Figure 1d, we show how the MRP would change if we were to observe a second premium, p^b. The MRP now consists of ten sets, but the idea is the same: Consumers with valuations within a given set have the same choice behavior under premiums p^a, p^b, and $p^\star$, while consumers with valuations in different sets would make different choices for at least one of these premiums.

---

[16] Diagrams like panel (a) appear frequently in the literature on discrete choice, see e.g. Thompson (1989, Figure 1), Chesher et al. (2013, Figure 1), or Berry and Haile (2014, Figure 1).

[17] The MRP is related to the class of core-determining sets derived by Chesher et al. (2013). Comparing our Figure 1c to their Figures 2–3 shows that the MRP is a strict subset of the class of core-determining sets, since the latter also includes all connected unions of sets in the MRP.
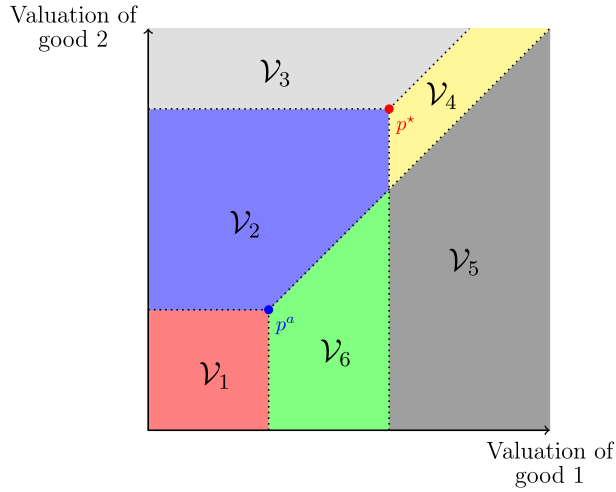
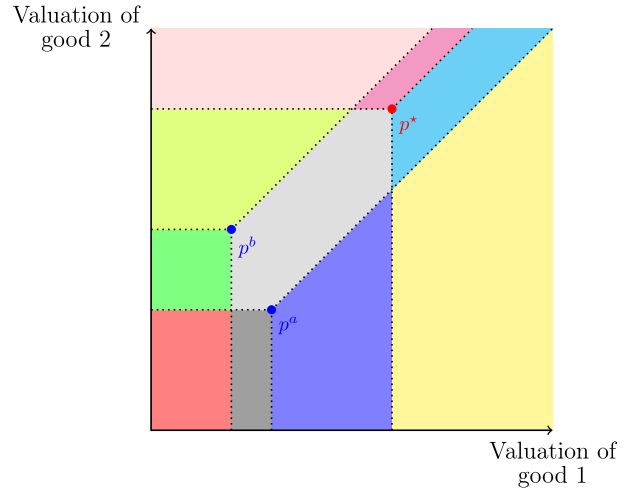**Figure 1:** *Partitioning the Space of Valuations*
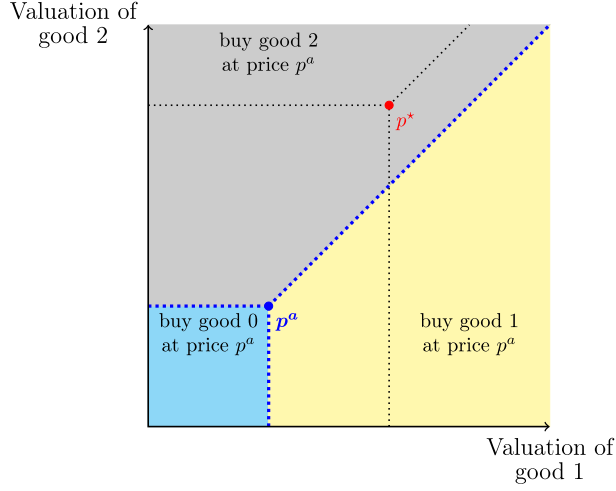
(a) *Choices if prices were p^a.*
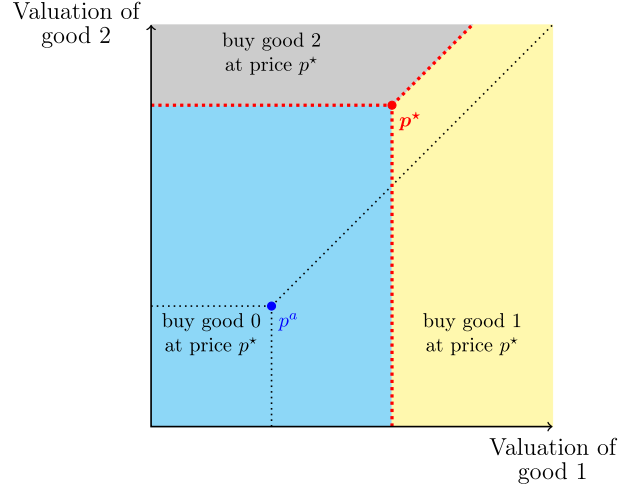
(b) *Choices if prices were $p^\star$.*

(c) *The minimal relevant partition (MRP) constructed from p^a and $p^\star$.*

(d) *The minimal relevant partition (MRP) constructed from p^a, p^b, and $p^\star$.*

The way the MRP is constructed ensures that predicted choice shares for any valuation density can be computed by summing the mass that the density places on sets in the MRP. For example, suppose that we fix $M_i = m$, and that there are two values of X_i such that $p^a = \pi(m, x^a)$, and $p^b = \pi(m, x^b)$. In Figure 1c, we can see that the share of consumers who would choose good 1 if premiums were p^a can be written as

$$s_1(m, x^a; f) = \int_{\mathcal{V}_5 \cup \mathcal{V}_6} f(v|m, x^a) \, dv = \int_{\mathcal{V}_5} f(v|m, x^a) \, dv + \int_{\mathcal{V}_6} f(v|m, x^a) \, dv,$$

while the share of consumers who would choose good 2 is given by

$$s_2(m, x^a; f) = \int_{\mathcal{V}_2 \cup \mathcal{V}_3 \cup \mathcal{V}_4} f(v|m, x^a) \, dv.$$

This allows us to simplify the determination of whether a given f reproduces the observed choice shares by considering only the total mass that f places on sets in the MRP, without having to be concerned with how this mass is distributed within these sets.

Since we included $p^\star$ when constructing the MRP, the same is also true when considering target parameters θ that measure choice behavior at $p^\star$. For example, suppose that the target parameter is the choice share of plan 2 if premiums were changed from p^a to $p^\star$. This is a particular case of (3), and can be written in terms of the MRP as

$$\theta(f) = \int_{\mathcal{V}_3} f(v|m, x^a) \, dv. \tag{13}$$

As another example, we could write the associated *change* in this choice share as

$$\theta(f) = \int_{\mathcal{V}_3} f(v|m, x^a) \, dv - \int_{\mathcal{V}_2 \cup \mathcal{V}_3 \cup \mathcal{V}_4} f(v|m, x^a) \, dv = - \int_{\mathcal{V}_2 \cup \mathcal{V}_4} f(v|m, x^a) \, dv.$$

In both of these quantities, we have fixed the density conditional on the market, m, and observed covariates, x^a. This corresponds to the usual counterfactual of changing prices while holding fixed factors that might be correlated with price.

3.8 Computing Bounds on the Target Parameter

Now suppose that we observe the following choice shares:

$$s_0(m, x^a) = .20, \quad s_1(m, x^a) = .14, \quad \text{and} \quad s_2(m, x^a) = .66.$$

For illustration, we assume that X_i is exogenous, i.e. we limit attention to f for which $f(v|m, x^a) = f(v|m, x^\star) = f(v|m)$. In terms of (6), this corresponds to $W_i = M_i$ and $Z_i = X_i$. In this case, (11) can be written as

$$\int_{\mathcal{V}_1} f(v|m)\, dv = s_0(m, x^a) = .20,$$

$$\text{and} \quad \int_{\mathcal{V}_5} f(v|m)\, dv + \int_{\mathcal{V}_6} f(v|m)\, dv = s_1(m, x^a) = .14,$$

$$\text{and} \quad \int_{\mathcal{V}_2} f(v|m)\, dv + \int_{\mathcal{V}_3} f(v|m)\, dv + \int_{\mathcal{V}_4} f(v|m)\, dv = s_2(m, x^a) = .66. \quad (14)$$

As shown in (13), if the target parameter is the choice share of plan 2 at $p^\star$, this can be written as

$$\theta(f) = \int_{\mathcal{V}_3} f(v|m)\, dv. \quad (15)$$

The key observation is that even though all of these quantities depend on a density f, they can be computed with knowledge of just six non-negative numbers:

$$\left\{ \phi_l \equiv \int_{\mathcal{V}_l} f(v|m)\, dv \right\}_{l=1}^6.$$

This suggests that we can focus only on the total mass placed on the sets in the MRP without losing any information. To find the largest value that $\theta(f)$ can take while still respecting (14), we rephrase all quantities in terms of $\{\phi_l\}_{l=1}^6$ and then maximize (15) subject to (14):

$$t_{\text{ub}}^\star \equiv \max_{\phi \in \mathbb{R}^6} \ \phi_3 \quad (16)$$

$$\text{subject to:} \quad \phi_1 = .20$$

$$\phi_5 + \phi_6 = .14$$

$$\phi_2 + \phi_3 + \phi_4 = .66$$

$$\phi_l \geq 0 \quad \text{for } l = 1, \ldots, 6.$$

This is a linear program. In this simple example, one can see by inspection that the solution of the program is to take $\phi_3 = .66$, so that $t_{\text{ub}}^\star = .66$. To find the smallest value of $\theta(f)$ we solve the analogous minimization problem, the optimal value of which we call $t_{\text{lb}}^\star$. In this example, $t_{\text{lb}}^\star = 0$.

In the next section, we formally prove that $\Theta^\star = [t_{\text{lb}}^\star, t_{\text{ub}}^\star]$. This result shows that the procedure of reducing f to a collection of six numbers $\{\phi_l\}_{l=1}^6$ is a sharp characterization

of $\Theta^\star$ in the sense that it entails no loss of information. A sketch of the proof is as follows. First, for any value $t \in \Theta^\star$, there must exist (by definition) an $f \in \mathcal{F}^\star$ such that $\theta(f) = t$. This f generates a collection of numbers $\{\phi_l = \int_{\mathcal{V}_l} f(v|m)\,dv\}_{l=1}^6$, which must satisfy the constraints in (16), since every $f \in \mathcal{F}^\star$ satisfies (14). Conversely, given any value of $t \in [t_{\mathrm{lb}}^\star, t_{\mathrm{ub}}^\star]$, there exists a set of numbers $\{\phi_l\}_{l=1}^6$ satisfying the constraints in (16), and such that $\phi_3 = t$.[18] From this set of numbers $\{\phi_l\}_{l=1}^6$, we can construct a density f that satisfies (14) by distributing mass in the amount of ϕ_l arbitrarily within each $\mathcal{V}_l$. Evidently, this density will also satisfy $\theta(f) = \phi_3 = t$. Thus, the sharp identified set for this target parameter is $\Theta^\star = [t_{\mathrm{lb}}^\star, t_{\mathrm{ub}}^\star]$. Intuitively, the reason there is no loss of information from reducing f to $\{\phi_l\}_{l=1}^6$ is that the MRP was constructed to represent all relevant differences in economic behavior.

Now suppose that we have a second observed premium, p^b, so that the MRP is as shown in Figure 1d. In this case, the MRP contains 10 sets, so the linear program analogous to (16) will have 10 variables of optimization. In addition to matching the observed shares at x^a through (16), these variables will also need to match the observed shares for x^b, which we will suppose here are given by

$$s_0(m, x^b) = .27, \quad s_1(m, x^b) = .31, \quad \text{and} \quad s_2(m, x^b) = .42.$$

Reasoning through the solution to the resulting program is more complicated. Since the observed shares for p^a still need to be matched, it is still the case that a total mass of .66 must be placed over consumers who would choose plan 2 under p^a. Some of these consumers might choose the outside option under p^b. In fact, as shown in Figure 2, this must be the case for a proportion of at least $s_0(m, x^b) - s_0(m, x^a) = .07$ of consumers. Given this new requirement, the maximum amount of mass remaining to distribute over consumers who would choose plan 2 under $p^\star$ has decreased from .66 to $.66 - .07 = .59$. This is the new upper bound, $t_{\mathrm{ub}}^\star$. The fact that it is smaller than the previous upper bound reflects the additional information contained in choice shares at p^b. The lower bound, $t_{\mathrm{lb}}^\star$, is still zero, because it is still possible to match the observed choice shares for p^a and p^b by concentrating all mass southwest of $p^\star$.

When we take this procedure to the data, the linear programs will have thousands of variables and constraints, which makes this sort of case-by-case reasoning impossible. Instead, we will use state of the art solvers to obtain $t_{\mathrm{ub}}^\star$ and $t_{\mathrm{lb}}^\star$.[19] In practice, we also do not assume that $f(v|m, x)$ is invariant in x. This makes a graphical interpretation

---

[18] This follows because the constraint set in (16) is closed and connected and the objective function is continuous.

[19] In particular, we use Gurobi (Gurobi Optimization, 2015) and check a subset of the results using CPLEX (IBM, 2010). We formulate and presolve the problems using AMPL (Fourer et al., 2002).
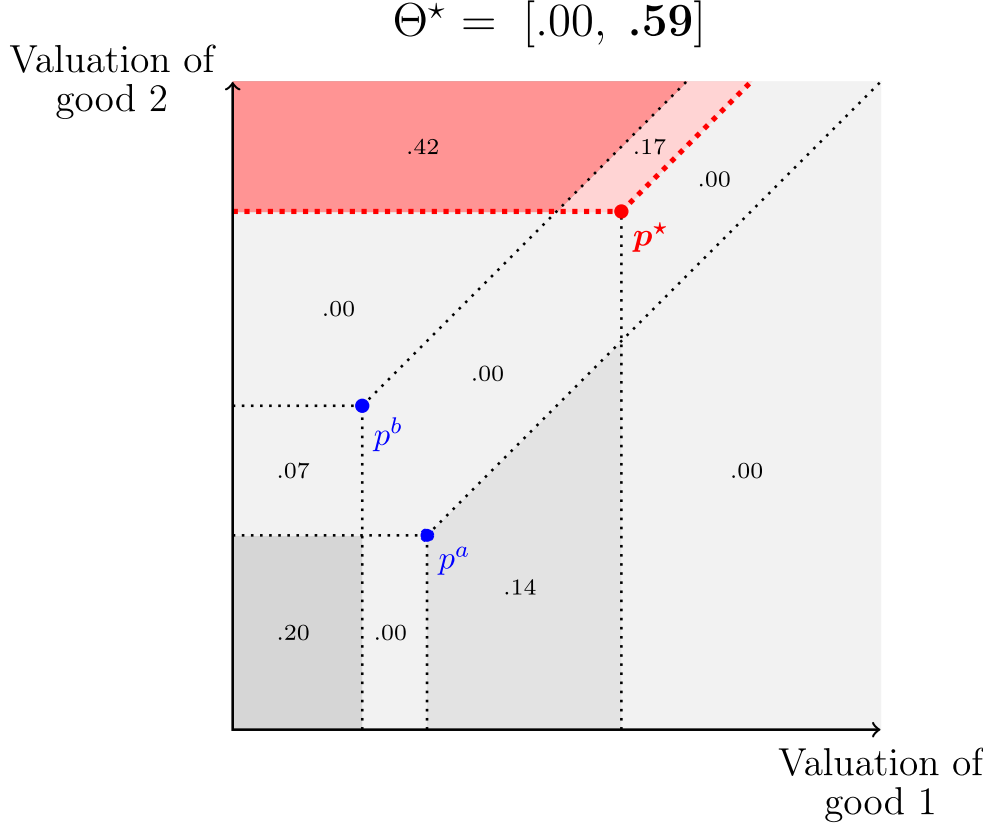
$$\Theta^\star = [.00, \ .59]$$

Figure 2: *The numbers in each set show a solution to the linear program when the target parameter is the proportion of consumers who choose plan 2 at $p^\star$ and the objective is to find the upper bound (maximize) this proportion. Matching the share of consumers who choose the outside option at the new observed premium, p^b, means there is now .07 less mass to devote to this objective.*

unwieldy, since a separate diagram like Figure 2 would be needed for each value of x. The mass placed over sets within each diagram is linked together by imposing constraints on these masses that are analogous to the instrumental variable assumption (6). Part of the formal analysis in the next section involves showing that such a procedure retains sharpness.

3.9 Formalization

In this section, we formalize the discussion in the previous three sections in the following ways. First, we provide a precise definition of the MRP. Second, we generalize the transformation from densities f to mass functions over the sets in the MRP, which, as in the previous section, we refer to as ϕ. Third, we show how to compute bounds on the target parameter under the instrumental variable and support assumptions. Fourth, we provide the general statement and proof of the result that these bounds are

sharp. Lastly, we consider the conditions under which these bounds can be computed by solving linear programs. Throughout the analysis, we model (M_i, X_i) as discretely distributed with finite support, although this is not essential to the discussion.

Beginning with the MRP, we let $\mathcal{P}$ denote a finite set of premiums that is chosen by the researcher and always contains at least the observed support of premiums. The premiums in $\mathcal{P}$ are used to construct the MRP, so a given MRP depends on $\mathcal{P}$. For example, in Figure 1c we had $\mathcal{P} = \{p^a, p^\star\}$, while in Figure 1d, $\mathcal{P} = \{p^a, p^b, p^\star\}$.[20]

The choice of which additional points to include in $\mathcal{P}$ is determined by the target parameter, θ. In Figure 1, the focus was on demand at a new premium, $p^\star$, so $\mathcal{P}$ had to include $p^\star$. This restriction will be formalized below as the statement that $\theta(f)$ can be evaluated for any f by only considering the total mass that f places on sets in the MRP. Additional points can always be added to $\mathcal{P}$ to help satisfy this restriction.

We use the set $\mathcal{P}$ to formally define the MRP as follows.

Definition MRP. *Let $Y(v, p) \equiv \arg\max_{j \in \mathcal{J}} v_j - p_j$ for any $(v_1, \ldots, v_J), (p_1, \ldots, p_J) \in \mathbb{R}^J$, where $v \equiv (v_0, v_1, \ldots, v_J)$ and $p \equiv (p_0, p_1, \ldots, p_J)$ with $v_0 = p_0 = 0$. The minimal relevant partition of valuations (MRP) is a collection $\mathbb{V}$ of sets $\mathcal{V} \subseteq \mathbb{R}^J$ for which the following property holds for almost every $v, v' \in \mathbb{R}^J$ (with respect to Lebesgue measure):*

$$v, v' \in \mathcal{V} \text{ for some } \mathcal{V} \in \mathbb{V} \quad \Leftrightarrow \quad Y(v, p) = Y(v', p) \text{ for all } p \in \mathcal{P}. \tag{17}$$

Definition MRP creates a collection of sets $\mathbb{V}$ that is minimal in the sense that any two consumers who have valuations in a set in $\mathbb{V}$ would exhibit the same choice behavior for every premium vector in $\mathcal{P}$.[21] Conversely, any two consumers with valuations in different sets would exhibit different choice behavior for at least one premium in $\mathcal{P}$. Constructing the MRP is intuitive, but somewhat involved both notationally and algorithmically. Since the details of constructing the MRP are not necessary for understanding the methodology, we relegate our discussion of this to Appendix D.[22]

---

[20] When implementing our methodology, we estimate demand separately for each market m, and thus also construct the set $\mathcal{P}$ separately for each market. We suppress this dependence in the notation because it does not affect our characterization of the identified set.

[21] Note that $\mathbb{V}$ depends on $\mathcal{P}$. We do not make this explicit in the notation because the following discussion only considers a single premium set, $\mathcal{P}$, and the single MRP it generates, $\mathbb{V}$.

[22] We should, however, note two small misnomers in our terminology that become evident in the construction, or perhaps by inspecting Figure 1. First, the MRP may not be a strict partition, because adjacent sets in $\mathbb{V}$ could overlap on their boundary. Since we are limiting attention to continuously distributed valuations, this distinction does not have any practical or empirical relevance, and does not violate Definition MRP. Second, and for the same reason, although we have described the MRP as "the" MRP, it is not unique, since one could consider a boundary region to be in either of the sets to which it is a boundary without violating (17) on a set of positive measure. Again, this is not important for the analysis given our focus on continuously distributed valuations.

The utility of the MRP is that it allows us to express the choice probabilities associated with any density of valuations, f, in terms of the mass that f places on sets in $\mathbb{V}$. In particular, let $\mathbb{V}_j(p) \subseteq \mathbb{V}$ denote the sets in the MRP for which a consumer with valuations in these sets would choose j when facing premiums p.[23] Then the probability that a consumer chooses j under premiums p is the probability that V_i lies in the union of $\mathcal{V} \in \mathbb{V}_j(p)$. Since sets in $\mathbb{V}$ are disjoint, this can be written as the sum of the masses that f places on sets in $\mathbb{V}_j(p)$, that is

$$\int_{\mathcal{V}_j(p)} f(v|m,x)\,dv = \sum_{\mathcal{V} \in \mathbb{V}_j(p)} \int_{\mathcal{V}} f(v|m,x)\,dv. \qquad (18)$$

Having defined the MRP, we now define mass functions over the MRP. To do this, let $\phi(\cdot|\cdot,\cdot)$ denote a function with domain $\mathbb{V} \times \text{supp}(M_i, X_i)$. Such a function ϕ can be viewed as an element of $\mathbb{R}^{d_\phi}$, where d_ϕ is the cardinality of its domain. Let $\mathbb{R}_+^{d_\phi}$ denote the subset of $\mathbb{R}^{d_\phi}$ whose elements are all non-negative and define

$$\Phi \equiv \left\{ \phi \in \mathbb{R}_+^{d_\phi} : \sum_{\mathcal{V} \in \mathbb{V}} \phi(\mathcal{V}|m,x) = 1 \quad \text{for all } (m,x) \in \text{supp}(M_i, X_i) \right\}. \qquad (19)$$

The set Φ contains all functions that could represent a conditional probability mass function supported on the finite collection of sets, $\mathbb{V}$.

Each density f generates a mass function $\overline{\phi}(f) \in \Phi$ defined by

$$\overline{\phi}(f)(\mathcal{V}|m,x) \equiv \int_{\mathcal{V}} f(v|m,x)\,dv. \qquad (20)$$

We assume that the value of the target parameter for any f is fully determined by $\overline{\phi}(f)$. Formally, the assumption is that there exists a known function $\overline{\theta}$ with domain Φ such that $\theta(f) = \overline{\theta}(\overline{\phi}(f))$ for every $f \in \mathcal{F}$. Since Φ depends on the MRP, and the MRP depends on $\mathcal{P}$, satisfying this requirement is a matter of choosing $\mathcal{P}$ to be sufficiently rich to evaluate the target parameter, θ.

To impose the instrumental variable assumption (6), we define for any $\phi \in \Phi$ the function

$$\phi_{\mathbb{V}|WZ}(\mathcal{V}|w,z) \equiv \mathbb{E}\left[\phi(\mathcal{V}|M_i, X_i)\Big|W_i = w, Z_i = z\right], \qquad (21)$$

where W_i and Z_i are as in the statement of that condition. Similarly, to impose the

---

[23] Using the notation of Definition MRP, $\mathbb{V}_j(p) \equiv \{\mathcal{V} \in \mathbb{V} : Y(v,p) = j \text{ for almost every } v \in \mathcal{V}\}$.

support assumption, we let $\mathbb{V}^{\bullet}(w)$ denote the subset of $\mathbb{V}$ that intersects $\mathcal{V}^{\bullet}(w)$, i.e.

$$\mathbb{V}^{\bullet}(w) \equiv \{\mathcal{V} \in \mathbb{V} : \lambda(\mathcal{V} \cap \mathcal{V}^{\bullet}(w)) > 0\}, \tag{22}$$

with λ denoting Lebesgue measure on $\mathbb{R}^J$.

The next proposition shows that $\Theta^{\star}$ can be characterized exactly by solving systems of equations in ϕ. These equations replicate (6), (7), and (11) at a hypothesized parameter value, but in terms of the finite-dimensional mass function, ϕ, rather than the infinite-dimensional density, f. The interpretation of the result is that this dimension reduction entails no loss of information. A proof is in Appendix E.

Proposition 1. *Let $t \in \mathbb{R}^{d_\theta}$. Then $t \in \Theta^{\star}$ if and only if there exists a $\phi \in \Phi$ such that*

$$\overline{\theta}(\phi) = t, \tag{23}$$

$$\sum_{\mathcal{V} \in \mathbb{V}_j(\pi(m,x))} \phi(\mathcal{V}|m,x) = s_j(m,x) \quad \text{for all } j \in \mathcal{J} \text{ and } (m,x), \tag{24}$$

$$\phi_{\mathbb{V}|WZ}(\mathcal{V}|w,z) = \phi_{\mathbb{V}|WZ}(\mathcal{V}|w,z') \quad \text{for all } z, z', w, \text{ and } \mathcal{V}, \tag{25}$$

$$\text{and} \quad \sum_{\mathcal{V} \in \mathbb{V}^{\bullet}(w)} \phi_{\mathbb{V}|WZ}(\mathcal{V}|w,z) = 1 \quad \text{for all } w, z. \tag{26}$$

Observe that each of (24)–(26) are linear in ϕ.[24] If $\overline{\theta}$ is also linear in ϕ, then Proposition 1 shows that $\Theta^{\star}$ can be exactly characterized by solving linear systems of equations. This linearity is satisfied for common target parameters, such as demand and consumer surplus.[25] An implication of linearity is that $\Theta^{\star}$ will be connected, and so when $d_\theta = 1$ it can also be characterized by solving two linear programs. We record this point in the following proposition, also proved in Appendix E.

Proposition 2. *If $\overline{\theta}$ is continuous on Φ, then $\Theta^{\star}$ is a compact, connected set. In particular, if $d_\theta = 1$, then $\Theta^{\star} = [t_{lb}^{\star}, t_{ub}^{\star}]$, where*

$$t_{lb}^{\star} \equiv \min_{\phi \in \Phi} \ \overline{\theta}(\phi) \qquad \text{subject to (24)–(26)}, \tag{27}$$

and with $t_{ub}^{\star}$ defined as the solution to the analogous maximization problem.

---

[24] This requires noting from (21) that $\phi_{\mathbb{V}|WZ}(\mathcal{V}|w,z)$ is itself a linear function of ϕ.

[25] For demand this is clear from e.g. (15). Consumer surplus (or changes in it) can be seen to be linear in f from (4). However, constructing $\overline{\theta}$ for consumer surplus is less obvious. We discuss how this is done in Appendix F, and we show there that the resulting $\overline{\theta}$ function is linear in ϕ.

3.10 Estimation

Our analysis thus far has concerned the identification problem in which the joint distribution of (Y_i, M_i, X_i) is treated as known. In practice, features of this distribution, such as the choice shares $s_j(m, x)$, need to be estimated from a finite data set, so we want to model them as potentially contaminated with statistical error. In this section, we show how to modify Proposition 2 to account for such error in our primary case of interest with a linear $\bar{\theta}$. A formal justification for this procedure is developed in Mogstad et al. (2018).

The estimator proceeds in two steps. First, we find the best fit to the observed choice shares by solving

$$\widehat{Q}^\star \equiv \min_{\phi \in \Phi} \ \widehat{Q}(\phi) \qquad \text{subject to (25) and (26),}$$

$$\text{where} \quad \widehat{Q}(\phi) \equiv \sum_{j,m,x} \widehat{\mathbb{P}}[M_i = m, X_i = x] \left| \widehat{s}_j(m, x) - \sum_{\mathcal{V} \in \mathbb{V}_j(\pi(m,x))} \phi(\mathcal{V}|m, x) \right|, \qquad (28)$$

with $\widehat{s}_j(m, x)$ the estimated share of choice j, conditional on $(M_i, X_i) = (m, x)$, and $\widehat{\mathbb{P}}[M_i = m, X_i = x]$ an estimate of the density of (M_i, X_i). The use of absolute deviations in the definition of $\widehat{Q}$ means that (28) can be reformulated as a linear program by replacing terms in absolute values by the sum of their positive and negative parts.[26] We weight these absolute deviations by the estimated density of (M_i, X_i) so that regions of smaller density do not have an outsized impact on the estimated bounds.

In the second step, we collect values of $\bar{\theta}(\phi)$ for ϕ that come close to minimizing (28). That is, we construct the set:

$$\widehat{\Theta}^\star \equiv \left\{ \bar{\theta}(\phi) : \phi \in \Phi, \ \phi \text{ satisfies (25), (26), and } \widehat{Q}(\phi) \leq \widehat{Q}^\star + \eta, \right\}. \qquad (29)$$

The qualifier "close" here reflects the tuning parameter η, which must converge to zero at an appropriate rate with the sample size. The purpose of this tuning parameter is to smooth out potential discontinuities caused by set convergence. In our empirical estimates, we set $\eta = .01$, and found very little sensitivity to values of η that were bigger or smaller by an order of magnitude. However, there are currently no theoretical results to guide the choice of this parameter.

We construct $\widehat{\Theta}^\star$ by solving two linear programs that replace (24) with the condition

---

[26] This is a common reformulation argument, see e.g. Bertsimas and Tsitsiklis (1997, pp. 19–20).

in (29). That is, we solve

$$\widehat{t}^{\star}_{\text{lb}} \equiv \min_{\phi \in \Phi} \overline{\theta}(\phi) \quad \text{subject to (25), (26), and } \widehat{Q}(\phi) \leq \widehat{Q}^{\star} + \eta, \tag{30}$$

and an analogous maximization problem for $\widehat{t}^{\star}_{\text{ub}}$. The set estimator for $\Theta^{\star}$ is then $\widehat{\Theta}^{\star} \equiv [\widehat{t}^{\star}_{\text{lb}}, \widehat{t}^{\star}_{\text{ub}}]$. When $\overline{\theta}$ is linear, (30) can be reformulated as a linear program, again by appropriately redefining the absolute value terms. In this case, the overall procedure of the estimator is to solve three linear programs: One for (28), one for (30), and one for the analogous maximization problem.

4 Demand in Covered California

4.1 Data

Our primary data are administrative records on the universe of individuals who purchased a plan through Covered California in 2014. The data contain unique person and household identifiers for each individual, as well as their age, income measured in percentage of the FPL, gender, zipcode of residence, choice of plan, and premium paid. Since post-subsidy premiums are a deterministic function of demographics (see Section 2), this information also allows us to calculate premiums for plans a consumer did not choose. We focus on the subpopulation of subsidy-eligible adults aged 27–64 with household income between 140 and 400% of the FPL. This comprises 73% of enrollees in Covered California.[27]

We characterize each individual i by their resident rating region (market), M_i, and a vector X_i of observables consisting of their age and household income. We discretize age into 38 single-year bins running from 27 to 64, and household income into 52 FPL bins that are 5% wide.[28] When crossed with the 19 rating regions in Covered California, this yields 37,544 unique rating region × age × income bins of the observable characteristics, (M_i, X_i).

As in most demand analyses, we do not directly observe individuals who chose the outside option of not purchasing a plan through Covered California. This means that we need to transform data on quantities chosen for the inside options into choice shares by estimating the number of potential buyers. To do this, we use the 2011–2013 American Community Survey public use file (via IPUMS, Ruggles et al., 2015) to estimate the number of subsidy-eligible buyers not covered by employer-sponsored or

---

[27] Out of 1,291,214 covered individuals, 211,093 (16%) are dependents, younger than 26, while 137,714 (11%) are not beneficiaries of premium subsidies.

[28] The FPL bins are $[140, 145), [145, 150), \ldots, [395, 400]$.

public insurance for each (M_i, X_i) bin. Our estimation procedure for this part uses a flexible parametric model and is similar to procedures used by Finkelstein et al. (2019) and Tebaldi (2017). More detail is provided in Appendix G.

We combine the estimates of potential buyers with the administrative data to construct choice shares for each of the region × age × income bins. For 7,517 of these bins, we observe more enrollees in the administrative data than we estimate as potential buyers. We drop these bins and use the remaining 30,027 bins as the main estimation sample.[29] Since the number of individuals per bin varies greatly, we will report parameters that average over (M_i, X_i), and therefore put greater weight on larger bins.

Our analysis is focused on an individual's choice of coverage level (metal tier). Thus, $J = 4$, with $j = 1, 2, 3, 4$ denoting Bronze, Silver, Gold, and Platinum, respectively, and $j = 0$ denoting the outside option, as usual. The implicit assumption here is that the choice of coverage level is separable from the choice of insurer. We view this as a reasonable assumption for Covered California because the regulations ensure that the metal tiers offered—as well as the financial characteristics of the tiers—do not vary by insurer. We define premiums P_{ij} for each tier j in each bin as the median post-subsidy premium across insurers.[30]

Table 2 provides some summary statistics. Each bin contains on average 85 potential buyers. The average participation rate in Covered California is 28%, and varies widely across rating regions and demographics, with a standard deviation across bins of 21%. Older and poorer buyers are significantly more likely to purchase coverage. The impact of the CSRs is evident in panel (b) of the table: Buyers with income below 200% face premiums of less than $100 per month to purchase a Silver plan with actuarial value of 88% or more (see Table 1). Over 30% of such consumers purchase a Silver plan, whereas among consumers with income over 250% of the FPL, fewer than 9% purchase the more expensive and less generous non-CSR Silver plan.

4.2 Identifying Assumptions

In this section, we describe our specific implementations of assumptions (6) and (7).

An insurer's primary decision in Covered California is the base price for each rating region and coverage level. This decision likely depends on differences in demand and costs specific to each rating region, for example due to the underlying socioeconomic or health characteristics of the residents in a region, or due to differences in provider

---

[29] The bins that are dropped tend to have a small number of estimated potential buyers.

[30] We have also estimated a subset of the results using other measures of price, such as the mean, minimum, and second-cheapest premiums across insurers. The estimates turn out to be fairly insensitive to this choice.

Table 2: *Summary Statistics*

Panel (a): Data by region, age, income

	Obs. (# of bins)	Mean	St. Dev.	P-10	Median	P-90
Number of buyers[*]	30,027	85.27	90.86	14	55	194
Age	30,027	43.41	10.70	29	43	59
Income (FPL%)	30,027	243.98	72.05	155	230	355
Takeup rate	30,027	0.280	0.208	0.053	0.235	0.576
Average premium paid	30,027	175.51	89.06	69	163	298
Share choosing Bronze	30,027	0.065	0.073	0	0.045	0.147
Share choosing Silver	30,027	0.188	0.173	0.018	0.139	0.424
Share choosing Gold	30,027	0.015	0.021	0	0.009	0.038
Share choosing Platinum	30,027	0.012	0.018	0	0.007	0.030

Panel (b): Heterogeneity by age and income

	Bronze		Silver		Gold		Platinum	
	Premium	Share	Premium	Share	Premium	Share	Premium	Share
By age:								
27-34	120	0.050	175	0.122	229	0.010	271	0.009
35-49	118	0.058	182	0.175	248	0.013	300	0.011
50-64	105	0.086	210	0.259	321	0.022	409	0.016
By income (FPL%):								
140-150	5	0.011	59	0.338	133	0.005	191	0.006
150-200	29	0.046	95	0.318	170	0.008	229	0.009
200-250	87	0.084	164	0.193	241	0.018	302	0.015
250-400	197	0.074	278	0.084	357	0.019	419	0.014

Note: Each observation in panel (a) is a unique combination of rating region × age × income bins of the observable characteristics, (M_i, X_i). All statistics except the number of buyers are calculated across bins, weighted by number of buyers in each bin. Standard deviation refers to the standard deviation across bins of the within-bin median of the corresponding variable. In panel (b), premium is calculated as the average premium paid across buyers of a given age/income group, while market shares are calculated a proportion of potential buyers as estimated using the ACS.
[*]: Number of buyers statistics are calculated across bins, not weighted by number of buyers.

networks. These factors are unobserved in the data, so we will not use variation in premiums across regions. That is, we define a market M_i to be a rating region, and we do not impose any restriction on how preferences (the density of valuations f) vary across markets.

Instead, we will assume—in a limited way—that preferences are locally invariant to age and income. Since premiums vary with age due to the age-rating, and with income due to the premium subsidies, this will provide variation in premiums that we can use to help identify demand counterfactuals. The way in which premiums evolve with age

and income is prescribed by ACA regulations, so the behavior of insurers is not likely to be an important threat to this strategy. Rather, the main concern is that valuations also change with age or income due to changes in latent risk factors or preferences. For this reason, we will use only local variation in age and income.

We formulate this approach using the notation of Section 3 by letting W_i denote a coarse aggregate of X_i bins. To do this, we group X_i into age bins given by {27–30, 31–35, 36–40,..., 56–60, 61–64} and income bins given in percentage of the FPL by {140–150, 150–200, 200–250, 250–300, 300–350, 350–400}. A value of W_i is then taken to be the market indicator M_i crossed between all possibilities of these coarser age-income bins. Conditioning on a value of W_i, we observe multiple premiums due to variation in age and income within the W_i bin. Our assumption is that the distribution of latent valuations does not change as X_i varies within this coarser bin.

For example, one value of $W_i = w$ corresponds to individuals in the North Coast rating region who are aged between 36 and 40 with incomes between 150 and 200% of the FPL. Within this bin, we have 50 values of X_i, comprised of the 5 ages 36, 37, 38, 39, 40 crossed with the 10 income bins between 150 and 200 in steps of 5%. For each of these 50 values, we observe a different premium vector. Since the variation we want to use is now in X_i, conditioning on a value of W_i, the notation we developed in Section 3 corresponds to taking $Z_i = X_i$. The assumption we use is now precisely (6) in that discussion, repeated here for emphasis:

$$\underbrace{f_{V|WZ}(v|w,z) = f_{V|WZ}(v|w,z') \quad \text{for all } z, z', w, \text{ and } v.}_{\text{within a coarse bin } (W_i = w), \text{ valuations are locally invariant to age and income } (Z_i = z, z')} \tag{31}$$

In Section 4.6, we relax assumption (6)/(31) to a strictly weaker "imperfect instrument" assumption that allows for some local variation with age and income.

The other assumption we maintain is the support condition (7), which we use to exploit the vertical ordering of plans in terms of actuarial generosity. We specify the sets $\mathcal{V}^\bullet(w)$ as follows:

$$\mathcal{V}^\bullet(w) = \begin{cases} \{v \in \mathbb{R}^4 : v_2 \geq v_4 \geq v_3 \geq v_1\} & \text{if } w \text{ has income below 150\% FPL} \\ \{v \in \mathbb{R}^4 : v_2 \geq v_1, \ v_4 \geq v_3 \geq v_1\} & \text{if } w \text{ has income in 150–200\% FPL} \\ \{v \in \mathbb{R}^4 : v_4 \geq v_2 \geq v_1, \ v_4 \geq v_3 \geq v_1\}, & \text{if } w \text{ has income in 200–250\% FPL} \\ \{v \in \mathbb{R}^4 : v_4 \geq v_3 \geq v_2 \geq v_1\} & \text{if } w \text{ has income above 250\% FPL} \end{cases}$$

This specification requires consumers to always prefer a plan that dominates on all actuarial characteristics. The different cases are needed to account for the CSRs,

which change at 150, 200 and 250% of the FPL (see Table 1). Note that in no case do we assume that any of the plans are preferred to the outside option, that is, we allow for some or all of the components of v to be smaller than $v_0 = 0$.

4.3 Counterfactual Prices

Our focus is on measuring the effects of a change in post-subsidy premiums on demand, consumer surplus, and government subsidy expenditure. We do not model supply, so all of the results should be interpreted as holding supply fixed. Integrating our nonparametric methodology with a model of supply-side behavior is an interesting avenue for future research, but beyond the scope of the current paper.

We consider counterfactual premium vectors of the form $\pi(M_i, X_i) + \delta$, for various choices of δ. That is, the counterfactuals we consider can be represented as the impact of shifting every individual's premium from the observed premium, $P_i \equiv \pi(M_i, X_i)$, to a counterfactual premium, $P_i^\star \equiv \pi(M_i, X_i) + \delta$. For each coarse bin (value of W_i), we construct an MRP using the set of premiums formed from all P_i and $P_i^\star$ within that bin.

Figure 3 illustrates by plotting observed and counterfactual Bronze and Silver premiums for three counterfactuals. In Figure 3b, the counterfactual is a \$10 increase in the premium of the Bronze plan for all consumers, while Figure 3c illustrates a \$10 increase for the Silver plan. The former corresponds to $\delta = (10, 0, 0, 0)$, while the latter corresponds to $\delta = (0, 10, 0, 0)$. In Figure 3d, both the Bronze and Silver plan premiums increase by \$10, which corresponds to $\delta = (10, 10, 0, 0)$.

4.4 Demand Responses

The first type of target parameter we consider is the change in choice shares. For market m, consumer characteristics x, and good j, this can be written as

$$\Delta \text{Share}_j(m, x; f) \equiv \int_{\mathcal{V}_j(\pi(m,x)+\delta)} f(v|m, x)\, dv - \int_{\mathcal{V}_j(\pi(m,x))} f(v|m, x)\, dv, \qquad (32)$$

where $\mathcal{V}_j(p)$ was defined in (9).[31] In order to aggregate (32) into a single measure, we average it over markets and demographics:

$$\Delta \text{Share}_j(f) \equiv \sum_{m,x} \Delta \text{Share}_j(m, x; f)\, \mathbb{P}[M_i = m, X_i = x]. \qquad (33)$$

---

[31] Note that on the left-hand side of (32) we have omitted the dependence on the premium change, δ, since this will be clear from the way we present the results.

Figure 3: *Observed and Counterfactual Premiums*

(a) *Observed prices*

(b) *Increase Bronze premiums by $10*

$P_i \;\rightarrow\; P_i^\star$

(c) *Increase Silver premiums by $10*

$P_i^\star$
$\uparrow$
P_i

(d) *Increase both premiums by $10*

$P_i^\star$
P_i
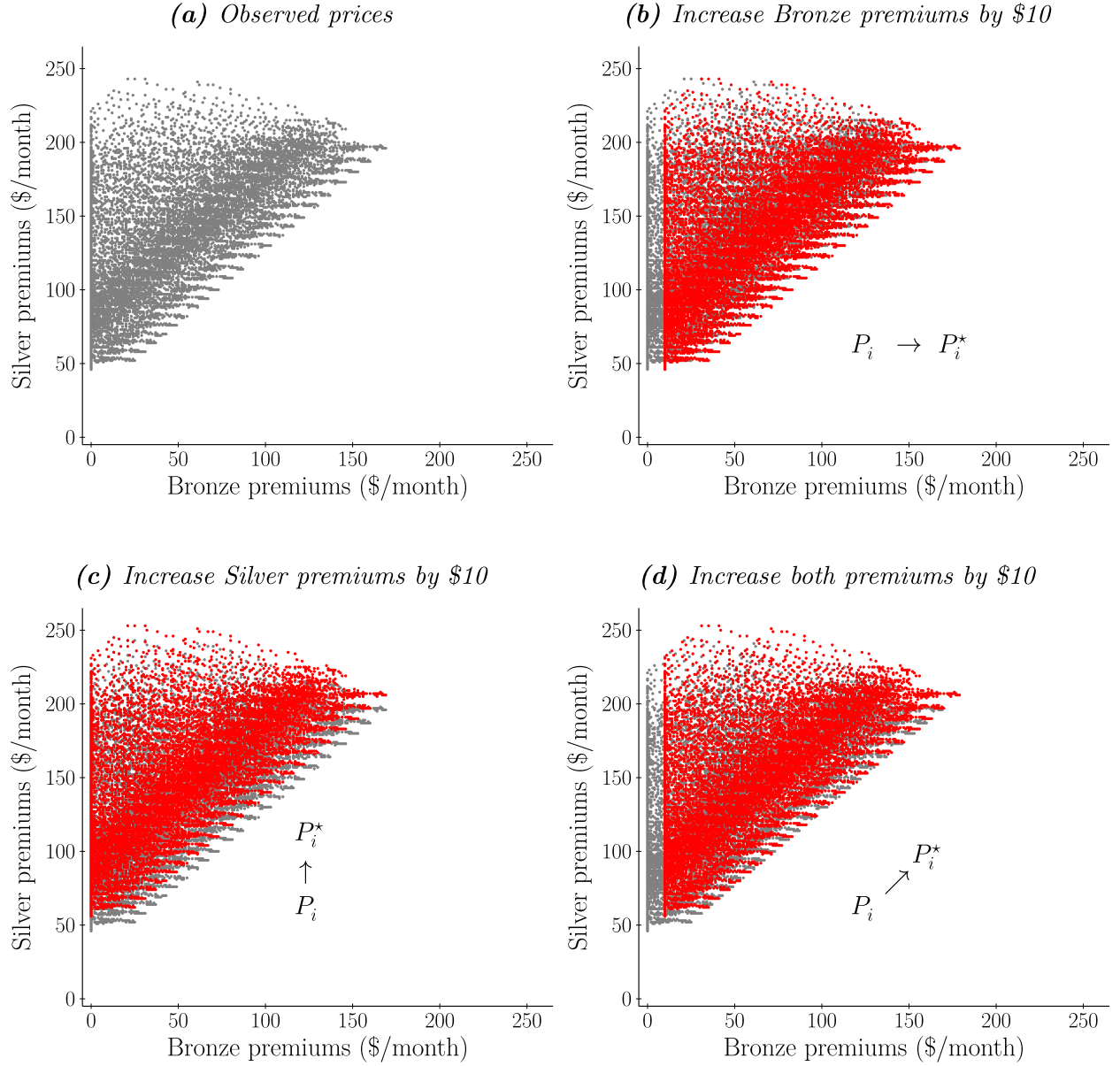
Note: *The figure shows observed and counterfactual premiums of Bronze and Silver plans. Panel (a) plots the prices observed in the data in grey, where each observation is a unique region-age-income combination (N=30,027). Panel (b) overlays in red the counterfactual prices representing an increase in $10 per person, per month for Bronze premiums. Panel (c) is like Panel (b), but the price increases are for Silver premiums. Panel (d) is like Panels (b) and (c) with price increases of $10 for both Silver and Bronze premiums.*

| $10/month premium increase for | Change in probability of choosing | | | | | | | | | |
| | Bronze | | Silver | | Gold | | Platinum | | Any plan | |
	LB	UB	LB	UB	LB	UB	LB	UB	LB	UB
	Panel (a): Full sample (140 - 400% FPL)									
Bronze	-0.051	-0.006	+0.002	+0.048	+0.000	+0.031	+0.000	+0.026	-0.013	-0.001
Silver	+0.000	+0.128	-0.170	-0.013	+0.000	+0.126	+0.000	+0.100	-0.052	-0.003
Gold	+0.000	+0.007	+0.000	+0.013	-0.016	-0.001	+0.000	+0.014	-0.004	-0.000
Platinum	+0.000	+0.005	+0.000	+0.008	+0.000	+0.012	-0.012	-0.001	-0.003	-0.000
All plans	-0.014	-0.003	-0.053	-0.010	-0.005	-0.001	-0.004	-0.000	-0.070	-0.016
	Panel (b): Lower income (140 - 250% FPL)									
Bronze	-0.049	-0.006	+0.002	+0.047	+0.000	+0.030	+0.000	+0.025	-0.011	-0.001
Silver	+0.001	+0.184	-0.243	-0.017	+0.000	+0.178	+0.000	+0.144	-0.078	-0.004
Gold	+0.000	+0.006	+0.000	+0.011	-0.013	-0.001	+0.000	+0.012	-0.003	-0.000
Platinum	+0.000	+0.005	+0.000	+0.008	+0.000	+0.012	-0.012	-0.001	-0.003	-0.000
All plans	-0.012	-0.002	-0.080	-0.014	-0.004	-0.000	-0.004	-0.000	-0.093	-0.018
	Panel (c): Higher income (250 - 400% FPL)									
Bronze	-0.053	-0.006	+0.001	+0.049	+0.000	+0.032	+0.000	+0.027	-0.015	-0.002
Silver	+0.000	+0.058	-0.077	-0.008	+0.000	+0.059	+0.000	+0.044	-0.019	-0.001
Gold	+0.000	+0.009	+0.000	+0.015	-0.019	-0.002	+0.000	+0.016	-0.005	-0.000
Platinum	+0.000	+0.005	+0.000	+0.008	+0.000	+0.012	-0.012	-0.001	-0.003	-0.000
All plans	-0.016	-0.004	-0.020	-0.005	-0.006	-0.001	-0.004	-0.000	-0.040	-0.014

In the notation of Section 3, ΔShare_j (either averaged or conditional) is an example of a target parameter, θ.

Table 3 reports estimated bounds for ΔShare_j across the four metal tiers together with bounds on overall participation, i.e. on $1 - \Delta\text{Share}_0$. The rows of Table 3 reflect different types of premium increases, δ. The nominal premium increase is taken to be $10 per person, per month, which represents a moderate to large price increase for many consumers (see Table 2).

Our estimated bounds are quite informative. For example, with the full sample in panel (a), we estimate that a simultaneous $10 increase in all premiums reduces the proportion of individuals who purchase coverage by between 1.6 and 7.0%. Panel (b) shows that these estimates are larger in magnitude for lower income individuals,

Figure 4: *Effect of Increasing Bronze Premiums by $10 on Bronze and Silver Choice Shares*
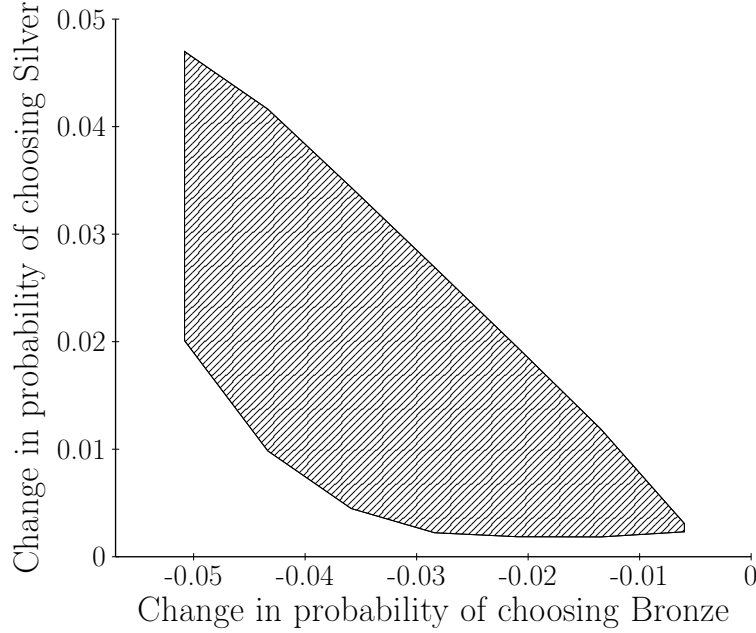
Note: *The figure shows the joint identified set for the effect of a $10 increase in Bronze monthly premiums on the choice probabilities of Bronze and Silver plans. To construct the set, we take a grid of equidistant points between the estimated upper and lower bounds for the change in Bronze choice shares. At each point in the grid, we find bounds on the change in Silver, while fixing the change in Bronze to be the value at the grid point.*

at between 1.8 and 9.3%, and panel (c) shows that they are smaller in magnitude for higher income individuals, who we estimate would reduce participation in Covered California by between 1.4 and 4.0%. Comparing panels (b) and (c) more generally, we find a pattern of higher price sensitivity for lower income enrollees.

The other columns of Table 3 measure substitution patterns within and between coverage tiers. For example, panel (a) shows that an increase in Bronze premiums by $10 per person, per month would lead to a decrease of between 0.6 and 5.1% in the share of consumers choosing Bronze coverage, and an increase in the share choosing Silver of between 0.2 and 4.8%. The increase in the share choosing Gold or Platinum is significantly smaller, reflecting the closer substitutability of the Bronze and Silver plans. The extensive margin change in participation for a Bronze premium increase is between 0.1 and 1.3%, which is naturally both smaller and tighter than the change when all premiums are increased together. In contrast, increasing Platinum premiums by the same amount would lead to a much smaller decline in the proportion of buyers not purchasing coverage, which we measure to be at most 0.3%. Overall, Table 3 indicates substitution patterns inconsistent with the independence of irrelevant alternatives property of the logit model.

Table 3 reports estimated bounds obtained by considering ΔShare_j separately for each plan. However, changes in choice shares for different plans are tightly related to one another. For example, if the decrease in the share of Bronze in response to a Bronze premium increase is smaller, the increase in the share of other alternatives is likely to also be smaller, and vice versa. We can describe these patterns by plotting a joint identified set for the change in multiple choice shares in response to a given premium change, as in Figure 4. The shape of this set shows that among the range of responses that could result from an increase in Bronze premiums, larger decreases in the probability of choosing Bronze would be associated with larger increases in the probability of choosing Silver. For example, if the probability of choosing Bronze were to decrease by 5%, then the probability of choosing Silver would increase by at least 2%, implying that at least 40% of the individuals leaving Bronze would substitute to Silver.

In a partial identification framework, the width of the bounds reflects the amount of information that the data and assumptions yield about a specific counterfactual. The bounds for more ambitious counterfactuals will be wider than the bounds for more modest counterfactuals that are closer to what was observed in the data. This situation is evident in Figure 5, which plots the average extensive margin (enrollment) response as a function of a given increase or decrease in all premiums. The bounds are relatively tight for small changes in premiums, and then widen as the premiums get farther from what was observed in the data. We consider this an attractive feature of the approach, since it reflects the increased difficulty of drawing inference about objects that involve larger departures from the observed data, and so captures an important dimension of model uncertainty. In contrast, a fully parametric model point identifies any counterfactual quantity regardless of how distant the extrapolation involved.[32]

4.5 Consumer Surplus and Subsidy Expenditure

The second set of parameters we consider measure the effects of changing premium subsidies on consumer surplus and government spending. From the individual's perspective, a decrease in premium subsidies—which in terms of policy can be thought of as an increase in the ACA's "maximum affordable amount"—is the same as an increase in premiums faced.[33] Such a subsidy change generates an average change in consumer

---

[32] Note that confidence intervals on point estimates from a parametric model will tend to widen as one extrapolates further. However, for the parametric models we consider in Section 5, the width of these confidence intervals is effectively zero even for distant extrapolations.

[33] Our analysis here requires maintaining a partial equilibrium framework in which there are no other supply-side responses in base premiums due to an adjustment in subsidy schemes. As noted above, integrating our approach with a model of insurance supply is an interesting avenue for future research.

31

Figure 5: *Extensive Margin Demand for Different Counterfactuals*
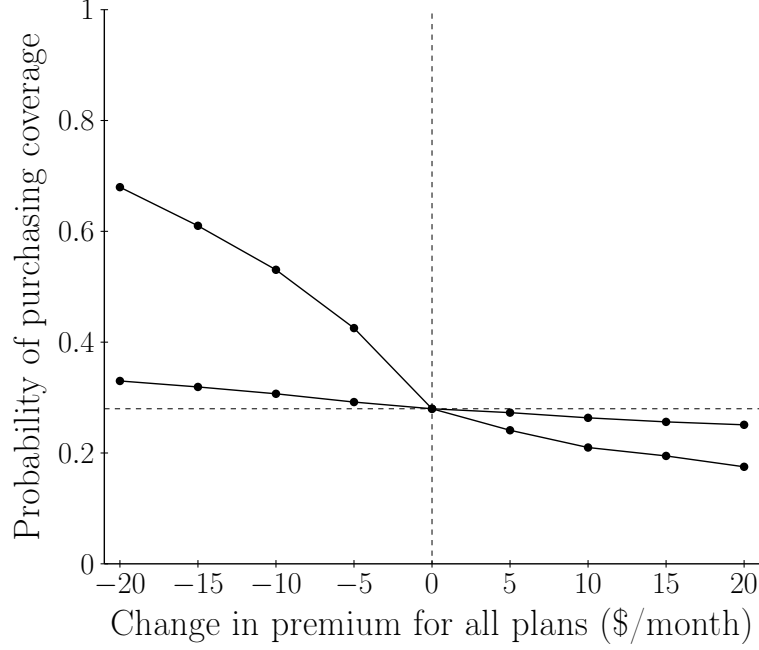
surplus for an individual in market m with characteristics x of

$$\Delta\text{CS}(m, x; f) \equiv \int \left[\max_{j \in \mathcal{J}} \{v_j - \pi_j(m, x) - \delta_j\} - \max_{j \in \mathcal{J}} \{v_j - \pi_j(m, x)\} \right] f(v|m, x) dv,$$

which we aggregate by averaging over markets and demographics into

$$\Delta\text{CS}(f) \equiv \sum_{m,x} \Delta\text{CS}(m, x; f) \, \mathbb{P}[M_i = m, X_i = x].$$

We will contrast the change in consumer surplus to the change in government spending on premium subsidies. This is given by

$$\Delta\text{GS}(m, x; f) \equiv \sum_{j>0} (\text{Sub}_j(m, x) - \delta_j) \times \left[\int_{\mathcal{V}_j(\pi(m,x)+\delta)} f(v|m, x) \, dv \right]$$

$$- \sum_{j>0} \text{Sub}_j(m, x) \times \left[\int_{\mathcal{V}_j(\pi(m,x))} f(v|m, x) \, dv \right],$$

where $\text{Sub}_j(m, x)$ denotes the baseline premium subsidy for purchasing plan j. We denote the aggregated change in government spending as

$$\Delta\text{GS}(f) \equiv \sum_{m,x} \Delta\text{GS}(m, x; f)\, \mathbb{P}[M_i = m, X_i = x].$$

Both ΔCS and ΔGS are examples of target parameters θ. Constructing bounds on ΔCS involves a two-step construction where we first determine bounds on the change in consumer surplus within each set in the MRP. We discuss this in detail in Appendix F.

Figure 6a depicts the bounds on ΔCS for a \$10 decrease in subsidies as the shaded areas to the left of the two demand curves. The lower bound on the decline in consumer surplus is the area to the left of the flatter demand curve, while the upper bound also includes the entire area to the left of the steeper demand curve. Intuitively, the smallest decrease in consumer surplus is attained when price sensitivity is highest, while the largest decrease is attained when price sensitivity is lowest.[34] Figure 6b plots the joint identified set of the change in consumer surplus and the change in government spending for this same counterfactual of a \$10 decrease in subsidies. The fact that the joint set is not rectangular reflects the mutual dependence of the two parameters on the underlying price sensitivity; relatively large consumer surplus decreases will only happen under relatively small decreases in spending, and vice versa.

Table 4 summarizes the estimates illustrated in Figure 6. The first column shows estimated bounds using the entire sample, while the second and third columns split the estimates on income. In the fourth column of Table 4, we report estimated bounds on the corresponding reduction in government spending.

Our estimates imply that a \$10 decrease in monthly subsidies would lead to a reduction in average monthly consumer surplus of between \$1.99 and \$2.45 per person. The impacts for the lower-income sample (\$2.55–\$3.16) are estimated to be approximately twice as large as the impacts for the higher-income sample (\$1.27–\$1.55). This reflects the fact that individuals with income lower than 250% of the FPL have a higher uptake of insurance and are covered under more generous plans due to the CSRs.

Our estimates of changes in consumer surplus are dwarfed by the corresponding change in government expenditure on premium subsidies, which we estimate to be between -\$7.50 and -\$19.03 per consumer, per month. The large magnitude of the expenditure savings is due to the marginal buyers who exit the market. When these

---

[34] Note that while the bounds on ΔCS shown here are sharp, the demand curves we have plotted are not unique, since there are many ways to draw a demand curve up to a \$10 premium increase that can yield the same area to the left, while still respecting the data and assumptions.

Figure 6: *Changes in Consumer Surplus and Government Spending*

(a) *Bounds on the change in consumer surplus.*

(b) *The joint identified set of consumer surplus and government spending.*
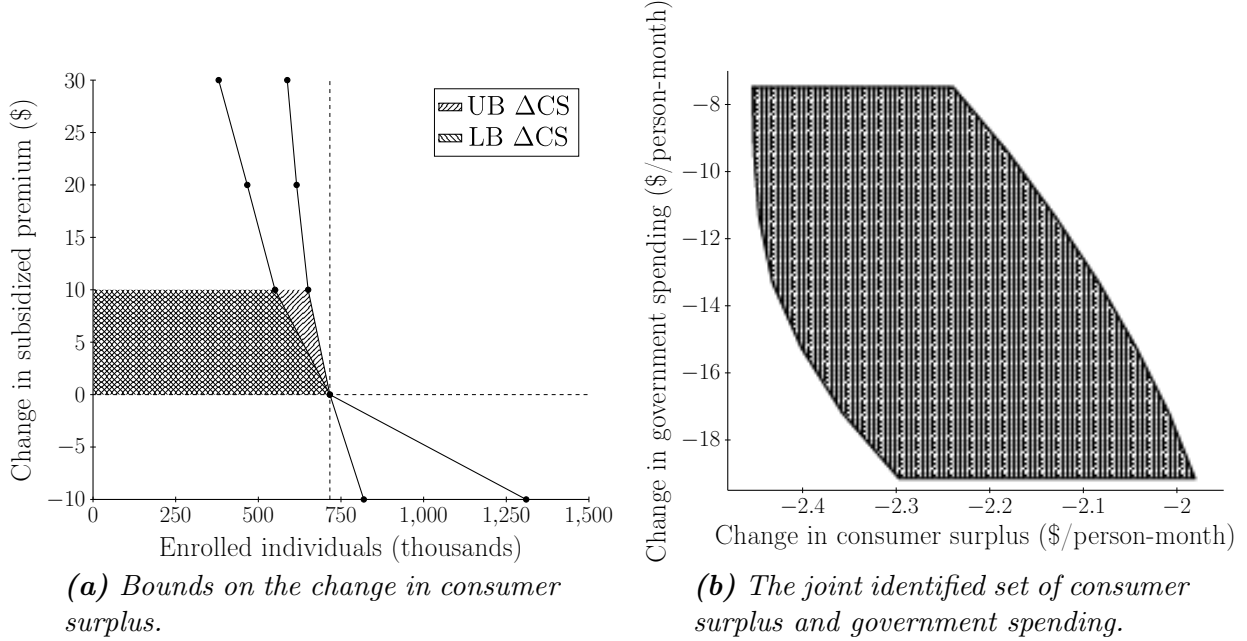
Table 4: *The Impacts of Reducing Premium Subsidies by $10 per Month*

	140 - 400% FPL Change in consumer surplus		140 - 250% FPL Change in consumer surplus		250 - 400% FPL Change in consumer surplus		140 - 400% FPL Associated change in subsidy outlays	
	LB	UB	LB	UB	LB	UB	LB	UB
Average ($/person-month)	-2.45	-1.99	-3.16	-2.55	-1.55	-1.27	-19.03	-7.50
Aggregate ($ million/year)	-77.82	-62.99	-57.59	-46.48	-22.48	-18.33	-603.89	-237.80

buyers exit, they relinquish their entire premium subsidy, which in most cases is significantly greater than $10.

The bottom row of Table 4 shows the aggregate yearly impact of a $10 reduction of subsidies in Covered California. The total consumer surplus impact would be between $63 and $78 million, with the majority of the losses concentrated among individuals with income below 250% of the FPL. At the same time, government subsidy outlays would decline by between $238 and $604 million per year.

Overall, our findings suggest that consumers value health insurance significantly less than it would cost in premium subsidies to induce them to purchase a plan. This is consistent with a growing number of empirical analyses, see e.g. Finkelstein et al.

(2019). One caveat is that our estimates do not account for potential sampling error. In Appendix H, we provide suggestive evidence that sampling error is unlikely to have a large impact on our bounds due to the large sample sizes we are considering. A more important caveat when interpreting our welfare estimates is that they do not account for the existence of potentially large externalities such as the cost of uncompensated care, debt delinquency, or bankruptcy (Finkelstein et al., 2012; Mahoney, 2015; Garthwaite et al., 2018).

4.6 Relaxing the Instrumental Variable Assumptions

The assumption that drives our results is (31), which requires valuations to be independent of age and income within 5 year and 50% FPL bins. We view this local invariance assumption as reasonable for the relatively homogenous groups of individuals within these bins. However, it is unlikely to hold exactly. Local invariance to age will fail if valuations change with risk factors and risk factors change with age.[35] Local invariance to income gives the additive separability in (1) the interpretation of quasilinearity, but this will of course fail if there are general income effects.

In this section, we consider a strictly weaker version of (31) that allows for deviations away from perfect local invariance. We do this by relaxing (31) from an equality to two inequalities controlled by a slackness parameter. For age, the relaxed assumption is that

$$(1 - \kappa_{\text{age}}(z, z'))f_{V|WZ}(v|w, z') \le f_{V|WZ}(v|w, z) \le (1 + \kappa_{\text{age}}(z, z'))f_{V|WZ}(v|w, z')$$
$$\text{for all } z, z', w, \text{ and } v, \tag{34}$$

where $\kappa_{\text{age}}(z, z')$ is a function specified as

$$\kappa_{\text{age}}(z, z') = \begin{cases} \kappa_{\text{age}}, & \text{if } z \text{ and } z' \text{ differ only in age, and only by a single bin} \\ +\infty, & \text{otherwise} \end{cases}$$

and $\kappa_{\text{age}} \ge 0$ is the slackness parameter. For income, we impose the analog of (34) with the roles of age and income swapped and a slackness parameter $\kappa_{\text{inc}} \ge 0$. We use these weaker forms to conduct a sensitivity analysis by varying κ_{age} and κ_{inc}, similar in spirit to Conley et al. (2010), Nevo and Rosen (2012), and Manski and Pepper (2017).

In words, (34) requires that within any coarse bin (i.e., conditional on $W_i = w$), the pointwise difference in conditional valuation densities for any two adjacent one-year age

---

[35] Indeed, the importance of age heterogeneity in health insurance demand has been emphasized in existing work, see e.g. Ericson and Starc (2015), Geruso (2017), and Tebaldi (2017).

Table 5: *Allowing for Valuations to Vary Within Coarse Age and Income Bins*

Allowed variation in preference with age and income		Change in probability of purchasing coverage if all per-person premiums increase by \$10/month		Change in consumer surplus (\$/person-month) if per-person subsidies decrease by \$10/month		Change in government spending (\$/person-month) if per-person subsidies decrease by \$10/month	
κ_{age}	κ_{inc}	LB	UB	LB	UB	LB	UB
0	0	-0.070	-0.016	-2.45	-1.99	-19.03	-7.50
0.2	0	-0.072	-0.017	-2.46	-1.98	-19.47	-7.48
0.6	0	-0.076	-0.019	-2.47	-1.96	-20.43	-7.70
$+\infty$	0	-0.089	-0.015	-2.51	-1.80	-23.92	-6.52
0	0.2	-0.075	-0.019	-2.47	-1.98	-20.22	-8.00
0	0.6	-0.089	-0.022	-2.48	-1.92	-23.36	-8.72
0	$+\infty$	-0.147	-0.021	-2.53	-1.44	-39.01	-8.26
0.2	0.2	-0.098	-0.023	-2.52	-1.92	-25.90	-9.35
0.6	0.6	-0.154	-0.015	-2.66	-1.65	-40.50	-7.71
$+\infty$	$+\infty$	-0.280	-0.000	-2.80	-0.00	-72.56	-2.70

bins (with identical income) can be no greater than $(\kappa_{age} \times 100)\%$. Taking $\kappa_{age} = \kappa_{inc} = 0$ corresponds to the previous assumption of (31). Alternatively, taking $\kappa_{age} = +\infty$ and $\kappa_{inc} = 0$ completely relaxes the age invariance restriction while retaining income invariance.

Table 5 reports bounds on some key target parameters for different values of κ_{age} and κ_{inc}.[36] The top row with $\kappa_{age} = 0$ and $\kappa_{inc} = 0$ is the same as the estimates reported in the previous section. At the opposite extremes, the row with $\kappa_{age} = +\infty$ uses only variation in income, the row with $\kappa_{inc} = +\infty$ uses only variation in age, and the row with $\kappa_{age} = \kappa_{inc} = +\infty$ uses neither. Values of κ_{age} and κ_{inc} in between limit the amount by which adjacent bins can differ, with larger values of these parameters representing strictly weaker identifying assumptions.[37]

---

[36] Note that it is straightforward to modify the sharp characterization in Proposition 1 to allow for an assumption like (34) instead of (31)/(6). The difference in implementation just amounts to replacing (25) with two appropriate inequalities.

[37] The bounds tend to widen with increases in κ_{age} and κ_{inc}, since larger values correspond to weaker assumptions. However, this is not always the case, due to the fact that we are estimating these bounds using the procedure in Section 3.10. That procedure works by restricting attention to densities that come closest to fitting the observed choice shares. This fit mechanically improves as κ_{age} or κ_{inc} increases, because a

Figure 7: *Extensive Margin Demand Relaxing Exclusion Restrictions*
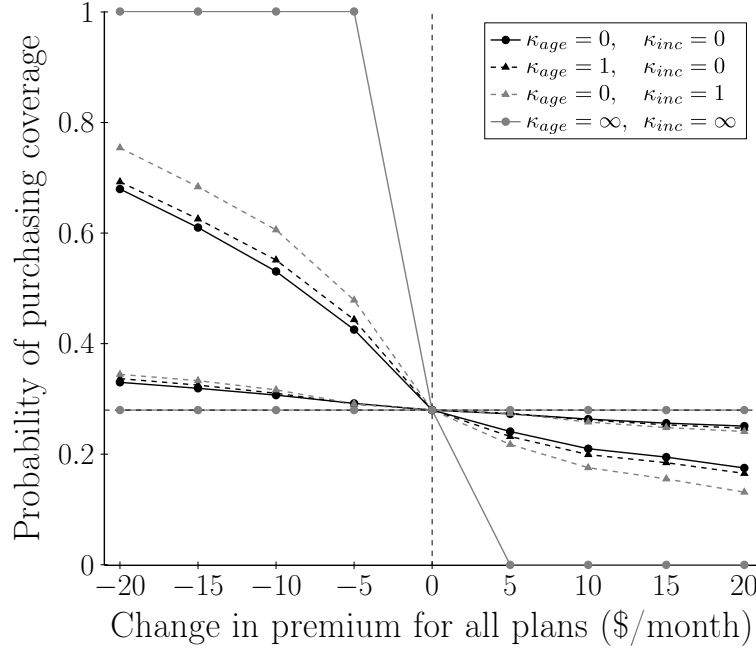
Overall, Table 5 suggests the estimated bounds in the previous section are quite robust to violations in either the age or income invariance assumption. If we completely drop age invariance, we obtain bounds that are not much wider. If we completely drop income invariance, the bounds widen significantly, but only at the upper end of the price sensitivity. As we will see in the next section, comparable parametric models produce estimates of price sensitivity that tend to be small in magnitude. Overall, our estimates of the impacts of a $10 decrease in subsidies remain qualitatively similar if we drop either age or income invariance separately. Figure 7 shows that extensive margin changes also remain similar under these specifications for different changes in subsidies.

The bounds widen more quickly when we relax both age and income invariance together in the third panel of Table 5. When both assumptions are completely removed, our bounds become completely uninformative: We cannot rule out that a $10 increase in monthly premiums causes all 28% of the population currently enrolled to exit the market. Setting $\kappa_{\text{age}} = \kappa_{\text{inc}} = .6$ allows for the density of valuations in adjacent age

---

larger class of valuation densities are considered. Densities that fit well for smaller values of the slackness parameters might be deemed to no longer fit well for larger values, since the best fit has improved. As a consequence, the best-fitting set of densities need not weakly increase, which can lead to non-monotonicity in the estimated bounds, even though monotonicity must hold for the population bounds.

Figure 8: *Extensive Margin: Nonparametric Bounds vs. Parametric Point Estimates*
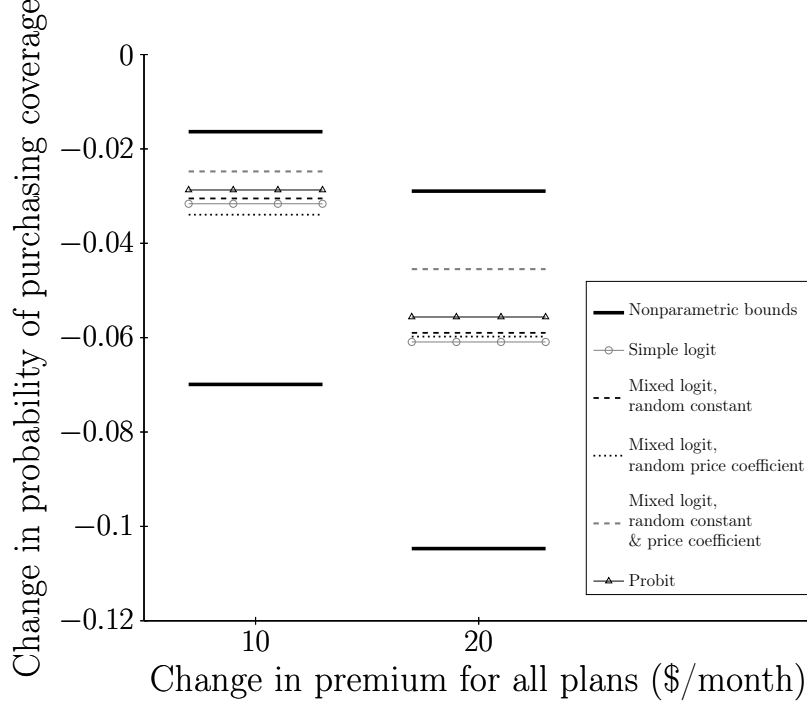
and/or income bins to increase or decrease by 60%. This seems extremely conservative, and our bounds do widen significantly, yet they remain qualitatively similar to our estimates from the main specification. For a more modest relaxation, like $\kappa_{\mathrm{age}} = \kappa_{\mathrm{inc}} = .2$, our bounds are, for practical purposes, essentially unmoved from our baseline estimates.

5 Comparison to Estimates from Parametric Models

The motivation of this paper has been to construct estimates of key demand-side policy parameters using a model that does not impose parametric distributional assumptions. In this section, we compare the estimates of the nonparametric model to estimates from some fully parametric logit and probit models.

The models we consider all follow a specification similar to (2):

$$Y_i = \arg\max_{j \in \mathcal{J}} \mathbb{1}[j \geq 1] \left(\gamma_i + \beta_i \mathrm{AV}_{ij} - \alpha_i P_{ij} + \xi_j \right) + \epsilon_{ij}, \tag{35}$$

where γ_i is an individual-specific intercept, AV_{ij} is the actuarial value of tier j for individual i (see Table 1), α_i and β_i are individual slope coefficients, and ξ_j are unobservable preference shifters for each tier. The indicator sets the contribution of these

Figure 9: *Consumer Surplus and Government Expenditure Changes from a \$10 Decrease in Premium Subsidies: Nonparametric Bounds vs. Parametric Point Estimates*
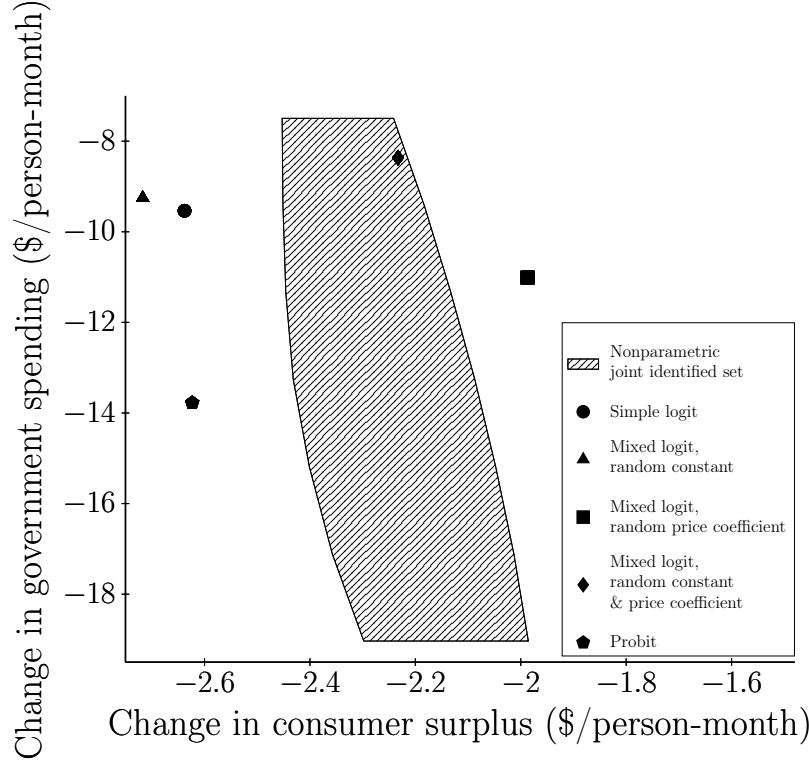
terms to 0 for the outside option ($j = 0$). We consider logit models in which ϵ_{ij} is assumed to follow a type I extreme value distribution, independently across j, as well as a probit model in which this unobservable is assumed to follow a normal distribution. We always estimate (35) market-by-market, so that all parameters vary by market in an unrestricted way.

The first model we estimate is a logit in which the price parameter, α_i, is constant within markets, but both γ_i and β_i vary with observables in a rich way.[38] The second model is a probit with the same specification.[39] We then consider three mixed logit models. In each of these models, γ_i and β_i vary with observables in the same way as in the baseline model. The three models differ in whether γ_i, α_i, or both have an additional unobservable component that is normally distributed with unknown vari-

---

[38] In particular, the specification allows β_i to vary freely by market with a different value in each of the following four age bins: {27–34, 35–44, 45–54, 54–64}. It allows γ_i to vary freely by market, and within each market restricts $\gamma_i = \gamma_i^{\text{Inc}} + \gamma_i^{\text{Age}}$, where γ_i^{Inc} varies in three FPL income bins {140–200, 200–250, 250–400}, and γ_i^{Age} varies in the same four age bins as β_i.

[39] The probit still has ϵ_{ij} independent across j. We had difficulty allowing for correlation across j because the likelihood is very flat.

ance. In the latter case, we also assume that the two unobservable components are uncorrelated.

Figure 8 illustrates how the nonparametric bounds for the extensive margin compare to the estimates one obtains from these five parametric models. The estimates shown are for $10 and $20 increases in monthly premiums. All of the point estimates are clustered together within the nonparametric bounds. For a $10 increase, the estimates are towards the upper bound, where price sensitivity is the lowest, while for a $20 increase they are more towards the center of the bounds. Our bounds are constructed so that any value within the upper and lower bound can be obtained by a distribution of valuations that fits the observed data equally well. Thus, one implication of Figure 8 is that distributional assumptions on ϵ_{ij} do in fact matter here, since substantially different conclusions could be obtained while fitting the data equally well.[40]

Figure 9 shows that the parametric models also make substantially different predictions for the consumer surplus and government spending impacts of a $10 decrease in premium subsidies. Only the richest parametric model we consider (the mixed logit with random coefficients on the constant and price) falls within the nonparametric joint identified set. All of the parametric models estimate changes in government expenditure contained within the marginal nonparametric bounds.[41] However, only the two mixed logits with random price coefficients yield estimated consumer surplus changes within the marginal bounds, suggesting that non-random price coefficients lead to attenuated demand responses. Of these two models, the one without the random constant term (shown as a square in Figure 9) predicts a combination of changes in consumer surplus and government expenditure that is inconsistent with the nonparametric model.

6   Conclusion

We estimated the demand for health insurance in California's ACA marketplace using a new nonparametric methodology. While we designed our methodology with health insurance in mind, it should be applicable to other discrete choice problems as well. The central idea of the method is to divide realizations of a consumer's valuations into sets for which behavior remains constant. We showed how to define the collection of such sets, which we referred to as the minimal relevant partition (MRP) of valuations. Using the MRP, we developed a computationally reliable linear programming procedure for consistently estimating sharp identified sets for policy-relevant target parameters.

---

[40] This conclusion appears to be quite robust to potential sampling error; see Appendix H.

[41] The marginal bounds can be seen by projecting the set in Figure 9 against the vertical axis. Alternatively, these bounds are reported in Table 4.

Our nonparametric estimates of demand point to the possibility of substantially greater price sensitivity than would be recognized using comparable parametric models. This is consistent with the folklore that logits are "flat" models. We showed that this has potentially important policy implications for the impact of decreasing subsidies on consumer surplus and government expenditure. More broadly, our results provide a clear example in which functional form assumptions are far from innocuous, and actually play a leading role in driving empirical conclusions.

A Methodology Literature Review

In this section, we discuss the relationship of our methodology to the existing literature. We focus our attention first on semi- and non-parametric approaches to unordered discrete choice analysis. This literature can be traced back to Manski (1975). The focus of Manski's work, as well as most of the subsequent literature, has been on relaxing parameterizations on the distribution of unobservables, while the observable component of utility is usually assumed to be linear-in-parameters.[42] The motivation of our approach is also to avoid the need to parameterize distributions of latent variables, however we have chosen to keep the entire analysis nonparametric.[43]

Our approach has three key properties that, when taken together, make it distinct in the literature on semi- and nonparametric discrete choice.

First, much of the literature has focused on identification of the observable components of indirect utility, while treating the distribution of unobservables as an infinite-dimensional nuisance parameter. For example, in (2), this would correspond to identifying α_i and β_i when these random coefficients are restricted to be constant. Examples of work with this focus include Manski (1975), Matzkin (1993), Lewbel (2000), Fox (2007), Pakes (2010), Ho and Pakes (2014), Pakes et al. (2006, 2015), Pakes and Porter (2016), Shi et al. (2016), and Khan et al. (2019). Identification of the relative importance of observable factors for explaining choices is insufficient for our purposes, because the policy counterfactuals we are interested in, such as choice probabilities and consumer surplus, also depend on the distribution of unobservables. Treating this distribution as a nuisance parameter would not allow us to make sharp statements about quantities relevant to these counterfactuals.

Second, we allow for prices (premiums in our context) to be endogenous in the sense of being correlated with the unobservable determinants of utility. This differentiates our paper from work that focuses on identification of counterfactuals, but which assumes exogenous explanatory variables. Examples of such work include Thompson (1989), Manski (2007, 2014), Briesch et al. (2010), Chiong et al. (2017), and Allen and Rehbeck (2017). The importance of allowing for endogenous explanatory variables in discrete choice demand analysis was emphasized by Berry (1994) and Hausman et al.

---

[42] Matzkin (1991) considered the opposite case in which the distribution of the unobservable component is parameterized, but the observable component is treated nonparametrically. See also Briesch et al. (2002).

[43] Extending our methodology to a semiparametric model is an interesting avenue for future work, but not well-suited to our application since there is no variation in choice (plan) characteristics in Covered California. Conceptually though, one could use our strategy with a semiparametric model by fixing the parametric component and then repeatedly applying our characterization argument, similar to the strategy in Torgovitsky (2018). See also the discussion in Appendix C.

(1994), and motivated the influential work of Berry et al. (1995, 2004a). In our application, it is essential that we can make statements about demand counterfactuals while still recognizing that premiums could be correlated with unobserved components of a consumer's valuations.

Third, we do not place strong demands on the available exogenous variation in the data. In particular, we do not require the existence of a certain number of instruments, or that such instruments satisfy strong support or rank conditions. For example, Lewbel (2000) and Fox and Gandhi (2016) require exogenous "special regressors" with large support, which are not available in our data. Alternatively, Chiappori and Komunjer (2009) and Berry and Haile (2014) provide identification results that require a sufficient number of continuous instruments that satisfy certain "completeness" conditions, which can be viewed as high-level analogs to traditional rank conditions. Compiani (2019) uses these results to develop a nonparametric estimator and applies it to study the demand for strawberries in California supermarkets. Besides the difficulty of finding a sufficient number of continuous instruments, one might also be concerned with the interpretability and/or testability of the completeness condition (Canay et al., 2013). Not maintaining these types of support and completeness conditions leads naturally to a partial identification framework (Santos, 2012).

Other authors have also considered taking a partial identification approach to unordered discrete choice models. Pakes (2010), Ho and Pakes (2014), Pakes et al. (2006, 2015), Pakes and Porter (2016) developed moment inequality approaches that can be used to bound coefficients on observables in specifications like (2) without parametric assumptions on the unobservables. As noted, this is insufficient for our purposes, since we are concerned with demand counterfactuals. Manski (2007), Chiong et al. (2017) and Allen and Rehbeck (2017) bound counterfactuals, but assume that all explanatory variables are exogenous. In parametric contexts, Nevo and Rosen (2012) have considered partial identification arising from allowing instruments to be partially endogenous, and Gandhi et al. (2017) analyzed the problem of non-purchases in scanner data as one of partial identification.

Chesher et al. (2013) provide a general framework for deriving moment inequalities in partially identified discrete choice models.[44] They use random set theory to characterize identification, which leads to the concept of a core-determining class of sets. For the quasilinear utility models that we consider in this paper, the core-determining class is strictly larger than the collection of sets we call the minimal relevant partition (see footnote 17). However, the analysis of Chesher et al. (2013) also applies to

---

[44] Chesher and Rosen (2017) generalize this framework to an even broader class of models.

models that are not quasilinear in utility. Our methodology also differs from theirs in terms of computation. Whereas Chesher et al. (2013) provide moment inequalities that must be checked for *each* candidate distribution of valuations (f), our approach effectively profiles out this distribution in search of bounds on the finite-dimensional target parameter (θ). As a consequence, our approach can be implemented nonparametrically, whereas feasibly implementing the Chesher et al. (2013) approach requires parameterizing the distribution of valuations (see their Section 4.2).

More generally, our work is related to a literature on computational approaches to characterizing identified sets in the presence of partial identification.[45] In particular, linear programming has been used by many other authors in different contexts, see e.g. Balke and Pearl (1994, 1997) and Hansen et al. (1995) for early examples. Previous work that has used linear programming to characterize sharp identified sets includes Honoré and Tamer (2006), Honoré and Lleras-Muney (2006), Manski (2007, 2014), Lafférs (2013), Freyberger and Horowitz (2015), Demuynck (2015), Kline and Tartari (2016), Torgovitsky (2016, 2018), Kamat (2017), and Mogstad et al. (2018). Of this work, ours is closest to Manski (2007), who also considered discrete choice problems. Methodologically, our work differs from Manski's because we maintain and exploit more structure on preferences (via (1)), and in addition we do not assume that explanatory variables (or choice sets in Manski's framework) are exogenous.

B   A Model of Insurance Choice

In this section, we provide a model of choice under uncertainty that leads to (1). The model is quite similar to those discussed in Handel (2013, pp. 2660–2662) and Handel et al. (2015, pp. 1280–281). Throughout, we suppress observable factors other than premiums (components of X_i) that could affect a consumer's decision. All quantities can be viewed as conditional on these observed factors, which is consistent with the nonparametric implementation we use in the main text.

Suppose that each consumer i chooses a plan j to maximize their expected utility taken over uncertain medical expenditures, so that

$$Y_i = \underset{j \in \mathcal{J}}{\arg\max} \int U_{ij}(e)\, dG_{ij}(e), \tag{36}$$

where $U_{ij}(e)$ is consumer i's ex-post utility from choosing plan j given realized expenditures of e, and G_{ij} is the distribution of these expenditures, which varies both by

---

[45] In addition to the series of papers by Chesher and Rosen (2013, 2014, 2017) and Chesher et al. (2013), this also includes work by Beresteanu et al. (2011), Galichon and Henry (2011), and Schennach (2014).

consumer i (due to risk factors) and by plan j (due to coverage levels). Assume that U_{ij} takes the constant absolute risk aversion (CARA) form

$$U_{ij}(e) = -\frac{1}{A_i}\exp(-A_i C_{ij}(e)), \tag{37}$$

where A_i is consumer i's risk aversion, and $C_{ij}(e)$ is their ex-post consumption when choosing plan j and realizing expenditures e. We assume that ex-post consumption takes the additively separable form

$$C_{ij}(e) = \text{Inc}_i - P_{ij} - e + \widetilde{V}_{ij}, \tag{38}$$

where Inc_i is consumer i's income, P_{ij} is the premium they paid for plan j, and $\widetilde{V}_{ij}$ is an idiosyncratic preference parameter.

Substituting (38) into (37) and then into (36), we obtain

$$Y_i = \underset{j \in \mathcal{J}}{\arg\max} -\frac{1}{A_i}\left[\exp(A_i(P_{ij} - \text{Inc}_i - \widetilde{V}_{ij}))\int \exp(A_i e)\, dG_{ij}(e)\right]$$

Transforming the objective using $u \mapsto -\log(-u)$, which is strictly increasing for $u < 0$, we obtain an equivalent problem

$$Y_i = \underset{j \in \mathcal{J}}{\arg\max} -\log\left(\frac{1}{A_i}\left[\exp(A_i(P_{ij} - \text{Inc}_i - \widetilde{V}_{ij}))\int \exp(A_i e)\, dG_{ij}(e)\right]\right)$$

$$= \underset{j \in \mathcal{J}}{\arg\max} -\log\left(\frac{1}{A_i}\right) + A_i\left(\text{Inc}_i - P_{ij} + \widetilde{V}_{ij}\right) + \log\left(\int \exp(A_i e)\, dG_{ij}(e)\right).$$

Eliminating additive terms that do not depend on plan choice yields

$$Y_i = \underset{j \in \mathcal{J}}{\arg\max} -A_i P_{ij} + A_i\widetilde{V}_{ij} + \log\left(\int \exp(A_i e)\, dG_{ij}(e)\right).$$

Suppose that $A_i > 0$, so that all consumers are risk averse.[46] Then we can express the consumer's choice as

$$Y_i = \underset{j \in \mathcal{J}}{\arg\max}\left[\widetilde{V}_{ij} + \frac{1}{A_i}\log\left(\int \exp(A_i e)\, dG_{ij}(e)\right)\right] - P_{ij},$$

[46] Showing that (1) would arise from risk neutral consumers is immediate.

which takes the form of (1) with

$$V_{ij} \equiv \left[\widetilde{V}_{ij} + \frac{1}{A_i} \log \left(\int \exp(A_i e) \, dG_{ij}(e) \right) \right].$$

Examining the components of V_{ij} reveals the factors that contribute to heterogeneous valuations in this model. Heterogeneity across i can come from variation in risk aversion (A_i), from differences in risk factors or beliefs (G_{ij}), and from idiosyncratic differences in the valuation of health insurance ($\widetilde{V}_{ij}$). Differences in valuations across j arise from the interaction between risk factors and the corresponding distribution of expenditures (G_{ij}), as well as from idiosyncratic differences in valuations across plans ($\widetilde{V}_{ij}$). The main restrictions in this model are the assumption of CARA preferences in (37) and the quasilinearity of ex-post consumption in (38). However, as noted in the main text, these restrictions do not have empirical content until they are combined with an assumption about the dependence between income (here called Inc_i) and the preference parameters, A_i and $\widetilde{V}_{ij}$.

C Modifications for More or Less Price Variation

In Covered California, post-subsidy premiums are a deterministic function of the market (rating region) and consumer demographics. Our discussion in the main text was tailored to this case. In this section, we discuss how to modify our approach to settings in which prices vary either more or less.

The more straightforward (and probably less interesting) case is when P_i still varies conditional on (M_i, X_i). This could occur if prices vary at the individual level due to factors that the researcher does not observe. In this case, our methodology can be applied with little more than notational changes. In addition to (M_i, X_i), one would also need to condition on P_i when defining the primitive distribution of valuations, f. Demand and consumer surplus parameters like (3) and (4) would be defined as before, but there would be an additional integration step to construct the density of V_i given (M_i, X_i) from that of V_i given (P_i, M_i, X_i). A similar comment applies to the assumptions in Section 3.5. Condition (11) would be modified so that it is defined for all (p, m, x) in the support of (P_i, M_i, X_i).

The less straightforward (and more interesting) case is when one observes only a single price for each market, as in Berry et al. (1995) and Berry and Haile (2014). Notationally, this means $P_i = \pi(M_i)$ depends on M_i only, and not X_i. As a technical matter, our methodology applies exactly as before to this case. However, since there is only a single price per market, and since we are not assuming anything about how

demand varies across markets, the resulting bounds will be uninformative. Here, we suggest two additional assumptions that could potentially be used to compensate for limited price variation.

The first assumption is that there is another observable variable that varies within markets and can be made comparable to prices.[47] This is implicit in standard discrete choice models like (2). Consider modifying (1) to

$$Y_i = \arg\max_{j \in \mathcal{J}} V_{ij} + X_i'\beta_j - P_{ij}, \tag{39}$$

where $\beta \equiv (\beta_1, \ldots, \beta_J)$ are unknown parameter vectors. For each fixed β, this model is like (1) but with "prices" given by $\tilde{P}_{ij}(\beta_j) \equiv P_{ij} - X_i'\beta_j$. While P_{ij} does not vary within markets, $\tilde{P}_{ij}(\beta_j)$ can if a component of X_i does. In order to make use of this variation, that component of X_i needs to be independent of V_i, which is a common assumption in empirical implementations of (2). In our framework, this independence can be incorporated by modifying the instrumental variable assumptions in Section 3.5.1.

The second assumption is that the unobservables that vary across markets can be made comparable to prices. In (2), these unobservables are called ξ_{jm}. In our notation, we can incorporate these by replacing (1) with

$$Y_i = \arg\max_{j \in \mathcal{J}} V_{ij} + \xi_j(M_i) - P_{ij}, \tag{40}$$

where ξ_j is an unknown function of the consumer's market. For each fixed ξ, this model is like (1) but with valuations given by $\tilde{V}_{ij}(\xi) \equiv V_{ij} + \xi_j(M_i)$. After incorporating unobserved product-market effects in this way, one may be willing to assume that V_{ij} is independent of $P_i = \pi(M_i)$, as is common in implementations of (2). This can be incorporated by modifying the instrumental variable assumptions in Section 3.5.1. While there is still only a single price per market, (40) together with such an independence assumption enables aggregation across markets by requiring the distribution of valuations to be the same up to a location shift.

Implementing either (39) or (40) requires looping over possible parameter values β or ξ. However, for each candidate β and ξ, one can characterize and compute the identified set exactly as before. This suggests that such a procedure will still be sharp. Developing a feasible computational strategy appears more challenging, but not impossible. Since neither (39) or (40) are needed for our application, we leave fuller

---

[47] Berry and Haile (2010) show how such variables can be used to relax assumptions used in the nonparametric point identification arguments in Berry and Haile (2014).

investigations of these extensions to future work.

D   Construction of the Minimal Relevant Partition

We first observe that any price (premium) vector $p \in \mathbb{R}^J$ divides $\mathbb{R}^J$ into the sets $\{\mathcal{V}_j(p)\}_{j=0}^J$, as shown in Figures 1a and 1b. Intuitively, we view such a division as a partition, although formally this is not correct, since these sets can overlap on subsets like $\{v \in \mathbb{R}^J : v_j - p_j = v_k - p_k\}$ where ties occurs. These regions of overlap have Lebesgue measure zero in $\mathbb{R}^J$, so this caveat is unimportant given our focus on continuously distributed valuations. To avoid confusion, we refer to a collection of sets that would be a partition if not for regions of Lebesgue measure zero as an almost sure (a.s.) partition.

Definition ASP. *Let $\{\mathcal{A}_t\}_{t=1}^T$ be a collection of Lebesgue measurable subsets of $\mathbb{R}^J$. Then $\{\mathcal{A}_t\}_{t=1}^T$ is an almost sure (a.s.) partition of $\mathbb{R}^J$ if*

a) $\bigcup_{t=1}^T \mathcal{A}_t = \mathbb{R}^J$; *and*

b) $\lambda(\mathcal{A}_t \cap \mathcal{A}_{t'}) = 0$ *for any $t \neq t'$, where λ denotes Lebesgue measure on $\mathbb{R}^J$.*

Next, we enumerate the price vectors in $\mathcal{P}$ as $\mathcal{P} = \{p_1, \ldots, p_L\}$ for some integer L. Let $\mathcal{Y} \equiv \mathcal{J}^L$ denote the collection of all L–tuples from the set of choices $\mathcal{J} \equiv \{0, 1, \ldots, J\}$. Then, since $\{\mathcal{V}_j(p_l)\}_{j=0}^J$ is an a.s. partition of $\mathbb{R}^J$ for every p_l, it follows that

$$\left\{ \widetilde{\mathcal{V}}_y : y \in \mathcal{Y} \right\} \quad \text{where} \quad \widetilde{\mathcal{V}}_y \equiv \bigcap_{l=1}^L \mathcal{V}_{y_l}(p_l) \tag{41}$$

also constitutes an a.s. partition of $\mathbb{R}^J$.[48] Intuitively, each vector $y \equiv (y_1, \ldots, y_L)$ is a profile of L choices made under the price vectors $(p_1, \ldots, p_L)$ that comprise $\mathcal{P}$. Each set $\widetilde{\mathcal{V}}_y$ in the a.s. partition (41) corresponds to the subset of valuations in $\mathbb{R}^J$ for which a consumer would make choices y when faced with prices $\mathcal{P}$.

The collection $\mathbb{V} \equiv \{\widetilde{\mathcal{V}}_y : y \in \mathcal{Y}\}$ is the MRP, since it satisfies Definition MRP by construction. To see this, note that if $v, v' \in \widetilde{\mathcal{V}}_y$ for some y, then by (41), $v, v' \in \mathcal{V}_{y_l}(p_l)$ for all $l = 1, \ldots, L$, at least up to collections of v, v' that have Lebesgue measure zero. Recalling (9) and the notation of Definition MRP, this implies that $Y(v, p) = Y(v', p)$ for all $p \in \mathcal{P}$. Conversely, if $Y(v, p) = Y(v', p)$ for all $p \in \mathcal{P}$, then taking

$$y \equiv (Y(v, p_1), \ldots, Y(v, p_L)) = (Y(v', p_1), \ldots, Y(v', p_L)), \tag{42}$$

---

[48] Note that these sets are Lebesgue measurable, since $\mathcal{V}_j(p)$ is a finite intersection of half-spaces and $\widetilde{\mathcal{V}}_y$ is a finite intersection of sets like $\mathcal{V}_j(p)$.

yields an L–tuple $y \in \mathcal{Y}$ such that $v, v' \in \mathcal{V}_{y_l}(p_l)$ for every l, again barring ambiguities that occur with Lebesgue measure zero.

From a practical perspective, this is an inadequate representation of the MRP, because if choices are determined by the quasilinear model (1), then many of the sets $\widetilde{\mathcal{V}}_y$ must have Lebesgue measure zero. This makes indexing the partition by $y \in \mathcal{Y}$ excessive; for computation we would prefer an indexing scheme that only includes sets that are not already known to have measure zero. For this purpose, we use an algorithm that starts with the set of prices $\mathcal{P}$ and returns the collection of choice sequences $\overline{\mathcal{Y}}$ that are not required to have Lebesgue measure zero under (1). We use this set $\overline{\mathcal{Y}}$ in our computational implementation. Note that since $\widetilde{\mathcal{V}}_y$ has Lebesgue measure zero for any $y \in \mathcal{Y} \setminus \overline{\mathcal{Y}}$, the collection $\mathbb{V} \equiv \{\widetilde{\mathcal{V}}_y : y \in \overline{\mathcal{Y}}\}$ still constitutes an a.s. partition of $\mathbb{R}^J$ and still satisfies the key property (17) of Definition MRP.

The algorithm works as follows.[49] We begin by partitioning $\mathcal{P}$ into T sets (or blocks) of prices $\{\mathcal{P}_t\}_{t=1}^T$ that each contain (give or take) ψ prices. For each t, we then construct the set of all choice sequences $\overline{\mathcal{Y}}_t \subseteq \mathcal{J}^{|\mathcal{P}_t|}$ that are compatible with the quasilinear choice model in the sense that $y^t \in \overline{\mathcal{Y}}_t$ if and only if the set

$$\left\{ v \in \mathbb{R}^J : v_{y_l^t} - p_{y_l^t} \geq v_j - p_j \text{ for all } j \in \mathcal{J} \text{ and } p \in \mathcal{P}_t \right\} \tag{43}$$

is non-empty. In practice, we do this by sequentially checking the feasibility of a linear program with (43) as the constraint set. The sense in which we do this sequentially is that instead of checking (43) for all $y^t \in \mathcal{J}^{|\mathcal{P}_t|}$—which could be a large set even for moderate ψ—we first check whether it is nonempty when the constraint is imposed for only 2 prices in $\mathcal{P}_t$, then 3 prices, etc. Finding that (43) is empty when restricting attention to one of these shorter choice sequences implies that it must also be infeasible for all other sequences that share the short component. This observation helps speed up the algorithm substantially.

One we have found $\overline{\mathcal{Y}}_t$ for all t, we combine blocks of prices into pairs, then repeat the process with these larger, paired blocks. For example, if we let $\mathcal{P}_{12} \equiv \mathcal{P}_1 \cup \mathcal{P}_2$—i.e. we pair the first two blocks of prices—then we know that the set of $y^{12} \in \mathcal{J}^{|\mathcal{P}_1|+|\mathcal{P}_2|}$ that satisfy (43) must be a subset of $\{(y_1, y_2) : y_1 \in \overline{\mathcal{Y}}_1, y_2 \in \overline{\mathcal{Y}}_2\}$. We sequentially check the non-emptyness of (43) for all y^{12} in this set, eventually obtaining a set $\overline{\mathcal{Y}}_{12}$. Once we have done this for all pairs of price blocks, we then combine pairs of pairs of blocks (e.g. $\mathcal{P}_{12} \cup \mathcal{P}_{34}$) and repeat the process. Continuing in this way, we eventually

---

[49] We expect that this algorithm leaves room for significant computational improvements, but we leave more sophisticated developments for future work. In practice, we also use some additional heuristics based on sorting the price vectors. These have useful but second-order speed improvements that are specific to our application, so for brevity we do not describe them here.

end up with the original set of price vectors, $\mathcal{P}$, as well as the set of all surviving choice sequences, $\overline{\mathcal{Y}} \subseteq \mathcal{Y}$.

The key input to this algorithm is the number of prices in the initial price blocks, which we have denoted by ψ. The optimal value of ψ should be something larger than 2, but smaller than L. With small ψ, the sequential checking of (43) yields less payoff, since each detection of infeasibility eliminates fewer partial choice sequences. On the other hand, large ψ makes the strategy of combining pairs of smaller blocks of prices into larger blocks less fruitful. For our application, we use $\psi = 8$–10, which seems to be fairly efficient, although it is likely specific to our setting.

E   Proofs for Propositions 1 and 2

E.1   Proposition 1

If $t \in \Theta^\star$, then by definition there exists an $f \in \mathcal{F}^\star$ such that $\theta(f) = t$. Let $\overline{\phi}(f)$ be defined as in (20), which we reproduce here for convenience:

$$\overline{\phi}(f)(\mathcal{V}|m, x) \equiv \int_{\mathcal{V}} f(v|m, x)\, dv. \tag{20}$$

Note that $\overline{\phi}(f) \in \Phi$, because the MRP $\mathbb{V}$ is (almost surely) a partition of $\mathbb{R}^J$, and f is a conditional probability density function on $\mathbb{R}^J$. Due to the assumed properties of $\overline{\theta}$, we also know that $\overline{\theta}(\overline{\phi}(f)) = \theta(f) = t$, so that (23) is satisfied. To see that $\overline{\phi}(f)$ satisfies (24), observe that

$$\sum_{\mathcal{V} \in \mathbb{V}_j(\pi(m,x))} \overline{\phi}(f)(\mathcal{V}|m, x) \equiv \sum_{\mathcal{V} \in \mathbb{V}_j(\pi(m,x))} \int_{\mathcal{V}} f(v|m, x)\, dv = s_j(m, x; f) = s_j(m, x),$$

where the first equality follows by definition (20), the second follows from (10) and (18), and the third follows from the definition of $\mathcal{F}^\star$. Similarly, $\overline{\phi}(f)$ satisfies (25) because

$$
\begin{aligned}
\overline{\phi}(f)_{\mathbb{V}|WZ}(\mathcal{V}|w, z) &\equiv \mathbb{E}\left[\overline{\phi}(f)(\mathcal{V}|M_i, X_i)|W_i = w, Z_i = z\right] \\
&= \mathbb{E}\left[\int_{\mathcal{V}} f(v|M_i, X_i)\, dv \Big| W_i = w, Z_i = z\right] \\
&= \int_{\mathcal{V}} \mathbb{E}\left[f(v|M_i, X_i)|W_i = w, Z_i = z\right] dv \\
&= \int_{\mathcal{V}} \mathbb{E}\left[f(v|M_i, X_i)|W_i = w, Z_i = z'\right] dv = \overline{\phi}(f)_{\mathbb{V}|WZ}(\mathcal{V}|w, z')
\end{aligned}
$$

where the third equality follows by Tonelli's Theorem (e.g. Shorack, 2000, pg. 82), the fourth uses (6), which holds (by definition) for all $f \in \mathcal{F}^\star$, and the final equality

reverses the steps of the first three. That $\overline{\phi}(f)$ also satisfies (26) follows using a similar argument since $f \in \mathcal{F}^\star$ satisfies (7), i.e.

$$
\sum_{\mathcal{V} \in \mathbb{V}^\bullet(w)} \overline{\phi}(f)_{\mathbb{V}|WZ}(\mathcal{V}|w,z) = \sum_{\mathcal{V} \in \mathbb{V}^\bullet(w)} \int_{\mathcal{V}} \mathbb{E}\left[f(v|M_i, X_i)|W_i = w, Z_i = z\right] dv
$$

$$
= \int_{\cup\{\mathcal{V}:\mathcal{V}\in\mathbb{V}^\bullet(w)\}} f_{V|WZ}(v|w,z)\, dv
$$

$$
\geq \int_{\mathcal{V}^\bullet(w)} f_{V|WZ}(v|w,z)\, dv = 1. \tag{44}
$$

The inequality in (44) follows because the definition of $\mathbb{V}^\bullet(w)$, together with the fact that $\mathbb{V}$ is an a.s. partition of $\mathbb{R}^J$, implies that $\mathcal{V}^\bullet(w)$ is contained in the union of sets in $\mathbb{V}^\bullet(w)$. This inequality implies that $\overline{\phi}(f)$ satisfies (26), because

$$
\sum_{\mathcal{V}\in\mathbb{V}^\bullet(w)} \overline{\phi}(f)_{\mathbb{V}|WZ}(\mathcal{V}|w,z) \leq \sum_{\mathcal{V}\in\mathbb{V}} \overline{\phi}(f)_{\mathbb{V}|WZ}(\mathcal{V}|w,z)
$$

$$
= \mathbb{E}\left[\sum_{\mathcal{V}\in\mathbb{V}} \overline{\phi}(f)(\mathcal{V}|M_i, X_i)\Big| W_i = w, Z_i = z\right] = 1,
$$

as a result of $\overline{\phi}(f)$ being an element of Φ. We have now established that if $t \in \Theta^\star$, then there exists a $\phi \in \Phi$ satisfying (23)–(26) for which $\overline{\theta}(\phi) = t$.

Conversely, suppose that such a $\phi \in \Phi$ exists for some t. Recall that W_i was assumed to be a subvector (or more generally, a function) of (M_i, X_i), and denote this function by ω, so that $W_i = \omega(M_i, X_i)$. Then define

$$
\overline{f}(\phi)(v|m, x) \equiv \sum_{\mathcal{V}\in\mathbb{V}^\bullet(\omega(m,x))} \frac{\mathbb{1}\left[v \in \mathcal{V} \cap \mathcal{V}^\bullet(\omega(m, x))\right]}{\lambda\left(\mathcal{V} \cap \mathcal{V}^\bullet(\omega(m, x))\right)} \phi(\mathcal{V}|m, x),
$$

noting that the definition of $\mathbb{V}^\bullet(w)$ ensures that the summands are well-defined. The function $\overline{f}(\phi)(\cdot|m, x)$ places total mass of $\phi(\mathcal{V}|m, x)$ on sets $\mathcal{V} \in \mathbb{V}^\bullet(\omega(m, x))$, and distributes this mass uniformly across each set. We will show that $t \in \Theta^\star$ by establishing that $\overline{f}(\phi) \in \mathcal{F}^\star$ and $\theta(\overline{f}(\phi)) = t$.

First observe that for any $\mathcal{V} \in \mathbb{V}$,

$$
\int_{\mathcal{V}} \overline{f}(\phi)(v|m, x)\, dv \equiv \sum_{\mathcal{V}'\in\mathbb{V}^\bullet(\omega(m,x))} \int_{\mathcal{V}} \frac{\mathbb{1}\left[v \in \mathcal{V}' \cap \mathcal{V}^\bullet(\omega(m, x))\right]}{\lambda\left(\mathcal{V}' \cap \mathcal{V}^\bullet(\omega(m, x))\right)} \phi(\mathcal{V}'|m, x)\, dv
$$

$$
= \mathbb{1}[\mathcal{V} \in \mathbb{V}^\bullet(\omega(m, x))]\phi(\mathcal{V}|m, x), \tag{45}
$$

since the sets in $\mathbb{V}$ and thus $\mathbb{V}^\bullet(\omega(m, x))$ are disjoint (almost surely). Using (45), we

51

have that

$$\int_{\mathbb{R}^J} \overline{f}(\phi)(v|m,x)\,dv = \sum_{\mathcal{V}\in\mathbb{V}} \int_{\mathcal{V}} \overline{f}(\phi)(v|m,x)\,dv = \sum_{\mathcal{V}\in\mathbb{V}^\bullet(\omega(m,x))} \phi(\mathcal{V}|m,x) = 1, \quad (46)$$

where the first equality uses the fact that $\mathbb{V}$ is an (a.s.) partition of $\mathbb{R}^J$, and the final equality is implied by the hypothesis that ϕ satisfies (26), since

$$1 = \sum_{\mathcal{V}\in\mathbb{V}^\bullet(w)} \phi_{\mathbb{V}|WZ}(\mathcal{V}|w,z) = \mathbb{E}\left[\sum_{\mathcal{V}\in\mathbb{V}^\bullet(\omega(M_i,X_i))} \phi(\mathcal{V}|M_i,X_i)\,\Big|\,W_i = w, Z_i = z\right],$$

and every $\phi \in \Phi$ satisfies

$$\sum_{\mathcal{V}\in\mathbb{V}^\bullet(\omega(m,x))} \phi(\mathcal{V}|m,x) \leq \sum_{\mathcal{V}\in\mathbb{V}} \phi(\mathcal{V}|m,x) = 1.$$

Thus, from (46), and since $\overline{f}(\phi)$ inherits non-negativity from $\phi \in \Phi$, we conclude that $\overline{f}(\phi)$ is a conditional density, i.e. $\overline{f}(\phi) \in \mathcal{F}$.

To see that $\overline{f}(\phi)$ satisfies (6), notice that

$$\overline{f}(\phi)_{V|WZ}(v|w,z) \equiv \mathbb{E}\left[\overline{f}(\phi)(v|M_i,X_i)|W_i = w, Z_i = z\right]$$

$$\equiv \mathbb{E}\left[\sum_{\mathcal{V}\in\mathbb{V}^\bullet(w)} \frac{\mathbb{1}\left[v \in \mathcal{V}\cap\mathcal{V}^\bullet(w)\right]}{\lambda\left(\mathcal{V}\cap\mathcal{V}^\bullet(w)\right)}\phi(\mathcal{V}|M_i,X_i)\,\Big|\,W_i = w, Z_i = z\right]$$

$$= \sum_{\mathcal{V}\in\mathbb{V}^\bullet(w)} \frac{\mathbb{1}\left[v \in \mathcal{V}\cap\mathcal{V}^\bullet(w)\right]}{\lambda\left(\mathcal{V}\cap\mathcal{V}^\bullet(w)\right)}\phi_{\mathbb{V}|WZ}(\mathcal{V}|w,z)$$

$$= \sum_{\mathcal{V}\in\mathbb{V}^\bullet(w)} \frac{\mathbb{1}\left[v \in \mathcal{V}\cap\mathcal{V}^\bullet(w)\right]}{\lambda\left(\mathcal{V}\cap\mathcal{V}^\bullet(w)\right)}\phi_{\mathbb{V}|WZ}(\mathcal{V}|w,z') = \overline{f}(\phi)_{V|WZ}(v|w,z'),$$

where the fourth equality uses (25), and the final equality reverses the steps of the first three. The satisfaction of the support condition, (7), follows in a similar way from (26) and Tonelli's Theorem, since

$$\int_{\mathcal{V}^\bullet(w)} \overline{f}(\phi)_{V|WZ}(v|w,z)\,dv \equiv \int_{\mathcal{V}^\bullet(w)} \mathbb{E}\left[\overline{f}(\phi)(v|M_i,X_i)|W_i = w, Z_i = z\right]dv$$

$$= \mathbb{E}\left[\sum_{\mathcal{V}\in\mathbb{V}^\bullet(w)} \phi(\mathcal{V}|M_i,X_i)\,\Big|\,W_i = w, Z_i = z\right]$$

$$= \sum_{\mathcal{V}\in\mathbb{V}^\bullet(w)} \phi_{\mathbb{V}|WZ}(\mathcal{V}|w,z) = 1.$$

That $\overline{f}(\phi)$ satisfies (11) follows from (10), (18), (45), and (24) via

$$
\begin{aligned}
s_j(m, x; \overline{f}(\phi)) &\equiv \sum_{\mathcal{V} \in \mathbb{V}_j(\pi(m,x))} \int_{\mathcal{V}} \overline{f}(\phi)(v|m, x)\, dv \\
&= \sum_{\mathcal{V} \in \mathbb{V}_j(\pi(m,x))} \mathbb{1}[\mathcal{V} \in \mathbb{V}^{\bullet}(\omega(m, x))]\phi(\mathcal{V}|m, x) \\
&= \sum_{\mathcal{V} \in \mathbb{V}_j(\pi(m,x))} \phi(\mathcal{V}|m, x) - \sum_{\mathcal{V} \in \mathbb{V}_j(\pi(m,x))} \mathbb{1}[\mathcal{V} \notin \mathbb{V}^{\bullet}(\omega(m, x))]\phi(\mathcal{V}|m, x) \\
&= s_j(m, x),
\end{aligned}
$$

for all $j \in \mathcal{J}$ and $(p, x) \in \mathrm{supp}(P_i, X_i)$. The last equality here uses the implication of (46) that $\phi(\mathcal{V}|m, x) = 0$ for any $\mathcal{V} \notin \mathbb{V}^{\bullet}(\omega(m, x))$.

Finally, note that in the notation of (20), (45) says

$$
(\overline{\phi} \circ \overline{f}(\phi))(\mathcal{V}|m, x) = \mathbb{1}[\mathcal{V} \in \mathbb{V}^{\bullet}(\omega(m, x))]\phi(\mathcal{V}|m, x).
$$

This equality implies that $(\overline{\phi} \circ \overline{f}(\phi))(\mathcal{V}|m, x) = \phi(\mathcal{V}|m, x)$ for all $\mathcal{V}$, since (46) implies that $\phi(\mathcal{V}|m, x) = 0$ for $\mathcal{V} \notin \mathbb{V}^{\bullet}(\omega(m, x))$. Thus,

$$
\theta(\overline{f}(\phi)) = \overline{\theta}(\overline{\phi} \circ \overline{f}(\phi)) = \overline{\theta}(\phi) = t,
$$

and therefore $t \in \Theta^{\star}$. \hfill Q.E.D.

E.2 Proof of Proposition 2

Observe that Φ is a compact and connected subset of $\mathbb{R}^{d_\phi}$. Since (24)–(26) are linear equalities, the subset of Φ that satisfies them is also compact and connected. Thus, if $\overline{\theta}$ is continuous on this subset, it follows that its image over it—which Proposition 1 established to be $\Theta^{\star}$—is compact and connected as well. If $d_\theta = 1$, then $\Theta^{\star}$ is a compact interval, so by definition its endpoints must be given by $t_{\mathrm{lb}}^{\star}$ and $t_{\mathrm{ub}}^{\star}$. \hfill Q.E.D.

F Implementing Bounds on Consumer Surplus

In this section, we show how sharp bounds on changes in average consumer surplus can be found using Propositions 1 and 2 by constructing appropriate concentrated target parameter functions, $\overline{\theta}$. The function used for the upper bound is different from that used to find the lower bound. Both functions are linear in ϕ.

For shorthand, we denote average consumer surplus at premium $p^{\star}$, conditional on

$(M_i, X_i) = (m, x)$ under valuation density f as

$$\mathrm{CS}^{p^\star}(m, x; f) \equiv \int \left\{ \max_{j \in \mathcal{J}} v_j - p_j^\star \right\} f(v|m, x) \, dv.$$

Suppose that $\mathbb{V}$ is the MRP constructed from a set of premiums $\mathcal{P}$ that contains the two premiums, p and $p^\star$, at which average consumer surplus is to be contrasted. Then

$$\mathrm{CS}^{p^\star}(m, x; f) = \sum_{\mathcal{V} \in \mathbb{V}} \int_{\mathcal{V}} \left\{ \max_{j \in \mathcal{J}} v_j - p_j^\star \right\} f(v|m, x) \, dv, \tag{47}$$

since the MRP is an (almost sure) partition of $\mathbb{R}^J$. By definition of the MRP, the optimal choice of plan is constant as a function of v within any MRP set $\mathcal{V}$. That is, using the notation in Definition MRP, $\arg\max_{j \in \mathcal{J}} v_j - p_j \equiv Y(v, p) = Y(v', p) \equiv Y(\mathcal{V}, p)$ for all $v, v' \in \mathcal{V}$ and any $p \in \mathcal{P}$. Consequently, we can write (47) as

$$\mathrm{CS}^{p^\star}(m, x; f) = \sum_{\mathcal{V} \in \mathbb{V}} -p_{Y(\mathcal{V}, p^\star)}^\star + \int_{\mathcal{V}} v_{Y(\mathcal{V}, p^\star)} f(v|m, x) \, dv$$

Replacing $p^\star$ by p, it follows that the change in average consumer surplus resulting from a shift in premiums from p to $p^\star$ can be written as

$$\Delta \mathrm{CS}^{p \to p^\star}(m, x; f) \equiv \mathrm{CS}^{p^\star}(m, x; f) - \mathrm{CS}^p(m, x; f)$$

$$= \sum_{\mathcal{V} \in \mathbb{V}} p_{Y(\mathcal{V}, p)} - p_{Y(\mathcal{V}, p^\star)}^\star + \int_{\mathcal{V}} \left(v_{Y(\mathcal{V}, p^\star)} - v_{Y(\mathcal{V}, p)} \right) f(v|m, x) \, dv.$$

Now define the smallest and largest possible change in valuations within any partition set $\mathcal{V}$ as

$$v_{\mathrm{lb}}^{p \to p^\star}(\mathcal{V}) \equiv \min_{v \in \mathcal{V}} v_{Y(\mathcal{V}, p^\star)} - v_{Y(\mathcal{V}, p)},$$

$$\text{and} \quad v_{\mathrm{ub}}^{p \to p^\star}(\mathcal{V}) \equiv \max_{v \in \mathcal{V}} v_{Y(\mathcal{V}, p^\star)} - v_{Y(\mathcal{V}, p)}.$$

These quantities can be computed in an initial step with linear programming. Since we do not restrict the distribution of valuations within each MRP set, the sharp lower bound on a change in average consumer surplus is attained when this distribution

concentrates all of its mass on $v_{\mathrm{lb}}^{p \to p^\star}(\mathcal{V})$ in every $\mathcal{V} \in \mathbb{V}$. That is,

$$
\begin{aligned}
\Delta \mathrm{CS}^{p \to p^\star}(m, x; f) &\geq \sum_{\mathcal{V} \in \mathbb{V}} p_{Y(\mathcal{V}, p)} - p_{Y(\mathcal{V}, p^\star)}^\star + v_{\mathrm{lb}}^{p \to p^\star}(\mathcal{V}) \int_{\mathcal{V}} f(v|m, x)\, dv \\
&= \sum_{\mathcal{V} \in \mathbb{V}} p_{Y(\mathcal{V}, p)} - p_{Y(\mathcal{V}, p^\star)}^\star + v_{\mathrm{lb}}^{p \to p^\star}(\mathcal{V}) \left[\overline{\phi}(f)(\mathcal{V}|m, x) \right] \\
&\equiv \Delta \mathrm{CS}_{\mathrm{lb}}^{p \to p^\star}(m, x; f).
\end{aligned}
\tag{48}
$$

Similarly, the sharp upper bound for any f is given by

$$
\Delta \mathrm{CS}_{\mathrm{ub}}^{p \to p^\star}(m, x; f) \equiv \sum_{\mathcal{V} \in \mathbb{V}} p_{Y(\mathcal{V}, p)} - p_{Y(\mathcal{V}, p^\star)}^\star + v_{\mathrm{ub}}^{p \to p^\star}(\mathcal{V}) \left[\overline{\phi}(f)(\mathcal{V}|m, x) \right].
$$

Therefore, a sharp lower bound on the change in consumer surplus can be found by taking $\theta(f) \equiv \Delta \mathrm{CS}_{\mathrm{lb}}^{p \to p^\star}(m, x; f)$, setting

$$
\overline{\theta}(\phi) \equiv \sum_{\mathcal{V} \in \mathbb{V}} p_{Y(\mathcal{V}, p)} - p_{Y(\mathcal{V}, p^\star)}^\star + v_{\mathrm{lb}}^{p \to p^\star}(\mathcal{V}) \phi(\mathcal{V}|m, x),
\tag{49}
$$

and applying Propositions 1 or 2. The requirement that $\theta(f) = \overline{\theta}(\overline{\phi}(f))$ can be seen to be satisfied here by comparing (48) and (49). The sharp upper bound is found analogously.

G   Estimation of Potential Buyers

In this section, we describe how we use the American Community Survey (ACS) to estimate the number of potential buyers in each market $\times$ age $\times$ income bin, that is, each value of $(M_i, X_i) = (m, x)$.

As is often the case in empirical demand analysis, our administrative data only contains observations of individuals who buy health insurance in Covered California, but not those who were eligible yet chose the outside option. That is, we do not have data on the quantity who chose choice 0.[50] Instead, we construct conditional choice probability (market shares) by estimating the number of potential buyers and dividing the quantity purchased of the inside choices ($j \geq 1$) by this estimate. This gives us estimated choice shares for the inside choices; the estimated choice share for the outside choice ($j = 0$) is just the difference between 1 and the sum of the estimated inside shares.

The key step here is estimating the number of potential buyers (market size) for

---

[50] This is common in discrete choice contexts, see e.g. Berry (1994, pg. 247).

each $(M_i, X_i) = (m, x)$. We do this using the California 2013 3-year subsample of the American Community Survey (ACS) public use file, downloaded from IPUMS (Ruggles et al., 2015).[51] We define an individual as a potential buyer, denoted by the indicator $I_i = 1$, if they report being either uninsured or privately insured. Individuals with $I_i = 0$ include those who are covered by employer-sponsored plans, Medi-Cal (Medicaid), Medicare, or other types of public insurance.

Our estimator is constructed using a flexible linear regression. The outcome variable is the indicator I_i. The main regressors are the X_i bins, that is, age in years and income in FPL (taken at the lower endpoint of the bin). We include a full set of interactions between these variables and indicators for the coarse age and income bins described in Section 4.2 (called W_i there). We also include a full set of market indicators (M_i), and interactions between these indicators and both age and income. This regression yields estimated potential buyer probabilities for each (m, x) pair. We convert these probabilities into an estimate of the total number of buyers in each (m, x) pair by using the individual sampling weights provided in the ACS.

An adjustment to this procedure is needed to account for the fact that the PUMA (public use micro area) geographic identifier in the ACS can be split across multiple counties, and so in some cases also multiple ACA rating regions. For a PUMA that is split in such a way, we allocate individuals to each rating region it overlaps using the population of the zipcodes in the PUMA as weights. This is the same adjustment factor used in the PUMA-to-county crosswalk.[52] Since the definition of a PUMA changed after 2011, we also use this adjustment scheme to convert the 2011 PUMA definitions to 2012–2013 definitions.

H Statistical Uncertainty

One concern in interpreting our estimated bounds is that they may be estimated with statistical uncertainty due to noise in the estimated choice shares. In this section, we examine the extent to which this might be the case through a simulation exercise. For each consumer, we redraw their plan choice from a multinomial distribution with probabilities given by the estimated choice shares in their fine bin. We use these new choices to form new choice shares, and then we run these new choice shares through

---

[51] The 3 year sample includes information from 2011 to 2013. We use the entire 3 year sample to increase our sample size.

[52] For example, suppose that an individual is in a PUMA that spans counties A and B, and that this individual has a total sampling weight of 10, so that they represent 10 observationally identical individuals. If the adjustment factor is 0.3 in county A and 0.7 in county B, we assume there are 3 identical individuals in county A and 7 in county B.

Table 6: *Simulated Distributions of Bounds and Point Estimates*

	Change in probability of purchasing coverage if all per-person premiums increase by $10/month		Change in consumer surplus ($/person-month) if per-person subsidies decrease by $10/month		Change in government spending ($/person-month) if per-person subsidies decrease by $10/month	
Nonparametric bounds	LB	UB	LB	UB	LB	UB
5th percentile	-0.0705	-0.0176	-2.4231	-1.9539	-19.2117	-7.8223
95th percentile	-0.0700	-0.0171	-2.4094	-1.9419	-19.0483	-7.6602
Simple logit	Point estimate		Point estimate		Point estimate	
5th percentile	-0.0317		-2.6418		-9.5548	
95th percentile	-0.0315		-2.6339		-9.5140	
Mixed logit random constant	Point estimate		Point estimate		Point estimate	
5th percentile	-0.0306		-2.7216		-9.3041	
95th percentile	-0.0302		-2.7121		-9.1439	
Mixed logit random price coefficient	Point estimate		Point estimate		Point estimate	
5th percentile	-0.0340		-1.9859		-11.0390	
95th percentile	-0.0305		-1.6172		-10.1852	
Mixed logit random constant & price coefficient	Point estimate		Point estimate		Point estimate	
5th percentile	-0.0264		-2.2268		-9.0732	
95th percentile	-0.0219		-1.7602		-7.9383	
Probit	Point estimate		Point estimate		Point estimate	
5th percentile	-0.0288		-2.7176		-13.7916	
95th percentile	-0.0286		-2.5284		-13.7642	

the same estimators that we used for the actual data, obtaining a new set of bounds (for our procedure) and point estimates (for the parametric models in Section 5). We repeat this procedure 100 times and then look at the distribution of the simulated bounds across these 100 replications.

Table 6 reports the 5th and 95th percentile of both the upper and lower bounds for our primary target parameters under a $10 increase in all premiums. The distribution suggests that neither our bounds nor the point estimates would be very different if the data were realized again under the same distribution. While reassuring, we emphasize that this is a simulation exercise that redraws from an estimated distribution; these are

not confidence regions. Unfortunately, constructing uniformly valid confidence regions for estimators defined by large-scale linear programs remains both theoretically and computationally challenging, especially in problems the size of ours.[53] However, the results of the simulation do suggest that our sample size is large enough such that valid confidence regions both for our model and the parametric models would be quite tight.

---

[53] Of course, we can construct confidence intervals for the parametric models, but to make a fair comparison we use the same exercise.

References

ABRAHAM, J., C. DRAKE, D. W. SACKS, AND K. SIMON (2017): "Demand for health insurance marketplace plans was highly elastic in 2014–2015," *Economics Letters*, 159, 69–73. 3

ALLEN, R. AND J. REHBECK (2017): "Identification with Additively Separable Heterogeneity," *Working paper.* 42, 43

ARMSTRONG, T. B. (2016): "Large Market Asymptotics for Differentiated Product Demand Estimators With Economic Models of Supply," *Econometrica*, 84, 1961–1980. 8

BALKE, A. AND J. PEARL (1994): "Counterfactual Probabilities: Computational Methods, Bounds, and Applications," in *Proceedings of the Conference on Uncertainty in Artificial Intelligence (UAI-94)*, ed. by R. Lopez de Mantras and D. Poole, 46–54. 44

——— (1997): "Bounds on Treatment Effects From Studies With Imperfect Compliance," *Journal of the American Statistical Association*, 92, 1171–1176. 44

BERESTEANU, A., I. MOLCHANOV, AND F. MOLINARI (2011): "Sharp Identification Regions in Models With Convex Moment Predictions," *Econometrica*, 79, 1785–1821. 44

BERRY, S. AND P. HAILE (2015): "Identification in Differentiated Products Markets," *Annu. Rev. Econ.*, –. 7, 9

BERRY, S., J. LEVINSOHN, AND A. PAKES (1995): "Automobile Prices in Market Equilibrium," *Econometrica*, 63, 841–890. 1, 7, 8, 43, 46

——— (2004a): "Differentiated Products Demand Systems from a Combination of Micro and Macro Data: The New Car Market," *Journal of Political Economy*, 112, 68–105. 8, 43

BERRY, S., O. B. LINTON, AND A. PAKES (2004b): "Limit Theorems for Estimating the Parameters of Differentiated Product Demand Systems," *Review of Economic Studies*, 71, 613–654. 8

BERRY, S. T. (1994): "Estimating Discrete-Choice Models of Product Differentiation," *The RAND Journal of Economics*, 25, 242–262. 1, 8, 42, 55

BERRY, S. T. AND P. A. HAILE (2010): "Nonparametric Identification of Multinomial Choice Demand Models with Heterogeneous Consumers," *Cowles Foundation Discussion Paper 1718.* 2, 7, 8, 47

——— (2014): "Identification in Differentiated Products Markets Using Market Level Data," *Econometrica*, 82, 1749–1797. 2, 3, 8, 9, 13, 43, 46, 47

BERTSIMAS, D. AND J. N. TSITSIKLIS (1997): *Introduction to linear optimization*, vol. 6, Athena Scientific Belmont, MA. 22

BRIESCH, R. A., P. K. CHINTAGUNTA, AND R. L. MATZKIN (2002): "Semiparametric Estimation of Brand Choice Behavior," *Journal of the American Statistical Association*, 97, 973–982. 42

——— (2010): "Nonparametric Discrete Choice Models With Unobserved Heterogeneity," *Journal of Business & Economic Statistics*, 28, 291–307. 42

BUNDORF, M. K., J. LEVIN, AND N. MAHONEY (2012): "Pricing and Welfare in Health Plan Choice," *American Economic Review*, 102, 3214–3248. 6

CANAY, I. A., A. SANTOS, AND A. M. SHAIKH (2013): "On the Testability of Identification in Some Nonparametric Models With Endogeneity," *Econometrica*, 81, 2535–2559. 43

CHAN, D. AND J. GRUBER (2010): "How Sensitive are Low Income Families to Health Plan Prices?" *American Economic Review*, 100, 292–296. 1

CHESHER, A. AND A. ROSEN (2014): "An Instrumental Variable Random Coefficients Model for Binary Outcomes," *Econometrics Journal*. 44

CHESHER, A. AND A. M. ROSEN (2013): "What Do Instrumental Variable Models Deliver with Discrete Dependent Variables?" *American Economic Review*, 103, 557–62. 44

——— (2017): "Generalized Instrumental Variable Models," *Econometrica*, 85, 959–989. 43, 44

CHESHER, A., A. M. ROSEN, AND K. SMOLINSKI (2013): "An instrumental variable model of multiple discrete choice," *Quantitative Economics*, 4, 157–196. 3, 13, 43, 44

CHIAPPORI, P.-A. AND I. KOMUNJER (2009): "On the Nonparametric Identification of Multiple Choice Models," *Working paper*. 2, 43

CHIONG, K. X., Y.-W. HSIEH, AND M. SHUM (2017): "Counterfactual Estimation in Semiparametric Multinomial Choice Models," *SSRN Electronic Journal*. 42, 43

COMPIANI, G. (2019): "Market Counterfactuals and the Specification of Multi-Product Demand: A Nonparametric Approach," *Working paper*. 3, 43

CONGRESSIONAL BUDGET OFFICE (2017): "Federal Subsidies Under the Affordable Care Act for Health Insurance Coverage," https://www.cbo.gov/sites/default/files/recurringdata/51298-2017-01-healthinsurance.pdf, accessed: January 25, 2019. 1

CONLEY, T. G., C. B. HANSEN, AND P. E. ROSSI (2010): "Plausibly Exogenous," *Review of Economics and Statistics*, 94, 260–272. 35

DEMUYNCK, T. (2015): "Bounding average treatment effects: A linear programming approach," *Economics Letters*, 137, 75–77. 44

EINAV, L., A. FINKELSTEIN, AND M. R. CULLEN (2010a): "Estimating Welfare in Insurance Markets Using Variation in Prices," *Quarterly Journal of Economics*, 125, 877–921. 6

EINAV, L., A. FINKELSTEIN, AND J. LEVIN (2010b): "Beyond Testing: Empirical Models of Insurance Markets," *Annual Review of Economics*, 2, 311–336. 6

ERICSON, K. M. AND A. STARC (2015): "Pricing Regulation and Imperfect Competition on the Massachusetts Health Insurance Exchange," *The Review of Economics and Statistics, forthcoming*, 97, 667–682. 1, 35

FINKELSTEIN, A., N. HENDREN, AND M. SHEPARD (2019): "Subsidizing Health Insurance for Low-Income Adults: Evidence from Massachusetts," *American Economic Review*, forthcoming. 3, 24, 34

Finkelstein, A., S. Taubman, B. Wright, M. Bernstein, J. Gruber, J. P. Newhouse, H. Allen, K. Baicker, and O. H. S. Group (2012): "The Oregon health insurance experiment: evidence from the first year," *The Quarterly journal of economics*, 127, 1057–1106. 35

Fourer, R., D. M. Gay, and B. W. Kernighan (2002): *AMPL: A Modeling Language for Mathematical Programming*, Cengage Learning. 17

Fox, J. T. (2007): "Semiparametric estimation of multinomial discrete-choice models using a subset of choices," *The RAND Journal of Economics*, 38, 1002–1019. 42

Fox, J. T. and A. Gandhi (2016): "Nonparametric identification and estimation of random coefficients in multinomial choice models," *The RAND Journal of Economics*, 47, 118–139. 11, 43

Fox, J. T., K. i. Kim, S. P. Ryan, and P. Bajari (2011): "A simple estimator for the distribution of random coefficients," *Quantitative Economics*, 2, 381–418. 7

——— (2012): "The random coefficients logit model is identified," *Journal of Econometrics*, 166, 204–212. 7

Freyberger, J. and J. L. Horowitz (2015): "Identification and shape restrictions in nonparametric instrumental variables estimation," *Journal of Econometrics*, 189, 41–53. 44

Galichon, A. and M. Henry (2011): "Set Identification in Models with Multiple Equilibria," *The Review of Economic Studies*, 78, 1264–1298. 44

Gandhi, A., Z. Lu, and X. Shi (2017): "Estimating Demand for Differentiated Products with Zeroes in Market Share Data," *Working paper*. 43

Garthwaite, C., T. Gross, and M. J. Notowidigdo (2018): "Hospitals as Insurers of Last Resort," *American Economic Journal: Applied Economics*, 10, 1–39. 35

Geruso, M. (2017): "Demand Heterogeneity in Insurance Markets: Implications for Equity and Efficiency," *Quantitative Economics*, 8, 929–975. 35

Goldberg, P. K. (1995): "Product Differentiation and Oligopoly in International Markets: The Case of the U.S. Automobile Industry," *Econometrica*, 63, 891–951. 1, 8

Gurobi Optimization, I. (2015): "Gurobi Optimizer Reference Manual," . 17

Handel, B., I. Hendel, and M. D. Whinston (2015): "Equilibria in Health Exchanges: Adverse Selection versus Reclassification Risk," *Econometrica*, 83, 1261–1313. 6, 44

Handel, B. R. (2013): "Adverse Selection and Inertia in Health Insurance Markets: When Nudging Hurts," *American Economic Review*, 103, 2643–82. 6, 44

Hansen, L. P., J. Heaton, and E. G. J. Luttmer (1995): "Econometric Evaluation of Asset Pricing Models," *The Review of Financial Studies*, 8, 237–274. 44

Hausman, Leonard, and Zona (1994): "Competitive Analysis with Differenciated Products," *Annales d'Économie et de Statistique*, 159. 42

Hausman, J. A. (1996): *Valuation of New Goods under Perfect and Imperfect Competition*, University of Chicago Press, 207–248. 1

HAUSMAN, J. A. AND D. A. WISE (1978): "A Conditional Probit Model for Qualitative Choice: Discrete Decisions Recognizing Interdependence and Heterogeneous Preferences," *Econometrica*, 46, 403–426. 8

HECKMAN, J. J. AND B. E. HONORÉ (1990): "The Empirical Content of the Roy Model," *Econometrica*, 58, 1121–1149. 11

HECKMAN, J. J. AND S. NAVARRO (2007): "Dynamic discrete choice and dynamic treatment effects," *Journal of Econometrics*, 136, 341–396. 11

HO, K. AND A. PAKES (2014): "Hospital Choices, Hospital Prices, and Financial Incentives to Physicians," *American Economic Review*, 104, 3841–84. 3, 42, 43

HO, K. AND A. M. ROSEN (2017): "Partial Identification in Applied Research: Benefits and Challenges," in *Advances in Economics and Econometrics*, ed. by B. Honore, A. Pakes, M. Piazzesi, and L. Samuelson, Cambridge University Press, 307–359. 2

HONORÉ, B. E. AND A. LLERAS-MUNEY (2006): "Bounds in Competing Risks Models and the War on Cancer," *Econometrica*, 74, 1675–1698. 44

HONORÉ, B. E. AND E. TAMER (2006): "Bounds on Parameters in Panel Dynamic Discrete Choice Models," *Econometrica*, 74, 611–629. 44

IBM (2010): *IBM ILOG AMPL Version 12.2*, International Business Machines Corporation. 17

KAMAT, V. (2017): "Identification with Latent Choice Sets: The Case of the Head Start Impact Study," *Working paper.* 44

KHAN, S., F. OUYANG, AND E. TAMER (2019): "Inference on Semiparametric Multinomial Response Models," *Working paper.* 42

KLINE, P. AND M. TARTARI (2016): "Bounding the Labor Supply Responses to a Randomized Welfare Experiment: A Revealed Preference Approach," *American Economic Review*, 106, 972–1014. 44

LAFFÉRS, L. (2013): "A note on bounding average treatment effects," *Economics Letters*, 120, 424–428. 44

LEWBEL, A. (2000): "Semiparametric qualitative response model estimation with unknown heteroscedasticity or instrumental variables," *Journal of Econometrics*, 97, 145–177. 11, 42, 43

MAHONEY, N. (2015): "Bankruptcy as Implicit Health Insurance," *American Economic Review*, 105, 710–46. 35

MANSKI, C. F. (1975): "Maximum score estimation of the stochastic utility model of choice," *Journal of Econometrics*, 3, 205–228. 42

——— (1985): "Semiparametric analysis of discrete response: Asymptotic properties of the maximum score estimator," *Journal of Econometrics*, 27, 313–333. 11

——— (2007): "Partial Indentification of Counterfactual Choice Probabilities," *International Economic Review*, 48, 1393–1410. 42, 43, 44

——— (2014): "Identification of income-leisure preferences and evaluation of income tax policy," *Quantitative Economics*, 5, 145–174. 42, 44

MANSKI, C. F. AND J. V. PEPPER (2017): "How Do Right-to-Carry Laws Affect Crime Rates? Coping with Ambiguity Using Bounded-Variation Assumptions," *The Review of Economics and Statistics*. 35

MATZKIN, R. L. (1991): "Semiparametric Estimation of Monotone and Concave Utility Functions for Polychotomous Choice Models," *Econometrica*, 59, 1315–1327. 42

——— (1993): "Nonparametric identification and estimation of polychotomous choice models," *Journal of Econometrics*, 58, 137–168. 2, 42

MCFADDEN, D. (1974): "Conditional logit analysis of qualitative choice behavior," in *Frontiers of Econometrics*, ed. by P. Zarembka, Academic Press: New York, 105–142. 1

MCFADDEN, D. AND K. TRAIN (2000): "Mixed MNL Models for Discrete Response," *Journal of Applied Econometrics*, 15, 447–470. 1, 8

MILLER, T. P. (2017): "Examining the Effectiveness of the Individual Mandate under the Affordable Care Act," American Enterprise Institute, statement before the House Committee on Ways and Means Subcommittee on Oversight. 6

MOGSTAD, M., A. SANTOS, AND A. TORGOVITSKY (2018): "Using Instrumental Variables for Inference About Policy Relevant Treatment Parameters," *Econometrica*, 86, 1589–1619. 22, 44

NEVO, A. (2001): "Measuring Market Power in the Ready-to-Eat Cereal Industry," *Econometrica*, 69, 307–342. 7, 8

——— (2011): "Empirical Models of Consumer Behavior," *Annual Review of Economics*, 3, 51–75. 7

NEVO, A. AND A. M. ROSEN (2012): "Identification With Imperfect Instruments," *Review of Economics and Statistics*, 94, 659–671. 35, 43

ORSINI, J. AND P. TEBALDI (2017): "Regulated Age-based Pricing in Subsidized Health Insurance: Evidence from the Affordable Care Act," *Available at SSRN 2464725*. 4

PAKES, A. (2010): "Alternative Models for Moment Inequalities," *Econometrica*, 78, 1783–1822. 42, 43

PAKES, A. AND J. PORTER (2016): "Moment Inequalities for Multinomial Choice with Fixed Effects," Tech. rep. 42, 43

PAKES, A., J. PORTER, K. HO, AND J. ISHII (2006): "Moment Inequalities and Their Application," *Working paper*. 42, 43

——— (2015): "Moment Inequalities and Their Application," *Econometrica*, 83, 315–334. 42, 43

RUGGLES, S., K. GENADEK, R. GOEKEN, J. GROVER, AND M. SOBEK (2015): "Integrated Public Use Microdata Series: Version 6.0 [dataset]," *Minneapolis: University of Minnesota*. 23, 56

SALTZMAN, E. (2019): "Demand for health insurance: Evidence from the California and Washington ACA exchanges," *Journal of Health Economics*, 63, 197 – 222. 1

SANTOS, A. (2012): "Inference in Nonparametric Instrumental Variables With Partial Identification," *Econometrica*, 80, 213–275. 43

SCHENNACH, S. M. (2014): "Entropic Latent Variable Integration via Simulation," *Econometrica*, 82, 345–385. 44

SHI, X., M. SHUM, AND W. SONG (2016): "Estimating Semi-Parametric Panel Multinomial Choice Models Using Cyclic Monotonicity," *SSRN Electronic Journal.* 42

SHORACK, G. R. (2000): *Probability for Statisticians*, Springer-Verlag. 50

TEBALDI, P. (2017): "Estimating Equilibrium in Health Insurance Exchanges: Price Competition and Subsidy Design under the ACA," *Working paper.* 1, 3, 24, 35

THOMPSON, T. S. (1989): "Identification of Semiparametric Discrete Choice Models," *Discussion paper 249, Center for Economics Research, Department of Economics, University of Minnesota.* 2, 11, 13, 42

TORGOVITSKY, A. (2016): "Nonparametric Inference on State Dependence with Applications to Employment Dynamics," *SSRN Working Paper 2564305.* 44

———— (2018): "Partial Identification by Extending Subdistributions," *Quantitative Economics*, Forthcoming. 42, 44

What Are Consumers Willing to Pay for a Broad Network Health Plan?: Evidence from Covered California

Coleman Drake[1]

October 2018

Abstract

Health Insurance Marketplaces have received considerable attention for their narrow network health plans. Yet, little is known about consumer tastes for network breadth and how they affect plan selection. I estimate demand for health plans in California's Marketplace, Covered California. Using 2017 individual enrollment data and provider network directories, I develop a geospatial measure of network breadth that reflects the physical locations of households and in-network providers. I find that households are sensitive to network breath in their plan choices. Mean willingness to pay to switch from a narrow to a broad network plan, defined as a two standard deviation, 17.44 percentage point change in network breadth, is $45.83 in monthly premiums. Variation in WTP indicates that a selection mechanism exists whereby older households sort into broader network plans. I also find that households are highly premium sensitive, which may be a result of plan standardization regulations in Covered California.

1

1. Introduction

Limited provider network health insurance plans, commonly known as "narrow" network plans, have grown in popularity since the implementation of the Affordable Care Act (ACA) in 2014. They have become common in the Health Insurance Marketplaces created by the ACA, but also are expanding in employer-based health insurance markets. Approximately 21% of 2017 Marketplace health plans had narrow networks (Polsky, Weiner, and Zhang 2017); 9% of large employers offered a narrow network plan in 2017 (Claxton et al. 2017). Narrow network plans tend to have lower premiums (Polsky, Cidav, and Swanson 2016; Sen et al. 2017; Dafny et al. 2017; Dafny, Hendel, and Wilson 2015), but they may adversely impact enrollees' access to and choice of providers, timely receipt of care, and financial security (Baicker and Levy 2015; Corlette et al. 2014).

It is not clear to what extent Marketplace consumers are willing to trade lower premiums for a narrower provider network. Survey evidence suggests both premiums and networks are important components of health plan choice for Marketplace consumers (Hamel et al. 2015). Commonwealth Fund researchers report that, among surveyed Marketplace enrollees that had the option to choose a narrow network with a lower premium, 45% did so and 54% did not (Gunja, Collins, and Bhupal 2017). Recent studies of Marketplace health plan demand indicate that consumers are premium elastic (Abraham et al. 2017; DeLeire and Marks 2015), but they do not estimate network elasticities. And while the literature does examine the relationship between networks and plan choice in other contexts, such as employer-sponsored insurance (Gruber and McKnight 2016; Ho 2006) and the pre-ACA Massachusetts health exchange (Shepard 2016; Ericson and Starc 2015), these studies may not be generalizable to the post-ACA individual insurance market. Furthermore, with the exception of Gruber and McKnight (2016), these studies

2

all focus on hospital networks. I fill these gaps in the literature by estimating willingness to pay for physician network breadth in an ACA Marketplace.

Because of the decreased access and choice that may result from enrolling in narrow network plans and their prevalence in the individual health insurance market, it is important that policymakers understand the trade-off consumers are willing to make between network breadth and premiums. I analyze demand for health insurance plans in the 2017 in California's State-Based Health Insurance Marketplace, Covered California. Covered California is the largest Health Insurance Marketplace. It covered over 1.5 million Californians in January 2017, which was 13% of Marketplace enrollment nationwide (Centers for Medicare & Medicaid Services 2017). In 2017, each of Covered California's 19 rating areas – geographic units in which insurers offer plans – had at least three competing insurers, each offering at least five plans. This, in conjunction with standardized benefits that drastically limit variation in plan characteristics except for premiums and network breadth, make it an ideal context in which to study Marketplace consumers' tastes for network breadth. My examination of Covered California complements two studies of demand for network breadth in the pre-ACA Massachusetts individual market (Shepard 2016; Ericson and Starc 2015), as well as two other studies of demand for health plans in Covered California (Tebaldi 2017; Saltzman 2018).

I use two rich data sets from Covered California on plan enrollment and provider networks to estimate plan choice. I obtain individual-level enrollment data from the 2017 plan year (i.e., the fourth open enrollment period). These data contain information on consumers' plan choices, geographic location, and demographics. I also obtain audited 2017 network directories from Covered California which list providers by their associated networks.

3

With these two data sets, I estimate discrete choice models of health plan choice using random parameters mixed logit models. I then calculate own-network breadth and own-premium elasticities and semi-elasticities of demand for different demographic groups. Own-network breadth semi-elasticities increase with age, income, and household size; own-premium semi-elasticities decrease with age, income, and household size. I also calculate willingness to pay to switch from a narrow to a broad network plan. Using a two standard deviation change in network breadth to define the difference between a broad and a narrow network plan, I find that the mean household is willing to pay roughly $46 in monthly premiums to switch from a narrow network to a broad network. Variation in willingness to pay for network breadth is quite large. This parameter, however, hides large heterogeneity in willingness to pay, particularly on age. For example, the mean single household with a premium tax credit in the youngest age group (18-29) is willing to pay about $6 to switch from a narrow to a broad network. Their counterpart in the oldest age group is willing to pay roughly $50. This gap in willingness to pay between age groups indicates that a selection mechanism exists whereby older households sort into plans with broader networks, though this is complicated by considerable heterogeneity in willingness to pay *within* age groups.

I also find that Covered California households are highly sensitive to premiums in their plan choices, more so than in other individual insurance markets. This finding is consistent with recent literature that finds that product standardization and standardized presentation of products results in more price sensitive consumers (Ericson and Starc 2016; Schmitz and Ziebarth 2017).

This study makes a methodological contribution to the literature by developing a geospatial measure of network breadth to use in demand estimation. Specifically, I define network breadth as the percentage of providers within a fixed-mile radius of consumers' homes

(e.g., 15 miles) covered by a network. This measure is more precise than those that defined network breadth as the percentage of in-network providers covered within geopolitical units such as counties or rating areas (e.g., Polsky, Cidav, and Swanson 2016; Dafny et al. 2017; Sen et al. 2017), which may exhibit drastic variation in size and not capture network breadth as it is experienced by consumers. For example, in Covered California, rating area 1 consists of the northern third of California, while rating area 4 is San Francisco County. In rating area 1, consumers can live hundreds of miles away from in-network providers from whom they are unlikely to seek care. Yet, consumers living in rating area 4 could easily seek care outside of their rating area. As this example makes clear, measures of network breadth based on geopolitical boundaries are unlikely to capture variation in network breadth as it is experienced by consumers.

The literature does contain another geospatial measure of network breadth known as network value (Capps, Dranove, and Satterthwaite 2003). Network value is the sum of the consumer surplus provided to health plan enrollees by a given plan's network. It is calculated by first estimating demand for the providers – typically hospitals in the literature – in a market. Distance to the provider is often a covariate in the demand model (e.g., Ho and Lee 2013). Then, using the estimates of provider demand, a consumer surplus measure is constructed and added to a separate model of demand for health plans. The creation of the network value measure, aside from requiring the estimation of a separate demand system, typically requires that the researcher have access to an all-payer claims database. My geospatial measure of network breadth preserves the geospatial component typically used in network value measures without placing these constraints upon the researcher.

The paper proceeds as follows. Section 2 describes the market structure of the Health Insurance Marketplaces and Covered California. Section 3 reviews data sources and develops my network breadth measure. Section 4 specifies a discrete choice logit model of plan choice for Covered California health plans, develops an empirical model, and discusses identification. Results are presented in Section 5. Section 6 discusses findings and reviews policy implications. Section 7 concludes.

2. The ACA, Covered California, and Network Adequacy

2.1. The Affordable Care Act and Health Insurance Marketplaces

The Patient Protection and Affordable Care Act of 2010 (ACA) made major changes to the individual health insurance market, most of which went into effect in 2014 (Office of the Legislative Council 2010). The law banned insurers from denying coverage due to pre-existing conditions, as well as dropping enrollees from coverage due to changes in health status. It further mandated that all plans cover a minimum set of essential health benefits. Annual and lifetime coverage caps were banned, and maximum out-of-pocket payments were capped. Each plan must have a "metal" level that corresponds to its actuarial value – platinum, gold, silver, and bronze for 90, 80, 70, and 60% actuarial value, respectively. Catastrophic plans also are available to individuals under the age of 30. To reduce adverse selection, the ACA also implemented an individual mandate, requiring that individuals without insurance pay a pro-rated, income-based penalty. Though it has since been repealed, the mandate was in effect in 2017.

Insurers offering plans in the individual market are subject to modified community rating. Plan premiums may vary only by age, family size, smoking status, and geography. Under this form of modified community rating, individuals are assigned an age-adjustment factor based on their age, which is valued at one for 21-year-olds and gradually increases to a maximum of three

6

for those aged 64 and above.[2] Age-adjustment factors are added together for each household member seeking coverage and multiplied by a plan's base premium. Most states charge a smoking surcharge, typically 1.5 times the base premium; California is not one of them. Each state designs its own rating areas. Rating areas typically are clusters of counties, but may be based on three-digit zip codes or metropolitan statistical areas.

The ACA created Health Insurance Marketplaces where individuals can shop for individual health plans. Consumers may easily compare Marketplace plans in a standardized format. Individuals with household incomes at or below 400% of the Federal Poverty Level (FPL) lacking affordable employer offers of health insurance qualify for income-based advanced premium tax credits to purchase Marketplace plans.[3] The size of a household's premium tax credit is based on its income as percentage of the Federal Poverty Level (FPL) and the premium of the second-lowest cost silver plan. Premium tax credits may be used to purchase any non-catastrophic plan. Premium tax credit-eligible Marketplace consumers with incomes below 250% of the FPL also qualify for cost-sharing reduction subsidies that increase the actuarial value of silver plans by reducing their coinsurance rates, deductibles, and copays.[4] They only may be applied to silver plans, meaning that silver plans are often the dominant choice for cost-sharing reduction-eligible consumers (DeLeire et al. 2017). Each state has the option of having its own Marketplace, but all operate under a common set of ACA regulations. In 2017, 39 states opted to have the federal government manage their Marketplace using the healthcare.gov platform. The

---

[2] The age-adjustment factor for those under age 21 is 0.635.
[3] Medicaid eligibility pre-empts premium tax credit eligibility, meaning that those under 138% of FPL in Medicaid expansion states and 100% of FPL in non-expansion states do not qualify for premium tax credits. Both the healthcare.gov and the Covered California websites direct individuals with Medicaid-eligible incomes to apply for Medicaid.
[4] The discontinuation of CSR payments in late 2017 does not directly affect consumers because insurers are legally obligated to provide the CSR reductions.

remaining 12 states, including California, operate their own State-Based Marketplaces that grant them greater regulatory flexibility.

While the ACA regulates many features of Marketplace plans, insurers are largely free to vary the breadth and composition of their plans' networks. The ACA has a reasonable access standard for networks, which requires that Marketplace plans maintain a network that is "sufficient in number and types of providers to assure that all services shall be accessible without unreasonable delay" (Centers for Medicare and Medicaid Services 2016). However, these standards do not appear to have been enforced.[5]

2.2. The Covered California Marketplace

California's State-Based Marketplace, Covered California, has operated since 2014. In January 2017, it insured 1.5 million individuals, approximately 13% of the 12.2 million individuals covered nationwide by the Health Insurance Marketplaces (Centers for Medicare & Medicaid Services 2017). Figure 1 shows that Covered California is divided into 19 rating areas. Seventeen of the rating areas consist of groups of counties. The other two divide Los Angeles County by three-digit zip codes.

Every health plan in Covered California is associated with a product and an insurer. Covered California insurers offer one or more products. Products determine *all* plan benefit characteristics except metal level and premium. Product characteristics include plan type (e.g., HMO, PPO), network, and prescription drug formularies. For each product an insurer offers, they must provide *exactly* one health plan for each of the metal levels available in Covered California:

---

[5] CMS' 2017 Letter to Issuers stipulates time- and distance-based network adequacy standards for ten specialties (Center for Consumer Information & Insurance Oversight 2016), though based on my conversations with insurers these standards do not appear to have been enforced. Regardless, the Trump Administration shifted network adequacy regulation to the states on February 27, 2017 (Department of Health and Human Services 2017).

8

Platinum, gold, silver, bronze, high-deductible bronze, minimum coverage (i.e., catastrophic), and cost-sharing silver plans.

Figure 1: Rating Areas in Covered California

Source: CoveredCA.com

An example of the insurer-product-plan hierarchy is provided in Figure 2. The Covered California insurer Blue Cross Blue Shield (BCBS) offers two products, an HMO and a PPO. Each product has nine associated plans, one for each metal level (only gold, silver, and bronze are shown in Figure 2 for simplicity). Network and plan type vary across products (i.e., BCBS

9

HMO and BCBS PPO), but not within plans associated with the same product (e.g., BCBS HMO Silver and BCBS HMO Bronze). Aside from metal level, premiums are the only characteristics that may vary across plans within the same product. Also note that BCBS *cannot* offer more than one plan with the same metal level for a given product. They are prohibited from doing so by Covered California; the only way for BCBS to offer two plans of the same metal level is to offer separate products.

Figure 2: Insurer-Product-Plan Levels in Covered California for Blue Cross Blue Shield
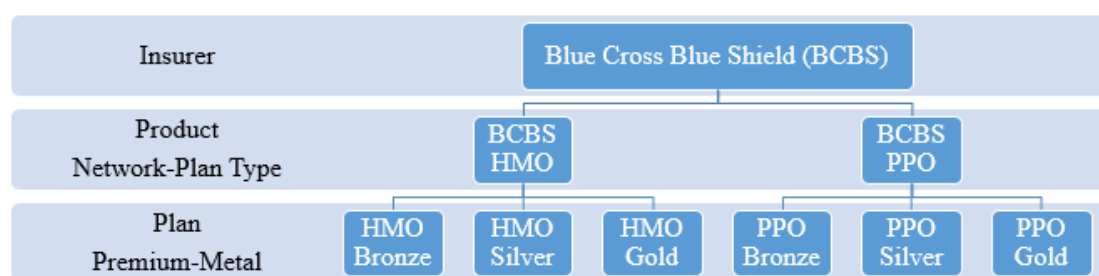
Notes: Platinum, minimum coverage, high deductible, and cost-sharing plans are excluded for illustrative purposes. This type of structure exists for all Covered California insurers, though the number of products ranges from one to three depending on the insurer.

Covered California also requires standardized cost-sharing for each metal level (Covered California 2016). For example, all silver Covered California plans must have a $35 copay for primary care, and a $2,500 ($5,000) deductible for individuals (families). These regulations are intended to reduce choice overload (Ericson and Starc 2016) and adverse selection on actuarial value (Bindman et al. 2016). Appendix Table 1 shows how primary care copays, deductibles, and maximum out-of-pocket levels are set by metal level.

Unlike many other states' Marketplaces, Covered California is characterized by robust enrollment and insurer competition. Table 1 shows each rating area's enrollee population, the number of competing insurers, the number of plans offered, market concentration measured by a Herfindahl-Hirchsman Index (HHI), and the rating area's lowest-premium silver plan for a single 21-year old (i.e., the base premium). Rating areas vary in size from 10,005 enrollees (rating area

10

13) to 185,167 enrollees (rating area 16). The modal rating area has four competing insurers, and the number of competitors ranges from three (rating area 12) to seven (rating area 16). Kaiser is the largest insurer in terms of enrollment. It insures 307,532 Covered California households, followed by BCBS (271,204), Anthem (195,098), Molina (122,024), and HealthNet (111,218). Enrollees have many plans from which to choose. Available plans range from 19 in rating area 6 to 38 in rating area 16.[6] Market concentration as measured by HHI is noticeably higher in northern California (i.e., rating areas 1-12) due to Kaiser's large market shares. As is typical, HHI is correlated with higher premiums. For example, the lowest-premium silver plan in northern San Francisco (rating area 4) is $318.35, over $100 more than the lowest-premium silver plan in Los Angeles larger rating area (rating area 16) at $200.43. And, as shown in Appendix Table 2, they are also different in terms of insurer composition and market share.

Covered California has more stringent Marketplace network regulations than the Federally-facilitated Marketplace. It requires that primary care providers, mental health providers, and hospitals must be available within 30 minutes or 15 miles of each covered person's residence or workplace. Similar standards exist for some specialists at 60 minutes or 30 miles. California also mandates networks cover one full-time physician per 1,200 covered persons and one full-time primary care physician per 2,000 covered persons, and that some providers must be available during evenings and weekends. (California Department of Insurance 2016).

---

[6] Plan totals do not include catastrophic plans, which only are available to those under age 30. Cost-sharing reduction plans are not included in addition to silver plans because consumers only have access to one cost-sharing reduction tier (none, 73, 87, or 94).

Table 1: Population, Competition, and Premiums across Covered California Rating Areas

Rating Area	Rating Area Characteristic				
	Enrollees	Insurers	Plans Offered	Market Concentration	Premium ($)
1	44,364	4	23	6,296	314.24
2	43,764	5	28	4,243	309.11
3	65,489	5	31	4,530	314.24
4	36,287	6	31	3,243	318.35
5	33,814	5	24	5,511	314.24
6	54,677	3	19	5,159	322.51
7	51,207	5	30	3,229	287.62
8	21,463	5	27	4,697	347.32
9	23,352	4	23	3,554	322.51
10	51,387	4	23	5,201	274.01
11	26,179	4	23	3,509	253.83
12	53,342	3	19	3,982	256.52
13	10,005	4	20	5,470	242.63
14	14,610	4	23	2,754	233.37
15	134,423	6	34	2,228	196.21
16	185,167	7	38	1,814	200.43
17	99,926	5	30	2,308	200.43
18	105,486	6	34	2,177	227.86
19	100,730	6	38	1,922	232.08

Notes: Market concentration is measured according to a Herfindahl-Hirchsman Index (HHI). Premium is measured as the lowest pre-premium tax credit silver premium for a single, 21-year-old adult (i.e., the base premium).

3. Data and Measures

3.1. Covered California Network Data

I obtained lists of providers associated with each Covered California plan in February of 2017 through a public records act request under the California Public Records Act. Covered California consolidates all provider network directories into one unified file after receiving individual directories from insurers. The file is reviewed for accuracy by a third party to ensure Covered California insurers are compliant with California's network adequacy laws. Providers are listed by their National Provider Identifiers (NPI) and network associations.

12

I use the full replacement NPI file (i.e., NPPES downloadable file) distributed by CMS to verify Covered California providers' primary specialties and addresses (Centers for Medicare and Medicaid Services 2017).[7] The NPI file lists each provider's primary specialty according to a standard taxonomy distributed by the Washington Publishing Company (Washington Publishing Company 2018). The NPPES lists 80,023 primary care providers in California (i.e., general practitioners, general internists, family practitioners, and nurse practitioners). Of those 80,023 PCPs, 61,995 matched to the Covered California network data, implying that 77.47% of California PCPs participate in at least one Covered California network.[8] I convert providers' addresses as listed in the NPPES to longitude-latitude coordinates using Microsoft's Bing Maps application programming interface with R version 3.5.1.

Network breadth often is measured as the number of providers in a rating area who are included in a network over the total number of providers in a rating area (Polsky, Weiner, and Zhang 2017; Sen et al. 2017; L. S. Dafny et al. 2017). This measure is problematic for demand estimation due to variation in the physical size of geographic rating areas. Consider a large rating area such as California's rating area one. In this rating area, providers in the numerator and/or the denominator of the network breadth measure may practice hours away from enrollees' homes. Enrollees are unlikely to select a plan based on whether distant providers are in a plan's network.

I use the geographic information contained in the network data to develop a network breadth measure that addresses this limitation. I define network breadth as the number of in-network primary care providers (PCPs) over the total number of PCPs *within 15 miles of a five-*

---

[7] A recent study of the American Medical Association Master File, the SK&A Database, and the NPPES found that the NPPES contains the most accurate, up-to-date physician addresses (Desroches et al. 2015).

[8] This is somewhat less than the finding from a recent study that 90.9% of PCP offices participated in a Marketplace plan in 2016 (Polsky et al., 2018), though mean network breadth in California is lower than other states (Polsky, Weiner, and Zhang 2017).

digit zip code. This measure captures the breadth of a network available to an enrollee based on their home zip code. I select 15 miles as my distance measure because California's network adequacy laws mandate that PCPs must be available within 15 miles of a plan's enrollees (California Department of Insurance 2016). PCPs are defined as general practitioners, family practitioners, general internists, and nurse practitioners.[9] I select PCPs because they are the primary point of contact with the healthcare system for most privately insured patients, seeking care from them does not require enrollees to have a certain medical condition, and they often act as gatekeepers to the remainder of the medical system.

While it would be preferable to separate demand for network breadth by provider type, this is not possible due to high collinearity between network breadth across provider types. For example, the correlation between PCP network breadth as defined above and specialist network breadth, defined as all internal medicine subspecialists, is over 0.95. Primary care provider network breadth thus serves as a more general measure of overall network breadth rather than a specific measure of PCP network breadth.

Figure 3 shows an example of the calculation of network breadth for a hypothetical network in the 91344 five-digit zip code in northwest Los Angeles. I begin by using a data set distributed by the Census Bureau[10] to identify the geographic centroid of the 91344 five-digit zip code. I proceed by drawing a 15-mile radius from the centroid. The centroid and its corresponding radius are shown in red in Figure 3. Then, I identify the number of in-network PCPs and total PCPs practicing within the 15-mile radius. In-network PCPs are shown with stars

---

[9] The standard definition of PCPs for the purposes of antitrust litigation includes general practitioners, family practitioners, and general internists (United States District Court for the District of North Dakota Western Division 2017). Pediatricians and OBYGNs are excluded because they, by themselves, cannot constitute a primary care network. I add nurse practitioners to this definition because they can function as a substitute for general practitioners, family practitioners, and general internists.

[10] Census Bureau Gazetteer files are located at https://www.census.gov/geo/maps-data/data/gazetteer.html.

14

in Figure 3; eight are inside of the 15-mile radius, implying a PCP network size of eight for the example network in the 91344 five-digit zip code. Finally, in-network PCPs are divided by total PCPs and multiplied by 100 to calculate PCP network breadth.

Figure 3: Sample Network Breadth Calculation for the 91344 Zip Code
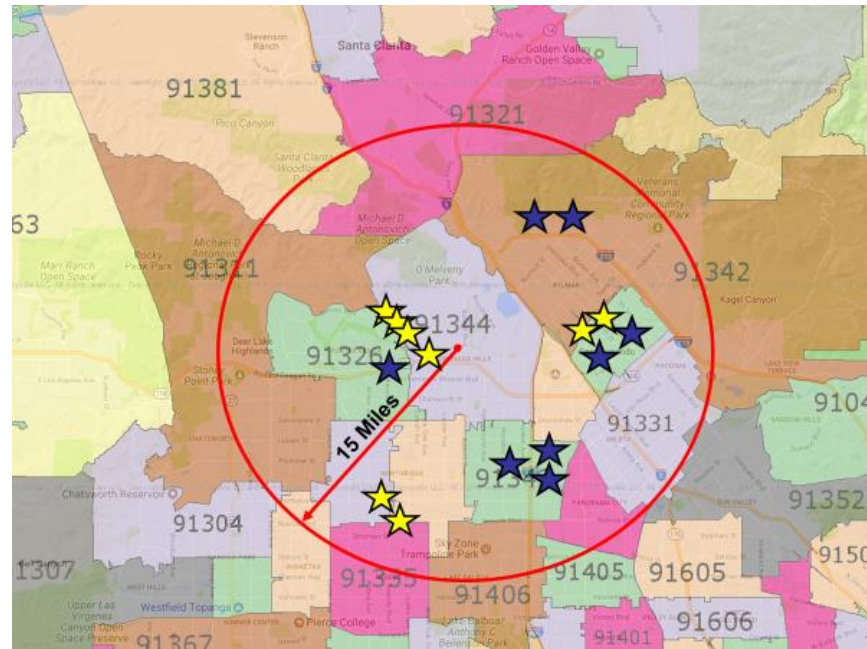
Notes: Image generated from http://maps.huge.info/ and subsequently edited. The red dot is the 91344 zip code centroid. A 15-mile radius is drawn from the centroid. The numerator of the network breadth measure for the 91344 zip code is the number of in-network primary care providers (PCPs) within the radius. In-network PCPs are shown as yellow stars. The denominator of the network breadth measure for the 91344 zip code is the total number of PCPs within the 15-mile radius. Out-of-network PCPs are shown as blue stars. In this example, there are eight in-network PCPs and eight out-of-network PCPs within the 15-mile radius. Network breadth is in the 91344 zip code is calculated as 100*(8/(8+8))=50.

I aggregate the network breadth measure to the geographic unit at which I observe Covered California enrollees' location – combinations of three-digit zip codes and rating areas – by taking an enrollee-weighted average of five-digit zip code network breadth.[11] Each rating area in Covered California consists of many three-digit zip codes, which creates observable variation in network breadth for a given network within a rating area.

---

[11] The number of enrollees in each five-digit zip code is provided by Covered California here: http://hbex.coveredca.com/data-research/

15

3.2. Covered California 2017 Household Demographics and Choices

I obtained individual-level Covered California enrollment data for 2017 through a public records act request. These data contain individual and household identifiers, plan selection, three-digit zip code, rating area, age, income as a percentage of the FPL, and an indicator for whether the household received a premium tax credit. The data consist of 1,701,223 2017 enrollees that enrolled in a Covered California plan during 2017. I collapse these data to the household level, leaving 1,155,673 households. I then reduce my sample to households that are above 133% of the FPL and do not contain missing data.[12] After these adjustments, the sample consists of 1,096,430 households, 94.87% of 2017 Covered California households. To reduce the computational burden of my model, I estimate plan choice using a 10% random sample, which I cluster on networks and three-digit zip codes to preserve variation in network breadth.

I augment the Covered California enrollment data with publicly available information on Covered California plan premiums and non-network benefits from Covered California (Covered California 2017) and the network data discussed above. Collectively, these data provide comprehensive information on plans available to Covered California enrollees.

4. Demand for Covered California Health Plans

I use a discrete choice framework to model households' plan selections. I model plan choice at the household level, not the individual level, for several reasons. First, health insurance choices within households are highly correlated. That is, households tend to make health insurance decisions jointly (Royalty and Abraham 2006).[13] Second, households are likely to

---

[12] I remove all households in the following non-exclusive cases: plan selections are split within households (24,377); missing rating area (1); household max age below 18 (10,548); Federal Poverty Level below 133% (21,853); Household purchasing catastrophic coverage plan above age 30 (399); household has premium tax credit above 400% of the FPL (3,213); household's plan not contained in plan data (3).

[13] Just 15,441 of the 1.5 million 2017 enrollees (i.e., about 1%) were enrolled in a different Covered California plan than someone in their household.

16

consider their collective health needs and financial constraints. Third, premium tax credits are calculated at the household level. Lastly, the infrastructure of Covered California is designed to support household-level applications for health insurance.[14]

The model specifies households' plan choices as a function of plan characteristics, over which I specify a stochastic indirect utility function. Sensitivity to two plan characteristics, premiums and network breadth, varies according to heterogeneity in households' preferences for these characteristics. This heterogeneity arises from variation in observed and unobserved household demographics. I identify premium sensitivity by exploiting within-plan variation in premiums across households arising from the ACA's premium tax credits, and network breadth sensitivity by exploiting within-network variation in network breadth across three-digit zip codes that occurs because of households and providers' geographic locations.

4.1 Specification

Household i is located in three-digit zip code z in rating area r. The utility it derives from enrolling in plan j belonging to product l is given by:

$$U_{ijlzr} = -\alpha_i P_{ijr} + \beta_i N_{lzr} + \gamma M_{jr} + \xi_{lr} + \epsilon_{ijlzr}$$

where P_{ijr} is household i's age-adjusted, post-premium tax credit premium for plan j in rating area r; N_{lz} is the network breadth of product l as experienced by households in three-digit zip code z; M_j is the metal level of plan j in rating area r; ξ_{lr} is a vector of observed and unobserved product characteristics that varies at the rating area level; and ϵ_{ijlzr} is a Gumbel-distributed error term that represents the idiosyncratic component of the household's utility function not observed by the researcher. Because Covered California standardizes cost-sharing by metal level, metal

---

[14] When searching for health insurance plans in Covered California, individuals are asked to input the age of each of their family members. Premiums are listed according to the modified age rating off all family members. Though individual family members may enroll in separate plans, they must fill out separate applications to do so.

17

level fixed effects M_j perfectly capture all cost-sharing characteristics. A product l is the network and plan type associated with a plan (e.g., Blue Cross HMO, Blue Cross PPO, HealthNet HMO). Product fixed effects capture all observed and unobserved plan characteristics determined at the product level. These include *all* benefits except premiums and metal level, as well as non-benefit characteristics such as branding and prescription drug formularies. By allowing product fixed effects to vary at the rating area level r, I capture heterogeneity in preferences for products across rating areas. Such heterogeneity may occur if a product contains a high reputation hospital in its network in a given rating area, or if the product is heavily advertised in a given rating area.

I allow premium and network breadth sensitivities to vary according to observed and unobserved household demographic characteristics by specifying them as random parameters such that

$$\alpha_i = \alpha + \alpha_1 A_i + \alpha_2 W_i + \alpha_3 S_i + \mu_i$$

$$\beta_i = \beta + \beta_1 A_i + \beta_2 W_i + \beta_3 S_i + \omega_i$$

where A_i is a vector of maximum household age groups (18-29 reference group, 30-39, 40-49, 50-59, 60+), income W_i is proxied by whether an indicator for whether a household receives a premium tax credit, household size S_i is an indicator for whether a household is non-single, and μ_i and ω_i are normally-distributed, correlated error terms. The error terms μ_i and ω_i capture unobserved demographic characteristics, notably health status. By introducing correlated household taste heterogeneity into the model, α_i and β_i make the model robust to independence of irrelevant alternative violations arising from correlated preferences across attributes (McFadden and Train 2000; Train 2003).

18

Formally, household i selects plan k over other plans if $U_{iklrt} > U_{ijlrt} \, \forall k \neq j$. Following a multinomial logit model, the probability that household i selects plan j with product l in three-digit zip code z in rating area r is

$$Pr(k)_{it} = \iint \left(\frac{e^{U_{iklrt}}}{\sum_j e^{U_{ijlrt}}} \right) d\mu d\omega$$

I estimate this probability separately, for each rating area, with simulated maximum likelihood using a random parameters mixed logit model (Train 2003; Hole 2007).[15][16] Similarly to Tebaldi (2017), this approach removes all restrictions on preference variation across rating areas, and, through the use of random parameters, allows for each household to have its own preferences with respect to premiums and network breadth within rating areas.

4.2 Identification

The identification of the premium and network breadth sensitivity parameters depends on the regulatory structure of the ACA, geographic variation among enrollees and providers, and a robust set of fixed effects to capture unobserved plan characteristics. The ACA's modified community rating and premium tax credits create plausibly exogenous variation in premiums. These regulations cause premiums for a given plan in a given rating area to vary across households depending on their age, size, and income. As explained in Section 2, household age and size determine the community rating multiplier that will be applied to a household's premium, and all three characteristics determine the size of a household's premium tax credit. Premiums thus vary at the demographic group-plan-rating area level. Tebaldi (2017) used this

---

[15] The mixed logit model has become the standard in the health plan choice literature due to its ability to incorporate unobserved demographic characteristics into the utility function and relax independence of irrelevant alternatives assumptions (Tebaldi 2017; Polyakova 2016; Higuera, Carlin, and Dowd 2018; Ho, Hogan, and Scott Morton 2017).
[16] Estimating the model for each rating area requires that each rating area have more than one three-digit zip code so that network breadth can be identified separately from product fixed effects. Rating area four, San Francisco, only contains one three-digit zip code. I thus remove households in rating area four from the sample.

same approach to identify the premium sensitivity parameter in his analysis of Covered California plan demand.

The network breadth sensitivity parameter is identified by plausibly exogenous variation in network breadth resulting from the geographic location of a household relative to in-network providers. While insurers must make the same providers available to households that enroll in a given network, how close a household is to in-network providers will determine how it experiences a plan's network breadth (i.e., which providers are 15 miles away from a household changes depending on its proximity to providers). I observe household location at the three-digit zip code level, meaning that I rely on variation in network breadth across products and three-digit zip codes within rating areas to identify network breadth sensitivity. Figure 4, for example, shows variation in network breadth across products and three-digit zip codes in rating area 15, one of Los Angeles two rating areas. Rating area 15 households may experience the Anthem HMO as a relatively narrow network or a relatively broad network depending on their three-digit zip code.

Plan standardization regulations in Covered California allow me to use metal level and product-rating area fixed effects to capture all other plan characteristics. These fixed effects play a similar role to alternative specific constants, capturing all non-premium, non-network breadth characteristics and thereby capturing unobserved confounders. Aside from premiums and cost-sharing – the latter of which is captured by metal fixed effects – insurers must set all plan characteristics at the product level. Product fixed effects are thus sufficient to capture all other plan benefits, such as the plan type (e.g., HMO, PPO) and prescription drug formularies. They are not sufficient, however, to capture less tangible characteristics that insurers may vary for a given product across rating areas. Such characteristics could include advertising or the inclusion

20

of a high reputation health care system in a particular rating area (e.g., the inclusion of UCLA

Medical Center in a plan's network may be important to Los Angeles-based enrollees, but not

enrollees in Northern California).[17] I address this concern by estimating my model separately for

each rating area, which allows households' preferences for products (and all other

characteristics) to vary across rating areas. This type of fixed effects identification strategy was

pioneered by Chamberlain (1980), and has become common in the health insurance literature in

recent years (Kate Ho and Pakes 2014; Geruso 2016; Tebaldi 2017).

5. Results

5.1. Descriptive Statistics

Table 2 displays means, standard deviations, and percentiles of the distributions of

Covered California enrollee household demographics and plan choice sets. Covered California

enrollee households have a mean maximum age of 45.72 with a standard deviation of 13.22. The

75th percentile of household income is 248% of the FPL, meaning that nearly three-quarters of

households qualify for both premium tax credits and cost-sharing reductions. Mean household

size is 1.44 and the 75th percentile of household size is 2 – most Covered California households

consist of 1 or 2 members.

---

[17] The Covered California network data does contain hospital network data. I construct the headcount hospital network breadth measure for consistency with the PCP network breadth measure. PCP network breadth and hospital network breadth are not strongly correlated at levels at which insurers set network breadth ($\rho = 0.37$ at the product-rating area level), or at which households experience network breadth ($\rho = 0.35$ at the plan-three-digit zip code level). PCP network breadth therefore is not proxying for greater hospital access. This raises the possibility that preferences for hospital network breadth are an omitted plan characteristic in my specification. However, hospital network breadth is largely captured by product-rating area fixed effects. Regressing hospital network breadth on product-rating area fixed effects at the three-digit zip code level yields an R^2 of 0.89.

Table 2 also shows summary statistics for households' plan choice sets. The median household has 31 plan options. These plans have a wide variety of network breadths and premiums. Network breadth has a mean of 15.91%, a standard deviation of 8.72%, and an interquartile range of 12.74% from 9.77% to 22.51%.[18] Variation in post-premium tax credit monthly premiums is large – the standard deviation is $351.46 while the mean is $376.26. The distribution of post-tax credit premiums has a long right tail consisting of households above 400% of the Federal Poverty Level that do not receive premium tax credits.

Table 2: Summary Statistics of Covered California Household Demographics and Plan Choices

	Statistic				
Characteristic	Mean	SD	P25	P50	P75
Household Demographics					
Maximum Age	45.72	13.22	33	48	58
Income	209.39	167.02	152	186	248
Household Size	1.44	0.78	1	1	2
Choices					
Number of Choices (Plans)	30.64	8.39	24	31	38
Premium: Post-Premium Tax Credit ($)	376.26	351.46	150.99	281.67	492.46
Network Breadth (%)	15.91	8.72	9.77	14.99	22.51

Notes: Income is reported as a percentage of the Federal Poverty Level. Household size only includes household members with Covered California coverage.

I contrast offered plans with those selected by consumers in Table 3. Like Gabel et al. (2017), I find that the mean selected premiums are lower than mean offered premiums. After premium tax credits are applied, this difference is approximately $140 per month. This contrast occurs across all household demographic groups though the magnitude of the difference varies,

---

[18] I compare the mean of network breadth to the literature to help determine the accuracy of the measure. The mean of my network breadth measure at the plan-state level (16.4%) is quite close to that found by Polsky, Weiner, and Zhang (2017) for California at the plan-state level in 2017 (16.8%, confirmed via correspondence with the authors).

increasing in size for households that are older, receive premium tax credits, and are non-single.

Mean selected networks are broader than mean offered networks. The mean selected plan's

network breadth is approximately four percentage points larger than the network breadth of the

mean offered plan. This difference increases for households that have higher maximum age, that

do *not* receive premium tax credits, and are non-single. These differences suggest that these

types of households are more sensitive to network breadth.

Table 3: Mean Premiums and Network Breadths of Offered and Selected Covered California Plans across Demographic Groups

Demographic Group	Premium: Post-Premium Tax Credit ($)		Network Breadth (%)	
	Offered	Selected	Offered	Selected
Overall	376.26	234.00	15.92	17.81
Maximum Age				
18-29	219.85	143.21	16.02	17.18
30-39	309.34	218.17	15.92	17.75
40-49	392.14	265.50	15.91	17.92
50-59	450.59	260.10	15.89	17.94
60+	491.94	264.57	15.82	18.17
Premium Tax Credit				
Yes	330.82	176.29	15.92	17.76
No	594.76	534.98	15.85	18.09
Household Type				
Single	288.76	183.22	15.87	17.72
Non-Single	577.29	345.51	16.01	18.02

Notes: Differences between all offered, selected categories are significant at the 0.001 level.

Figure 4 plots network breadth against base monthly silver premiums for each network-

three-digit zip code pair in rating area 15, one of Los Angeles County's two rating areas. Base

silver monthly premiums are the silver premium attached to each network's silver plan before

age rating and premium tax credits are applied. Figure 4 shows that *network breadth varies*

widely within networks by three-digit zip codes. For example, the network breadth of the Anthem

23

HMO network ranges from approximately 4% to 23%. As Figure 4 suggests, the correlation

between premiums and network breadth (before PTCs are applied) is weak. Their overall

correlation coefficient is 0.09[19] This pattern – large within-rating area variation in network

breadth by three-digit zip codes and a weak correlation between premiums and network breadth

– persists across rating areas.

Figure 4: Variation in Mean Network Breadths and the Base Monthly Silver Premiums across Three-Digit Zip Codes in Rating Area 15
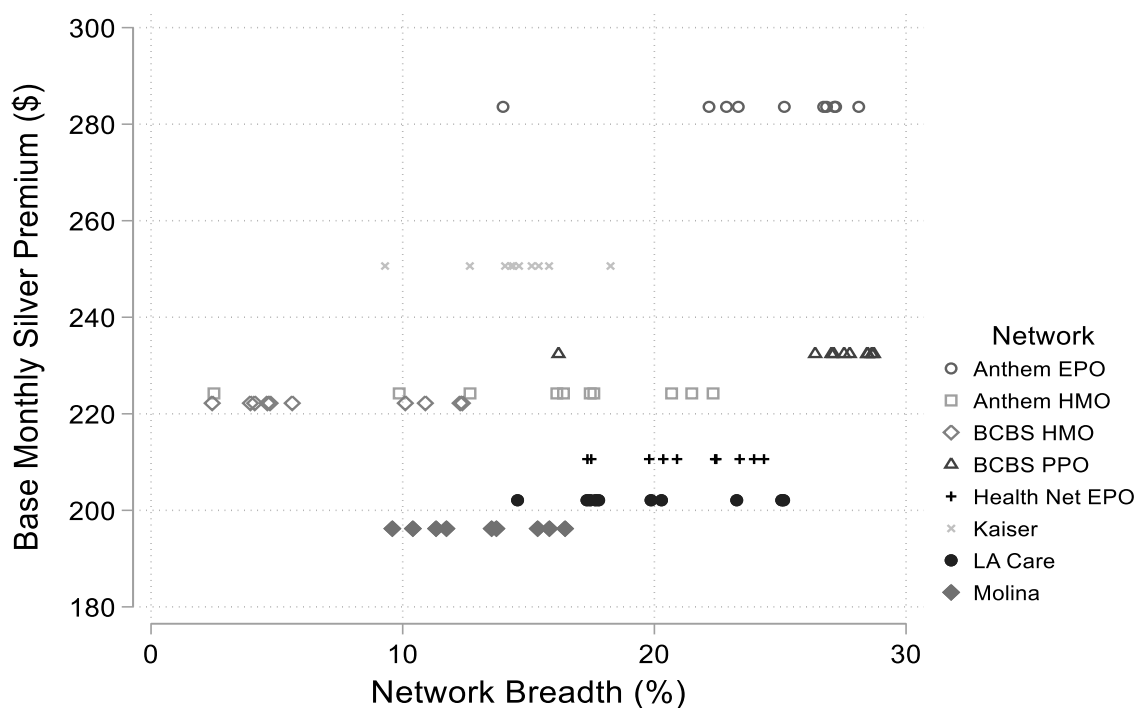
Notes: Each point represents a 3-digit zip code in the rating area. Rating area 15 is the larger of two rating areas contained in Los Angeles County. A network's base monthly silver premium is the premium of the silver plan attached to the network before it is adjusted for age rating and premium tax credits.

---

[19] Calculated as the correlation between base monthly premiums and network breadth at the three-digit zip code-network level across Covered California.

5.2. Mixed Logit Results

Coefficients, standard deviations, and the correlation of premium sensitivity and network breadth for the baseline model are presented in Table 4. I find that premium sensitivity is negative and decreasing in magnitude with age and for households receiving premium tax credits; it increases in magnitude for non-single households. The standard deviation of the random premium sensitivity parameter, 0.6241, is about 22% of the base premium sensitivity intercept, -2.8409, implying that idiosyncratic household variation in premium sensitivity is relatively small. The network breadth sensitivity parameter is positive. Network breadth sensitivity increases with age and for non-single households and decreases for households with premium tax credits. The standard deviation of the random network breadth sensitivity parameter, 0.0574, is roughly 2.4 times that of the base network breadth sensitivity intercept, 0.0243, indicating that there is large heterogeneity in tastes for network breadth. The sign of the network breadth parameters is the opposite of the premium parameters, meaning that the demographic groups that are less sensitive to premiums are more sensitive to network breadth. The correlation between premium and network breadth sensitivity is only 0.7695, indicating that household's idiosyncratic preferences for premiums and network breadth are related. That is, households that are less sensitive to premiums tend to be more sensitive to network breadth and vice versa. Other model coefficients, which include metal level and product fixed effects, are shown in Appendix Table 3. Relative to the reference category of a silver plan (70% actuarial value), consumers are less likely to select plans with lower actuarial value (i.e., bronze, minimum coverage), and more likely to select plans with higher actuarial value (silver cost-sharing reductions plans, platinum). Gold plans are an exception, which may be due to the display order of plans on the Covered California website.

25

Table 4: Mean Coefficients and Standard Deviations of Mixed Logit Discrete Choice Model of Covered California Health Plan Choice

Covariate	Household-Weighted Mean Coefficient
Monthly Premiums ($100)	
Level	-2.8409
Maximum Age: 30-39	0.8450
Maximum Age: 40-49	1.1956
Maximum Age: 50-59	1.4965
Maximum Age: 60+	1.7330
Non-Single	0.7361
Has Premium Tax Credit	-0.4527
Network Breadth	
Level	0.0243
Maximum Age: 30-39	0.0086
Maximum Age: 40-49	0.0136
Maximum Age: 50-59	0.0215
Maximum Age: 60+	0.0318
Non-Single	0.0088
Has Premium Tax Credit	-0.0070
Random Parameter Statistics	
Standard Deviation (μ_i): Monthly Premiums ($100)	0.6241
Standard Deviation (ω_i): Network Breadth	0.0574
Correlation: Monthly Premiums ($100), Network Breadth	0.7695
Model Statistics	
Choice Situations	3,204,727
Unique Households	104,968
Rating Areas	18

Notes: Reported coefficients are the household-weighted means of separate models estimated for each rating area in Covered California. Rating area 4 (San Francisco) is excluded because it has only one three-digit zip code, which prevents network breadth from varying independently of product fixed effects. All models include metal level and product fixed effects. By estimating the models separately, product fixed effects are able to vary across rating areas. Results are weighted according to the number of households in each rating area. Premium and network breadth interactions with demographic groups are recovered by substituting random parameter equations into the utility function.

5.3 Own-Premium and Own-Network Breadth Elasticities

Appendix Table 4 shows own-premium and own-network breadth elasticities calculated from the coefficients in Table 4 for each demographic group. Own-premium and own-network breadth elasticities η_P and η_N are given by

$$\eta_P \equiv \alpha_i P_{ijr}(1 - \Pr(J_r = j_{ir}))$$

$$\eta_N \equiv \beta_i N_{jz}(1 - \Pr(J_r = j_{ir}))$$

Own-premium elasticity η_P is the percentage change in the probability of a household choosing a plan resulting from a one percent increase in a plan's premium. Own-network breadth elasticity η_N is the percentage change in the probability of a household choosing a plan resulting from a one percent increase in the plan's premium. I calculate household-specific values of α_i and β_i using the method developed by Revelt and Train (2000) in which information regarding a household's plan choice, demographics, and population parameters are used to simulate α_i and β_i.[20] As shown in Appendix Table 4, own-network breadth elasticities have a mean of 0.51 across all households. They range from 0.22 for age 18-29, single, subsidized households to 0.82 for age 60 or greater, single, unsubsidized households.

Overall own-premium elasticity is -4.76. Own-premium elasticity exhibits an inconsistent pattern with age in which the middle age group (40-49) has the lowest magnitude own-premium elasticity. This seemingly counterintuitive result occurs because of contrary trends between premium sensitivity and premiums that occur as age increases. That is, while older households have higher premiums P_{ijr} for the same plan relative to their younger counterparts due to the ACA's age rating, they also have lower premium sensitivities α_i.

---

[20] Alternatively, η_P and η_N could be calculated as $E(\alpha_i)$ and $E(\beta_i)$. This approach, however, does not take advantage of the heterogeneity allowed by the mixed logit model. Regardless, both approaches yield very similar elasticities.

5.4 Own-Premium and Own-Network Breadth Semi-Elasticities

To obtain a standardized measure of premium and network breadth sensitivities that holds the change in premiums and network breadth constant, I calculate semi-elasticities. Own-premium and own-network breadth semi-elasticities are given by:

$$\zeta_P \equiv \alpha_i(100/12)(1 - \Pr(J_r = j_{ir}))$$

$$\zeta_N \equiv \beta_i(2SD(N_{jz}))(1 - \Pr(J_r = j_{ir}))$$

Own-premium semi-elasticity ζ_P is the percentage change in the probability of choosing a plan resulting from a \$100 increase in annual premiums, as is standard in the literature. Own-network breadth semi-elasticity ζ_N is the percent change in the probability that a household chooses a given plan resulting from a two standard deviation increase in network breadth, 17.44 percentage points. This difference represents a plan shifting from a narrow network to a broad network. These definitions of narrow and broad are relative to observed network breadth in Covered California. They are not necessarily representative of differences between narrow and broad networks in other states, which exhibit wide variation from state to state (Polsky, Weiner, and Zhang 2017).

The means and standard deviations of own-premium and own-network breadth semi-elasticities are shown in Table 5. Mean own-network breadth semi-elasticity is 56.30, meaning that the mean household's percentage change in the probability of choosing a plan when the plan switches from a narrow to a broad network is 56.30%. Own-network breadth semi-elasticity ranges from 24.57 from the youngest age group 18-29, single, subsidized households to 92.60 for age group 60 or greater, single, unsubsidized households with premium tax credits. Network breadth semi-elasticity increases across age groups, but there is not a clear pattern with respect to household size or subsidy status due to the relatively large heterogeneity in network sensitivity.

28

As indicated by the standard deviation of network breadth sensitivity, the overall standard deviation of own-network breadth semi-elasticity (87.90) is relatively large compared to the mean of (56.30). Unobserved demographics, presumably health status, thus have a large impact on tastes for network breadth even after conditioning on observable demographics. The standard deviation of network breadth semi-elasticity remains roughly the same in magnitude across demographic groups despite variation in the means of network breadth semi-elasticity across demographic groups. Younger households thus exhibit relatively greater variation in their network breadth semi-elasticities than their older counterparts.

Table 5 also contains own-premium semi-elasticities. Own-premium semi-elasticities, unlike own-premium elasticities, comport with premium sensitivity coefficients in indicating that older households are less sensitive to premiums. A $100 increase in premiums results in 24.40% and 10.48% decreases in the probability of enrollment between the single, subsidized, 18-29 age and 60 or greater age groups, respectively. Premium semi-elasticities are lower for non-single households without premium tax credits. Overall own-premium semi-elasticity is -12.72. Heterogeneity in own-premium semi-elasticities is not as large as for own-network breadth semi-elasticity, though it is still relatively large for the older age groups. For example, for single households with subsidies, the standard deviation of own-premium semi-elasticity increases from roughly half that of own-premium semi-elasticity for the age 18-29 group (14.01 to -24.40) to about 120% of own-premium semi-elasticity for the 60 plus age group (13.42 to -10.48).

Table 5: Means and Standard Deviations of Own-Premium and Own-Network Breadth Semi-Elasticities across Demographic Groups

Maximum Age	Own-Premium Semi-Elasticity		Own-Network Semi-Elasticity	
	Mean	Standard Deviation	Mean	Standard Deviation
Overall				
All	-12.72	14.58	56.30	87.90
Single Households with Premium Tax Credits				
18-29	-24.40	14.01	24.57	82.61
30-39	-17.02	13.92	37.95	83.92
40-49	-14.35	13.68	44.59	85.53
50-59	-12.01	13.62	60.96	85.05
60+	-10.48	13.42	81.55	81.73
Non-Single Households with Premium Tax Credits				
18-29	-20.11	15.41	48.04	85.11
30-39	-12.08	12.96	60.81	87.72
40-49	-8.76	13.50	65.93	87.52
50-59	-6.00	14.09	72.72	88.61
60+	-4.93	15.05	86.03	85.80
Single Households without Premium Tax Credits				
18-29	-17.61	9.46	31.30	84.42
30-39	-9.79	8.57	39.21	90.68
40-49	-7.74	8.72	54.00	93.91
50-59	-6.90	10.93	74.05	90.72
60+	-5.77	10.59	92.60	87.03
Non-Single Households without Premium Tax Credits				
18-29	-11.75	10.68	58.01	95.46
30-39	-5.12	9.12	73.23	88.97
40-49	-2.91	9.66	74.25	85.83
50-59	-1.85	10.26	86.81	81.70
60+	-1.37	12.03	89.11	77.22

Notes: Own-premium semi-elasticity is calculated as $\alpha_i (100/12)(1 - \Pr(J_r = j_{jr})$. Own-network breadth semi-elasticity is calculated as $\beta_i (2\sigma_N(N_{lzr}))(1 - \Pr(J_r = j_{ir}))$, where $2\sigma_N$ is a two standard deviation change in network breadth, 16.50 percentage points. Household-specific sensitivity parameters α_i and β_i are estimated as described in Revelt and Train (2003).

30

5.5 Willingness to Pay to Switch from a Narrow to a Broad Network

I calculate willingness to pay (WTP) for network breadth as $\beta_i/E(\alpha_i)$.[21] Willingness to pay for network breadth represents the dollar amount enrollees will pay in monthly premiums for a one percentage point increase in network breadth. I proceed to calculate the WTP to switch from a narrow to a broad network plan as WTP for network breadth times a two standard deviation change in network breadth (17.44 percentage points). Table 6 shows the means, standard deviations, 25th, 50th, and 75th percentiles of the distributions of WTP to switch from a broad to a narrow network plan within age groups by household type and receipt of a premium tax credit. Overall, WTP to switch from a narrow to a broad network has a mean of $45.83, a standard deviation of $68.87, a 25th percentile of $7.18 and a 75th percentile of $74.07. Non-single households in higher maximum age groups and premium tax credits have higher WTP for network breadth. These differences are quite large. For example, median WTP to switch from a narrow to a broad network among 18-29 age group, single households with premium tax credits is $7.18, but is $259.92 among 60 or greater age group, non-single households without premium tax credits. Large heterogeneity exists within demographic groups as well, sufficiently so that younger households can be willing to pay more for broad networks than their older counterparts. For example, the WTP of the 75th percentile of non-single households with premium tax credits in the 18-29 age group is ($44.13) is larger than the WTP of the 25th percentile of non-single households with premium tax credits in the 50-59 age group ($32.41).

---

[21] Greene (2012, p. 780-781) points out that calculating a ratio based on two unbounded distributions can result in extreme values. I do observe extreme values when I calculate WTP as β_i/α_i (e.g., WTP is extremely high as premium sensitivity α_i approaches zero). I take Greene's suggestion for calculating WTP to address this issue: Treat the denominator as nonrandom. To do so, I calculate WTP using the expected value of α_i, which sets its random, mean-zero error term, μ_i, to zero. While this approach solves the two unbounded distributions problem, it comes with a trade-off in that the WTP calculation does not consider idiosyncratic household-level variation in premium sensitivity. The WTP term is thus an estimate of a household's willingness to pay for a one percentage point increase in network breadth that incorporates idiosyncratic household-level variation in network breadth sensitivity, as well as demographic variation in network breadth and premium sensitivity.

31

An important caveat to my WTP findings (and own-network breadth semi-elasticity) is that it is not intuitively clear how to capture the difference between a narrow and a broad network. I select a two standard deviation change in network breadth, 17.44 percentage points, as the range that defines a narrow to a broad network because of the desirable statistical properties of two standard deviations under a normal distribution. Other definitions, however, are plausible, such as the interquartile range of network breadth, 12.74 percentage points, or the difference between the 90th and the 10th percentile of network breadth, 23.78 percentage points. The former would result in a mean WTP of $33.51, and the latter would result in a mean WTP of $62.54. Regardless of the measure used to define the difference between broad and narrow networks, the relative difference in WTP between demographic groups does not change (i.e., this quantity is simply a constant that is multiplied by WTP).

5.3. Robustness Checks

I examine the robustness of my findings by estimating separate models and comparing their elasticities, semi-elasticities, and WTP to the baseline model. These parameters of the other models are shown in Appendix Table 5. I begin by estimating plan choice without product fixed effects. I find that omitting product fixed effects biases all the parameters of interest, reducing mean own-premium elasticity (-3.88 from -4.76), increasing own-network breadth elasticity (0.85 from 0.51), and nearly doubling WTP for network breadth ($94.81 from $45.83). It is difficult to determine why this bias occurs since product fixed capture many dimensions of plan characteristics (e.g., drug formularies, brand reputation, plan type), though it is clear that product effects are essential for obtaining unbiased estimates.

Table 6: Moments of the Distribution of Willingness to Pay to Switch from a Narrow to a Broad Network Plan across Demographic Groups

Maximum Age	Willingness to Pay for Network Breadth ($)				
	Mean	SD	25th Percentile	Median	75th Percentile
Overall					
All	45.83	68.87	7.18	33.55	74.07
Single with Premium Tax Credit					
18-29	9.46	25.15	-2.80	6.44	21.97
30-39	18.48	34.36	0.54	14.76	42.86
40-49	24.89	40.93	4.51	20.69	50.32
50-59	38.27	47.34	13.96	32.59	66.15
60+	57.29	52.32	28.33	50.32	88.32
Non-Single with Premium Tax Credit					
18-29	21.83	33.63	3.16	15.76	44.13
30-39	40.08	51.46	12.11	32.80	71.24
40-49	54.09	64.76	18.90	45.35	94.01
50-59	76.56	84.57	32.41	68.42	129.25
60+	116.24	105.69	59.66	106.18	176.25
Single without Premium Tax Credit					
18-29	12.67	29.83	-5.95	10.06	27.60
30-39	22.03	45.49	-6.06	19.84	52.83
40-49	35.62	56.82	5.02	33.37	72.03
50-59	59.04	66.92	23.57	54.08	102.08
60+	90.65	77.93	45.39	88.80	143.58
Non-Single without Premium Tax Credit					
18-29	29.36	45.50	6.76	26.33	52.15
30-39	61.83	70.65	21.65	56.62	112.74
40-49	87.73	93.65	33.66	87.79	150.80
50-59	154.64	133.78	77.08	154.75	247.57
60+	264.42	212.21	160.58	259.92	378.66

Notes: Willingness to Pay (WTP) is calculated as $-\beta_i/E(\alpha_i)$ for each household.

33

I proceed by estimating the model with homogenous product fixed effects (i.e., without rating area interactions). I find a slight increase in own-premium elasticity in the homogenous fixed effects model (-5.15 from -4.76), but own-network breadth elasticity (0.51) and WTP for network breadth ($45.61) are practically unchanged from the baseline model (0.51 and $45.83, respectively). I conclude that estimating plan choice with homogenous product fixed effects relative to heterogenous ones has a negligible effect on the parameters of interest.

I also estimate a model that excludes network breadth to examine how premium sensitivity changes when network breadth is excluded from the model. Exclusion of network breadth has a small effect on the own-premium elasticity, decreasing it by 0.20 from -4.76 to -4.56. The exclusion of network breadth from the model thus results in a slight downward bias in own-premium elasticity.

I conclude by examining the sensitivity of my results to the length of the radius used in my network breadth measures, 15 miles, by estimating two models that measure network breadth using 10- and 20-mile radii, respectively. Premium and network breadth sensitivities change slightly in these models such that mean WTP for network breadth increases by $2.31 with a 10-mile radius and decreases by $3.16. These slight changes may be representative of households placing higher value on providers near their home relative to those that are further away, though they have little bearing on my findings.

6. Discussion

6.1. Network Breadth: Interpretation and Selection

Covered California households, particularly older ones, are sensitive to network breadth. Consumers' valuation of network breadth may reflect a variety of factors, including: (1) choice of physicians from whom they may seek medical care; (2) reduced wait times to receive care

34

from having more in-network physicians; (3) reduced financial risk arising from a lower need to see out-of-network physicians; or (4) continuity of care. A recent study of the group insurance market by Higuera, Dowd, and Carlin (2018) examined how preferences for broad networks varied when an indicator for continuity of care (i.e. does this network let me keep my doctor?) was and was not included in the utility function. When the continuity of care indicator was excluded, they found that network breadth sensitivity increased and absorbed the continuity of care indicator. This finding suggests that, conditional on a household's physician being included in a network, households are less concerned about the overall breadth of the network. Since some Covered California consumers enroll with pre-existing physician relationships, tastes for broader networks may be a result of broader networks having a higher probability of including these households' doctors. Future research should follow Higuera, Dowd, and Carlin (2018) and continue to distinguish between sources of consumers' preferences for broader networks.

Network breadth sensitivity increases with household age, income, and household size. This finding is consistent with the literature (Ericson and Starc 2015; Shepard 2016; Gruber and McKnight 2016). As age increases, households' tastes for access to and choice of physicians may increase with declining health and the increased probability of developing a chronic condition. Existing relationships with providers also may increase demand for a broader network, or one that covers providers with whom the household has an existing relationship. Clearly, network information is salient enough in Covered California that, at least on average, consumers can factor it into their plan choice.

Heterogeneity in network breadth sensitivity across demographic groups indicates that *a selection mechanism exists in which older, lower-income, non-single households sort into plans with broader networks.* This selection mechanism is magnified by a negative correlation between

network breadth and premium sensitivities (i.e., households that are more sensitive network breadth in their plan selections tend to be less premium sensitive in their plan selections). These selection mechanisms are likely to result in adverse selection, where a correlate of health care costs (age) results in selection on a plan characteristic (network breadth). Adverse selection normally would result in higher premiums and/or fewer plans with the characteristic that results in selection (broader networks). However, according to the chief actuary of Covered California, the ACA's risk adjustment program is working well in Covered California and preventing insurers from responding negatively to selection (Bertko, Feher, and Watkins 2017; Bertko 2016). These selection mechanisms could, however, still increase premiums by limiting insurers' ability to steer older households to providers. If these households were enrolled in narrow network plans, insurers could direct them to more efficient providers and extract deeper discounts from those providers on unit prices.

6.2. Premium Sensitivity and Plan Standardization

Covered California enrollees are highly premium elastic. Mean own-premium elasticity is -4.76. The magnitude of this elasticity is larger than those found in studies of the Federally-facilitated Marketplace (Abraham et al. 2017; DeLeire and Marks 2015), which range from -1.7 to -2.4, as well as the -2.0 in the pre-ACA California individual insurance market (Marquis et al. 2007). It is, however, similar to own-premium elasticity estimates in another highly-standardized insurance market, Medicare Part D, which range between -5 and -6 (Decarolis, Polyakova, and Ryan 2015; Lucarelli, Prince, and Simon 2012). My estimate is smaller than Saltzman's (2018) estimate of Covered California own-premium elasticity, -9.1, from 2014-2015.[22]

---

[22] The difference between my estimate of own-premium elasticity, -4.76, and Saltzman's (2018), -9.1, is quite large. Saltzman examines Covered California enrollment in 2014-2015. Enrollees were less familiar with Covered California at that time and may have based their plan selections on price more than other factors. This may have changed in subsequent years as previously uninsured consumers became more familiar with networks and cost-

Covered California's standardized cost-sharing may explain the magnitude of the own-premium elasticity. The presence of many close substitutes (several plans with the same cost-sharing attributes) can increase premium sensitivity, as can the presentation of many plans' premiums in a standardized format (Schmitz and Ziebarth 2017; Ryan, Krucien, and Hermens 2017; Bhargava, Loewenstein, and Sydnor 2015).[23] Covered California and Medicare Part D both have many close substitutes, standardized presentation, and some standardized benefits, while the Federally-Facilitated Marketplace and the pre-ACA individual insurance market are lacking some or all of these features.

While standardization reduces choice overload, it may have had the unintended consequence of reducing households' willingness to pay for a less salient plan characteristic: network breadth. By definition, willingness to pay for all product characteristics decreases as price sensitivity increases. However, it is unclear to what extent standardized cost-sharing increases households' sensitivity to network breadth. The literature has not examined this subject. Consumers' sensitivity to network breadth may increase alongside premiums in response to standardization, or it may remain unchanged.

Standardized cost-sharing may be a useful tool for policymakers seeking to contain premium growth, particularly in other State-Based Marketplaces that are not dependent on the federal government to implement such policies. By increasing premium sensitivity, standardized cost-sharing could force insurers to increase premium competition in order to maintain (or gain)

---

sharing. Saltzman's decision not to examine network breadth does not explain the difference between our findings – my robustness checks in Appendix Table 5 indicate that excluding network breadth leads to a slight decrease in the own-premium elasticity estimate. Future analyses of Covered California plan demand should incorporate more years of data to bridge the gap between Saltzman and my estimates.

[23] After a standard query, Covered California displays the premiums of nine plans simultaneously. Consumers in the Federally-facilitated Marketplace initially only see the premiums of 2-3 plans at one time without making adjustments to the basic search query.

37

market share. This approach may not be appropriate, however, if increased premium competition reduces insurer profits such that insurers would exit the market.

6.3. Limitations

My study is subject to six limitations. First, I do not observe plan enrollment for households purchasing individual health insurance off Covered California. This limitation is somewhat trivial for households participating in the individual market whose incomes are below 400% of the FPL – restricting premium tax credits to Covered California causes nearly all of this demographic group to purchase insurance on Covered California. However, many households with incomes above 400% of the FPL purchase insurance off Covered California. My findings are of limited generalizability to this group.

Second, I do not incorporate the uninsured "outside good" into my model of plan choice. Other studies of Covered California have done so (Tebaldi 2017; Saltzman 2018); however, the data source they used to identify the uninsured – the American Community Survey – is not granular enough to assign the uninsured to three-digit zip codes, nor has it been released for 2017. This makes the network breadth of the plan choices facing the insured infeasible. Regardless, these first two limitations are of limited concern for focus of this study, which is to understand how network breadth affects plan choice *within* Covered California.

Third, my network measure does not distinguish which characteristics of broad network plans are more valuable to consumers. Consumers may value them for their coverage of certain types of providers, quality, and/or covering a preferred provider. While the data do contain information on in-network providers other than primary care providers, I find that separating network breadth into various specialties (e.g., internal medicine subspecialists, surgeons) resulted

in collinearities exceeding 0.95. I thus cannot distinguish between tastes for different types of providers within networks.

Fourth, I am unable to examine the role of inertia in plan choice with my cross-sectional data. Inertia, the tendency to stay enrolled in the same plan from year to year, has been shown to have an impact on health plan choice in several insurance markets (e.g., Shepard 2016; Ericson 2014; Polyakova 2016), though its role in the post-ACA individual market is not yet well understood. A related complication is that insurers may increase network breadth in response to high enrollment in the previous period, though the extent to which this is possible is not clear due to the provider contracting cycle and whether insurers use their Covered California provider networks in plans offered in other insurance markets.

Fifth, it is not clear to what extent my findings may be generalized to other states' Marketplaces. Polsky, Weiner, and Zhang (2017) found that there is great variation in mean network breadth across states. Covered California tends to have narrow networks than other states. It is not clear whether this variation is due to differences in the numerator or the denominator (i.e., in-network physicians or total physicians). Furthermore, Covered California's regulations and experiences with insurer participation are quite different from the other 49 states' Marketplaces. My findings on Covered California enrollees' tastes for network breadth are broadly similar to pre-ACA Massachusetts individual market enrollees tastes' (Shepard 2016; Ericson and Starc 2015), but more research on this subject is warranted.

Lastly, my "as the crow flies" measure of network breadth may be flawed in areas where vehicle transportation is restricted by congestion, geography, or road structure. Researchers with richer geographic data than I possess (e.g., addresses or census tracts) could eliminate this limitation by calculating driving time to nearby providers.

39

7. Conclusion

The availability of granular network and enrollment data from Covered California provides an opportunity to analyze consumers' sensitivity to health plans' network breadth and premiums. I use a household-level discrete choice model combined with a geographic measure of network breadth to estimate network breadth and premium sensitivity parameters. I contribute to the literature by providing an estimate of network breadth sensitivity in the Marketplaces and developing a provider-centric measure of network breadth based on consumers' geospatial proximity to providers. This measure, unlike the network value measure sometimes used in the literature (Capps, Dranove, and Satterthwaite 2003), is easily calculated with respect to physicians (as opposed to just hospitals) and does not require the estimation of a separate demand system.

I have three main results. First, households' enrollment decisions are sensitive to network breadth. Covered California households, at least on average, have sufficient information to consider network breadth as they choose a health plan. Second, a selection mechanism exists in which non-single, higher-income households with older members tend to select into broader network plans. Unobserved household characteristics, presumably preferences for continuity of care and health status, also play a large role in determining tastes for network breadth. Third, Covered California households are highly premium sensitive in their enrollment decisions. One explanation for this is that plan standardization may have increased premium sensitivity.

These results raise questions for future research. First, it will be important to learn which particular network characteristics (e.g., high-reputation providers, distance) drive consumers' sensitivity to network breadth. Second, how do household characteristics influence tastes for network breadth? Previous experience with providers, knowledge of health insurance benefits,

40

and previous enrollment in Covered California all may influence plan choices. Third, do costs, access to the healthcare system, and quality of care improve for households that enroll in broad network plans, particularly in rural areas? Previous work in the group insurance market has shown that consumers who switched from broad to narrow network plans became less costly to insure and saw fewer specialists (Atwood and LoSasso 2016; Gruber and McKnight 2016), but this subject remains unstudied in the individual market. Lastly, how does plan standardization affect tastes for networks? Plan standardization increases premium sensitivity (Schmitz and Ziebarth 2017), but it is unclear whether tastes for remaining non-standardized characteristics like network breadth are altered as well. Continued efforts to make network directories, individual-enrollment data, and all-payer claims databases will be necessary to address these timely questions.

References

Abraham, Jean, Coleman Drake, Daniel W. Sacks, and Kosali Simon. 2017. "Demand for Health Insurance Marketplace Plans Was Highly Elastic in 2014-2015." *Economics Letters* 159: 69–73.

Atwood, Alicia, and Anthony T. LoSasso. 2016. "The Effect of Narrow Provider Networks on Health Care Use." *Journal of Health Economics*, no. 50: 86–98.

Baicker, Katherine, and Helen Levy. 2015. "How Narrow a Network Is Too Narrow?" *JAMA Internal Medicine* 175 (3): 337. https://doi.org/10.1001/jamainternmed.2014.7763.

Bertko, John. 2016. "What Risk Adjustment Does - The Perspective of a Health Insurance Actuary Who Relies On It." *Health Affairs Blog*, March 29, 2016. http://healthaffairs.org/blog/2016/03/29/what-risk-adjustment-does-the-perspective-of-a-health-insurance-actuary-who-relies-on-it/.

Bertko, John, Andrew Feher, and Jim Watkins. 2017. "Amid ACA Uncertainty, Covered California's Risk Profile Remains Stable." *Health Affairs Blog*, May 15, 2017. http://healthaffairs.org/blog/2017/05/15/amid-aca-uncertainty-covered-californias-risk-profile-remains-stable/.

Bhargava, Saurabh, George Loewenstein, and Justin Sydnor. 2015. "Do Individuals Make Sensible Health Insurance Decisions? Evidence from a Menu with Dominated Options." *The Quarterly Journal of Economics* w21160. http://www.nber.org/papers/w21160.

Bindman, Andrew B., Denis Hulett, Todd P. Gilmer, and John Bertko. 2016. "Sorting out the Health Risk in California's State-Based Marketplace." *Health Services Research* 51 (1): 129–45. https://doi.org/10.1111/1475-6773.12320.

California Department of Insurance. 2016. "Provider Network Access Standards for Health Insurance." California Code of Regulations. 2016. http://www.insurance.ca.gov/0400-news/0100-press-releases/2016/upload/NetworkAdequacyRegulation3-8-16.pdf.

Capps, Cory S., David Dranove, and M. Satterthwaite. 2003. "Competition and Market Power in Option Demand Markets." *The RAND Journal of Economics* 34 (4): 737–63. https://doi.org/10.2307/1593786.

Center for Consumer Information & Insurance Oversight. 2016. "2017 Letter to Issuers in the Federally-Facilitated Marketplaces." *Centers for Medicare & Medicaid Services*, February. https://www.cms.gov/cciio/resources/regulations-and-guidance/downloads/final-2017-letter-to-issuers-2-29-16.pdf.

Centers for Medicare & Medicaid Services. 2017. "Health Insurance Marketplaces 2017 Open Enrollment Period: January Enrollment Report." https://downloads.cms.gov/files/final-marketplace-mid-year-2017-enrollment-report-1-10-2017.pdf.

Centers for Medicare and Medicaid Services. 2016. "Chapter 6: Instructions for the Network Adequacy Application Section." Center for Consumer Information and Insurance Oversight. 2016. http://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Marketplaces/Downloads/Chapter-06-Network-Adequacy-Instructions-Ver2-052014.pdf.

———. 2017. "NPPES NPI Registry." Cms.Hhs.Gov. 2017.

Chamberlain, Gary. 1980. "Analysis of Covariance with Qualitative Data." *The Review of Economic Studies* 47 (1): 225–38.

Claxton, Gary, Matthew Rae, Michelle Long, Anthony Damico, Gregory Foster, and Heidi Whitmore. 2017. "2017 Employer Health Benefits Survey." *Kaiser Family Foundation*. https://www.kff.org/health-costs/report/2017-employer-health-benefits-survey/.

Corlette, S, JA Volk, R Berenson, and J Feder. 2014. "Narrow Provider Networks in New Health Plans: Balancing Affordability with Access to Quality Care." *Georgetown University Health Policy Institute & the Urban Institute*. http://www.rwjf.org/en/library/research/2014/05/narrow-provider-networks-in-new-health-plans.html.

Covered California. 2016. "2017 Patient-Centered Benefit Designs and Medical Cost Shares." Coveredca.Com. 2016. https://www.coveredca.com/PDFs/2017-Health-Benefits-table.pdf.

———. 2017. "2017 Product Prices for All Health Insurance Companies." 2017. http://hbex.coveredca.com/data-research/.

Dafny, Leemore, Igal Hendel, and Nathan Wilson. 2015. "Narrow Networks on Health Insurance Exchanges: What Do They Look Like and How Do They Affect Pricing? A Case Study of Texas." *The American Economic Review* 105 (5): 110–14. http://www.kellogg.northwestern.edu/faculty/dafny/personal/Documents/Publications/2_Dafny_Narrow Networks on the Health Insurance Exchanges.pdf.

Dafny, Leemore S., Igal Hendel, Victoria Marone, and Christopher Ody. 2017. "Narrow Networks On The Health Insurance Marketplaces: Prevalence, Pricing, And The Cost Of Network Breadth." *Health Affairs* 36 (9): 1606–14. https://doi.org/10.1377/hlthaff.2016.1669.

Decarolis, Francesco, Maria Polyakova, and Stephen P Ryan. 2015. "The Welfare Effects of Supply-Side Regulations in Medicare Part D." w21298. *Working Paper*. https://doi.org/10.3386/w21298.

DeLeire, Thomas, Andre Chappel, Kenneth Finegold, and Emily Gee. 2017. "Do Individuals Respond to Cost-Sharing Subsidies in Their Selections of Marketplace Health Insurance Plans?" *Journal of Health Economics* 56: 71–86. https://doi.org/10.1016/j.jhealeco.2017.09.008.

DeLeire, Thomas, and Caryn Marks. 2015. "Consumer Decisions Regarding Health Plan Choices in the 2014 and 2015 Marketplaces." *Office of the Assistant Secretary for Planning and Evaluation*. https://aspe.hhs.gov/sites/default/files/pdf/134556/Consumer_decisions_10282015.pdf.

Department of Health and Human Services. 2017. "Patient Protection and Affordable Care Act; Market Stabilization." Federal Register. 2017. https://www.federalregister.gov/documents/2017/02/17/2017-03027/patient-protection-and-affordable-care-act-market-stabilization.

Desroches, Catherine M, Kirsten A Barrett, Bonnie E Harvey, Rachel Kogan, James D

43

Reschovsky, Bruce E Landon, Lawrence P Casalino, Stephen M Shortell, and Eugene C Rich. 2015. "The Results Are Only as Good as the Sample: Assessing Three National Physician Sampling Frames." *J Gen Intern Med* 30 (3): 595–601. https://doi.org/10.1007/s11606-015-3380-9.

Ericson, Keith M. Marzilli, and Amanda Starc. 2016. "How Product Standardization Affects Choice: Evidence from the Massachusetts Health Insurance Exchange." *Journal of Health Economics* 50: 71–85.

Ericson, Keith M Marzilli. 2014. "Consumer Inertia and Firm Pricing in the Medicare Part D Prescription Drug Insurance Exchange." *American Economic Journal: Economic Policy* 6 (1): 38–64.

Ericson, Keith Marzilli, and Amanda Starc. 2015. "Measuring Consumer Valuation of Limited Provider Networks." *The American Economic Review* 150 (5): 115–19. http://www.nber.org/papers/w20812.

Gabel, Jon R., Daniel R. Arnold, Brent D. Fulton, Sam T. Stromberg, Matthew Green, Heidi Whitmore, and Richard M. Scheffler. 2017. "Consumers Buy Lower-Cost Plans On Covered California, Suggesting Exposure To Premium Increases Is Less Than Commonly Reported." *Health Affairs* 36 (1): 8–15. https://doi.org/10.1377/hlthaff.2016.0902.

Geruso, Michael. 2016. "Demand Heterogeneity in Insurance Markets: Implications for Equity and Efficiency." *NBER Working Paper* 22440.

Greene, William H. 2012. *Econometric Analysis*. 7th ed. Pearson.

Gruber, Jonathan, and R McKnight. 2016. "Controlling Health Care Costs Through Limited Network Insurance Plans: Evidence from Massachusetts State Employees." *American Economic Journal Economic Policy* 8 (2): 219–50. https://doi.org/10.3386/w20462.

Gunja, M.Z., S.R. Collins, and H.K. Bhupal. 2017. "Is the Affordable Care Act Helping Consumers Get Health Care?" *The Commonwealth Fund*. http://www.commonwealthfund.org/publications/issue-briefs/2017/dec/is-aca-helping-consumers-get-health-care.

Hamel, Liz, Mira Rao, Larry Levitt, Gary Claxton, Cynthia Cox, Karen Pollitz, and Mollyann Brodie. 2015. "Survey of Non-Group Health Insurance Enrollees, Wave 2." *The Henry J Kaiser Family Foundation*. http://kff.org/health-reform/poll-finding/survey-of-non-group-health-insurance-enrollees-wave-2/.

Higuera, Lucas, Caroline S Carlin, and Bryan Dowd. 2018. "Narrow Provider Networks and Willingness to Pay for Continuity of Care and Network Breadth." *Journal of Health Economics*.

Ho, Kate, Joseph Hogan, and Fiona Scott Morton. 2017. "The Impact of Consumer Inattention on Insurer Pricing in the Medicare Part D Program." *RAND Journal of Economics* 48 (4): 877–905. https://doi.org/10.1111/1756-2171.12207.

Ho, Kate, and Robin S Lee. 2013. "Insurer Competition and Negotiated Hospital Prices." *NBER Working Paper Series* w19401. https://doi.org/10.3386/w19401.

Ho, Kate, and Ariel Pakes. 2014. "Hospital Choices, Hospital Prices, and Financial Incentives to Physicians?" *American Economic Review* 104 (12): 3814–40. https://doi.org/10.1257/aer.104.12.3841.

Ho, Katherine. 2006. "The Welfare Effects of Restricted Hospital Choice in the US Medical Care Market." *Journal of Applied Economics* 21 (7): 1039–79.

Hole, Arne Risa. 2007. "Fitting Mixed Logit Models by Using Maximum Simulated Likelihood." *The Stata Journal* 7 (3): 388–401. http://www.sheffield.ac.uk/polopoly_fs/1.105585!/file/mixlogit.pdf.

Lucarelli, By Claudio, Jeffrey Prince, and Kosali Simon. 2012. "The Welfare Impact of Reducing Choice in Medicare Part D: A Comparison of Two Regulation Strategies." *International Economic Review* 53 (4): 1155–77.

Marquis, M. Susan, Melinda Beeuwkes Buntin, José J. Escarce, and Kanika Kapur. 2007. "The Role of Product Design in Consumers' Choices in the Individual Insurance Market." *Health Services Research* 42 (6I): 2194–2223. https://doi.org/10.1111/j.1475-6773.2007.00726.x.

McFadden, Daniel, and Kenneth Train. 2000. "Mixed MNL Models for Discrete Response." *Journal of Applied Econometrics* 15 (5): 447–70. https://doi.org/10.1002/1099-1255(200009/10)15:5<447::AID-JAE570>3.3.CO;2-T.

Office of the Legislative Council. 2010. *Compilation of Patient Protection and Affordable Care Act*. *U.S. Department of Health and Human Services*. http://www.hhs.gov/healthcare/rights/law/.

Polsky, Daniel, Molly K Candon, Paula Chatterjee, and Xinwei Chen. 2018. "Scope Of Primary Care Physicians' Participation In The Health Insurance Marketplaces The Practice of Medicine." *Health Affairs* 37 (8): 1252–56. https://doi.org/10.1377/hlthaff.2018.0179.

Polsky, Daniel, Zuleyha Cidav, and Ashley Swanson. 2016. "Marketplace Plans With Narrow Physician Networks Feature Lower Monthly Premiums Than Plans With Larger Networks." *Health Affairs* 35 (10): 1842–48. https://doi.org/10.1377/hlthaff.2016.0693.Health.

Polsky, Daniel, Janet Weiner, and Yuehan Zhang. 2017. "Narrow Networks on the Individual Marketplace in 2017." *Leonard Davis Institute of Health Economics*. https://ldi.upenn.edu/brief/narrow-networks-individual-marketplace-2017.

Polyakova, Maria. 2016. "Regulation of Insurance with Adverse Selection and Switching Costs: Evidence from Medicare Part D." *American Economic Journal: Applied Economics* 8 (3): 165–95. https://doi.org/10.1257/app.20150004.

Revelt, David, and Kenneth Train. 2000. "Customer-Specific Taste Parameters and Mixed Logit: Households' Choice of Electricity Supplier." *UC Berkeley Working Paper*. https://doi.org/10.2307/2393253.

Royalty, Anne Beeson, and Jean M. Abraham. 2006. "Health Insurance and Labor Market Outcomes: Joint Decision-Making within Households." *Journal of Public Economics* 90 (8–9): 1561–77. https://doi.org/10.1016/j.jpubeco.2005.10.001.

Ryan, Mandy, Nicolas Krucien, and Frouke Hermens. 2017. "The Eyes Have It: Using Eye

Tracking to Inform Information Processing Strategies in Multi-Attributes Choices." *Health Economics* Forthcomin.

Saltzman, Evan. 2018. "Demand for Health Insurance: Evidence from the California and Washington ACA Marketplaces." *Working Paper*.

Schmitz, Hendrik, and Nicolas R Ziebarth. 2017. "Does Price Framing Affect the Consumer Price Sensitivity of Health Plan Choice?" *Journal of Human Resources* Forthcomin. http://jhr.uwpress.org/content/early/2016/03/04/jhr.52.1.0814-6540R1.full.pdf+html.

Sen, Aditi P., Lena M. Chen, Donald F. Cox, and Arnold M. Epstein. 2017. "Most Marketplace Plans Included At Least 25 Percent Of Local-Area Physicians, But Enrollment Disparities Remained." *Health Affairs* 36 (9): 1615–23. https://doi.org/10.1377/hlthaff.2016.1582.

Shepard, Mark. 2016. "Hospital Network Competition and Adverse Selection: Evidence from the Massachusetts Health Insurance Exchange." *Working Paper* 000186: 1–68.

Tebaldi, Pietro. 2017. "Estimating Equilibrium in Health Insurance Exchanges: Price Competition and Subsidy Design under the ACA." *Working Paper*.

Train, Kenneth E. 2003. *Discrete Choice Methods with Simulation*. 2nd ed. Cambridge University Press. https://doi.org/10.1017/CBO9780511805271.

United States District Court for the District of North Dakota Western Division. 2017. Federal Trade Commission and State of North Dakota v. Sanford Health, Sanford Bismarck, and Mid Dakota Clinic, P.C., 1:17-cv-00.

Washington Publishing Company. 2018. "Health Care Provider Taxonomy Code Set." Wpc-Edi.Com. 2018. http://www.wpc-edi.com/reference/codelists/healthcare/health-care-provider-taxonomy-code-set/.

Appendix Table 1: Standardized Cost-Sharing in Covered California by Metal Level

Metal Level	Primary Care Copay ($)	Medical Deductible ($)		Max Out-of-Pocket ($)	
		Individual	Family	Individual	Family
Catastrophic[1]	*	7,150	**	7,150	**
Bronze	75	6,300	12,600	6,800	13,600
Silver	35	2,500	5,000	6,800	13,600
Silver CSR 73[2]	30	2,200	4,400	5,700	11,400
Silver CSR 87[2]	10	650	1,300	2,350	4,700
Silver CSR 94[2]	5	75	150	2,350	4,700
Gold	30	0	0	6,750	13,500
Platinum	15	0	0	4,000	8,000

Source: https://www.coveredca.com/PDFs/2017-Health-Benefits-table.pdf

[1] Catastrophic "minimum coverage" plans may only be purchased by those under age 30. They are not eligible for premium tax credits.

[2] Cost-sharing reduction (CSR) plans are available to premium tax credit-eligible enrollees with incomes at or below 250 percent of the Federal Poverty Level.

* Full cost until out-of-pocket is met.

** Only subject to federal limits.

Appendix Table 2: Insurer Market Shares in Covered California by Rating Area

Rating Area	Anthem	BCBS	Chinese Community	HealthNet	Kaiser	LA Care	Molina	Oscar	Sharp	Valley	Western
	Market Share (%)										
1	75.89	23.14		0.02	0.94						
2	7.2	15.75		0.68	60.84						15.53
3	16.18	13.74		0.31	63.57						6.19
4	6.41	24.56	21.83	0.71	46.06			0.44			
5	2.53	27.36		1.16	68.95						
6	4.59	30.59			64.82						
7	31.17	9.45		1.52	44.61					13.26	
8	10.56	14.4	7.03	2.26	65.76						
9	35.6	44.27		2.18	17.94						
10	66.31	5.42		0.46	27.81						
11	26.03	44.18		0.13	29.67						
12	34.48	50.74			14.78						
13	20.32	8.95			0.19		70.54				
14	27.27	36.98		16.52	19.23						
15	6.65	35.88		18.36	15.96	7.32	15.83				
16	13.02	20.21		13.56	21.61	6.4	23.25	1.95			
17	4.96	24.15		22.55	20.77		27.58				
18	15.08	32.48		21.18	16.09		13.59	1.58			
19	3.51	15.81		15.99	23.9		19.76		21.04		

Note: Market shares are calculated as the percentage of households that are enrolled in an insurer's plans in a rating area.

48

Appendix Table 3: Mean Coefficients and Standard Deviations of Mixed Logit Discrete Choice Model of Covered California Health Plan Choice

Covariate	Household Weighted Mean Coefficient
Metal Level	
Minimum Coverage/Catastrophic	-3.2415
Bronze: High-Deductible Health Plan	-3.5412
Bronze	-2.3737
Silver: Cost-Sharing Reduction 73	0.4910
Silver: Cost-Sharing Reduction 87	1.2675
Silver: Cost-Sharing Reduction 94	1.8354
Gold	-0.6405
Platinum	0.2708
Product	
Oscar EPO	-1.3479
Molina Marketplace	-0.0594
Anthem EPO	0.3880
Anthem HMO	-0.3414
Kaiser HMO	0.6100
Chinese HMO	-1.9620
HealthNet HMO	0.5735
HealthNet HSP	-1.8140
HealthNet EPO	-0.5230
Blue Shield PPO	1.0141
Blue Shield HMO	-2.2672
Valley HMO	-1.9870
Sharp HMO 1	0.8193
Sharp HMO 2	0.5983
LA Care HMO	-0.4182
Western HMO	-1.2770

[1] Metal level reference category is silver.

[2] Product reference category is Anthem PPO.

Note: Reported coefficients are the household-weighted means of separate models estimated for each rating area in Covered California. Rating area 4 (San Francisco) is excluded because it has only one three-digit zip code, which prevents network breadth from varying independently of product fixed effects.

Appendix Table 4: Means and Standard Deviations of Own-Premium and Own-Network Breadth Elasticities across Demographic Groups

Maximum Age	Own-Premium Elasticity		Own-Network Elasticity	
	Mean	Standard Deviation	Mean	Standard Deviation
		Overall		
All	-4.76	9.07	0.51	0.99
		Single Households with Premium Tax Credits		
18-29	-5.26	5.14	0.22	0.92
30-39	-4.18	5.19	0.34	0.93
40-49	-3.99	5.59	0.40	0.95
50-59	-4.36	7.28	0.55	0.97
60+	-4.63	8.66	0.73	0.98
		Non-Single Households with Premium Tax Credits		
18-29	-8.51	9.87	0.44	0.98
30-39	-6.06	9.25	0.55	1.01
40-49	-4.90	10.04	0.60	1.01
50-59	-3.88	12.32	0.66	1.03
60+	-3.62	14.60	0.78	1.03
		Single Households without Premium Tax Credits		
18-29	-6.68	5.40	0.28	0.93
30-39	-4.64	5.25	0.35	0.98
40-49	-4.74	6.45	0.48	1.03
50-59	-6.78	11.63	0.66	1.02
60+	-7.66	14.34	0.82	1.03
		Non-Single Households without Premium Tax Credits		
18-29	-8.21	10.07	0.54	1.08
30-39	-6.00	12.04	0.65	1.00
40-49	-5.01	15.73	0.66	0.97
50-59	-5.12	19.49	0.77	0.95
60+	-5.14	26.62	0.78	0.92

Notes: Own-premium elasticity is calculated as $\alpha_i P_{ijr}(1 - \Pr(J_r = j_{jr})$. Own-network breadth elasticity is calculated as $\beta_i N_{lzr}(1 - \Pr(J_r = j_{ir}))$. Household-specific sensitivity parameters α_i and β_i are estimated as described in Revelt and Train (2003).

Appendix Table 5: Mean Own-Premium and Own-Network Breadth Elasticities and Semi-Elasticities and Willingness to Pay for Network Breadth with Different Models

Parameter	Model					
	(1)	(2)	(3)	(4)	(5)	(6)
Own Elasticity						
Premium	-3.88	-5.15	-4.76	-4.56	-4.77	-4.82
Network Breadth	0.85	0.51	0.51	-	0.54	0.49
Own Semi-Elasticity						
Premium	-10.35	-13.67	-12.72	-12.07	-12.70	-12.82
Network Breadth	92.86	56.23	56.30	-	62.67	52.86
Willingness to Pay						
Network Breadth	143.19	72.90	45.83	-	45.13	39.16
Model Properties						
Network Breadth Radius	15	15	15	15	10	20
Product Fixed Effects		X				
Product-Rating Area Fixed Effects			X	X	X	X

Notes: Model (3) is the baseline model presented in the manuscript.

Policy Analysis

CATO INSTITUTE

Unplugging the Third Rail
Choices for Affordable Medicare

By John F. Early

EXECUTIVE SUMMARY

Medicare expenditures as a share of gross domestic product (GDP) are now six times larger than they were in 1967. Forecasts for the next 75 years show that almost $1 of every $5 of GDP could be spent on Medicare. That is unaffordable. Without intervention, Medicare's share of GDP will force some combination of substantial cuts in other government spending, significantly higher taxes, and unhealthy levels of public debt.

There are many policy issues concerning maintaining or redesigning Medicare. This paper looks only at the question of affordability. It identifies the minimum changes required to prevent further expansion of Medicare's share of GDP, while retaining the existing structure of the program.

Three modifications can be phased in to meet that objective. About 41 percent of the required savings can be achieved by slowly raising the program's eligibility age and by restoring the original criteria for disability benefits. The eligibility age could first be harmonized with the rising age for full retirement benefits from Social Security and then continue to increase consistent with rising life expectancy.

The remaining savings would require more cost sharing by beneficiaries. The first steps would be to increase deductibles and coinsurance to values that are typical for commercial insurance among the working population. Further increases would be required after another 30 to 50 years. These changes may seem large, but changes such as these are necessary to undo the substantial problem that history has given us. The good news is that if we begin soon, the changes can be made gradually, and current beneficiaries would face no benefit reductions.

John F. Early is president of Vital Few, LLC, a consultancy in mathematical economics, and has twice served as an assistant commissioner at the Bureau of Labor Statistics.

> " A Medicare program that does not bankrupt the economy is far better than one that does. "

INTRODUCTION

In 2016, Medicare spending constituted 3.64 percent of GDP. That is a sixfold increase since 1967, the first year after the Medicare program began operation. However, Medicare growth will not stop at this current level; long-range projections estimate that it would grow to between 9.00 percent and 19.79 percent of GDP by 2091 (see Appendix A for sources and analysis of alternative forecasts). Many factors contributing to the past and projected increases have no inherent stopping points, so Medicare's rising burden could continue indefinitely.

This situation is not sustainable. As Medicare grows relative to GDP, it will necessarily create some combination of crowding out of other government expenditures, rising taxes, and increasing debt. At some point higher taxes will slow the economy and more debt will lead to higher interest rates, resulting in a vicious cycle of slower economic growth, exploding government debt, and perhaps even government default.

The magnitudes of these Medicare spending effects are substantial. Funding the increase exclusively by cutting other federal spending would require across-the-board reductions by the end of the 75-year forecast horizon of between 30.45 percent and 91.76 percent in other entitlement programs, such as Social Security, as well as in discretionary spending (see Appendix B for details on required spending reductions). Funding the increase exclusively through higher taxes would require hikes of between 17.35 percent and 36.33 percent across all taxes: personal income, payroll, corporate income, and others (see Appendix C for details on required tax increases). Funding the increase exclusively through debt would raise federal public debt from the current 77.53 percent of GDP to the level of current Greek debt (181.9 percent) within 13 to 18 years—assuming the rest of the federal spending and revenues continue their same relationships to GDP (see Appendix D for details on debt growth). If policymakers were to try to cover Medicare's cost growth by spreading the financing equally across these three revenue sources, that would still require

spending cuts to other federal programs of between 10.15 and 30.59 percent, simultaneous tax increases of between 5.79 to 12.11 percent, and it would only delay reaching Greek debt levels by a mere 4–10 years.

These effects apply regardless of one's view on whether governments should subsidize health insurance, whether healthcare is a right, or whether Medicare has good or bad effects on health, redistribution, or efficiency. Unaffordability must be addressed irrespective of how one sees these other issues.

A crucial question is, therefore, how the United States can slow the *growth* of Medicare. This is not an issue of how to finance Medicare; if expenditure increases faster than GDP grows, no financing system can pay for it.

I therefore consider what changes in Medicare's parameters might reduce its growth rate relative to the overall economy. These changes take the program's current structure as given but adjust key features that affect the level and growth rate of expenditure. The factors assessed include the age of eligibility, the criteria for disability under Social Security that guarantees Medicare coverage, and the sizes of deductibles and coinsurance.

My analysis shows that there are combinations of these three adjustments that can reduce Medicare expenditure growth to a rate consistent with the long-term historical growth rate of GDP. If future GDP growth continues to approximate recent history, Medicare would then remain stable as a percentage of the economy. These changes would not resolve the controversies over Medicare; it would still generate numerous distortions in healthcare markets and require substantial distorting taxation. But a Medicare program that does not bankrupt the economy is far better than one that does.

QUANTIFYING THE CAUSES OF HISTORICAL MEDICARE TRENDS

The expansion in Medicare's share of GDP from 1967 to 2016 resulted from three general trends: growth of the senior population, healthcare prices rising faster than overall

inflation, and policy changes that enlarged coverage. Figure 1 shows the contribution of each trend and some more granular causes within them. Among those causes:

- **Population growth** is the rate at which new beneficiaries reached the eligibility age of 65. It grew at an average annual rate of 1.2 percent from the inception of Medicare and added 0.06 percent of GDP to the cost of Medicare.[1]
- **Increased longevity** added more years of Medicare coverage for each beneficiary. In 1967, the original Medicare beneficiaries, at eligibility age 65, had an average life expectancy of 14.8 years. By 2017, life expectancy had risen an additional 4.5 years, boosting the number of people receiving benefits by 30.4 percent and, thereby, consuming an additional 0.61 percent of GDP.[2]
- **Aging** captures the effects of the average beneficiary being older and requiring more care. The net effect of aging was to raise Medicare expenditures by only

0.11 percent of GDP because improvements in health and care modalities have significantly reduced the cost of care for older beneficiaries.[3]

- **Relative price inflation** reflects medical inflation being higher, on average, than general inflation, which increased Medicare's share of GDP by 0.42 percentage points.
- **Disabled and end-stage renal disease (ESRD)** patients were added to Medicare coverage in 1973 and account for an additional 0.25 percent of GDP.
- **Weaker disability criteria** have been adopted by the Social Security Administration since disability coverage began in 1972. As a result, despite better medical care mitigating many disabilities, declining on-the-job injuries, and the new Americans with Disabilities Act requiring employer accommodations for disabled workers, the granting of Medicare disability benefits more than tripled from 1.41 percent of the working-age population to 5.17 percent (see Appendix E for

> **"Granting of Medicare disability benefits has more than tripled since 1972, when disability coverage began."**

Figure 1

Medicare percentage share of gross domestic product
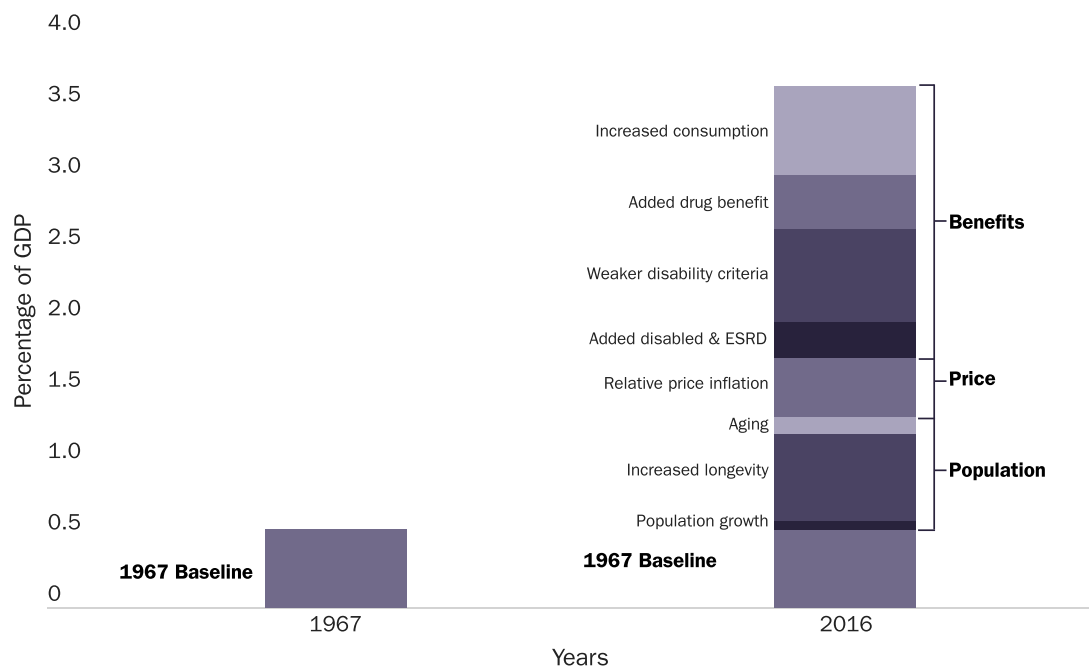
Sources: Medicare and Medicaid Board of Trustees, "Table II.B1," *2017 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds* (Washington: July 13, 2017); and "Expanded and Supplementary Tables and Figures," https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/index.html. Shares of GDP computed by the author.

> **"Increased consumption of medical services per beneficiary accounted for nearly one-fifth of Medicare's greater resource utilization."**

fuller details on the changes and their consequences).[4] The additional beneficiaries from these weakened regulations constitute the largest single source of Medicare's increased expenditures—an additional 0.66 percent of GDP.

- **Drug benefits** were added in 2006, increasing Medicare's share of GDP by 0.38 percentage points.
- **Increased consumption** of medical services per beneficiary beyond the added drug benefit accounted for nearly one-fifth of Medicare's greater resource utilization, rising more than sixfold and consuming an additional 0.61 percent of GDP. Some of these increases were legislated, such as the addition of 60 days of lifetime in-patient care (1967); liver transplants (1985); unlimited home health services and detoxification services (1980); and expanded coverage of podiatrists and orthotic shoe manufacturers (2014).[5] Most of the explicit expansions, however, came from hundreds of administrative additions such as electric wheel chairs, expanded joint replacements, and orthopedic braces.

At least as important in generating greater consumption were the steep drops in the share of the cost paid by beneficiaries. In Medicare's first years, beneficiaries had to meet deductibles equal to 44 percent of their average benefit, but by 2016 deductibles were a mere 14 percent of the benefit. The deductible for medical benefits (Part B) in real dollars fell by more than half.[6] On top of those general cost-sharing reductions, beginning in 1989 four new programs started to pay all premiums, deductibles, and coinsurance for about 20 percent of beneficiaries with lower-incomes, cutting their marginal cost for healthcare to zero.[7]

POTENTIAL POLICY ADJUSTMENTS

Three types of policy adjustments could slow Medicare's unsustainable expenditure increase without substantial modification to the program's general structure. The following analysis evaluates the ability of each of these adjustments to limit the increase in Medicare's share of GDP at several different levels of implementation. I consider the effect of each selected change by itself on the share of GDP at the end of the forecast period, then look at the contributions of selected combinations of all three, and finally identify some phase-in strategies, since immediate implementation of the full adjustments would not be necessary from the expenditure perspective and might be unnecessarily disruptive.

Raise the eligibility age

Despite substantially greater longevity, the eligibility age for Medicare has remained at 65 since inception. Social Security eligibility for full benefits, by contrast, is slowly being raised to age 67 by 2027. Harmonizing Medicare's eligibility age with Social Security's would be a minimal appropriate adjustment.[8]

A second alternative would begin increasing the eligibility age on a continuing basis to keep life expectancy at the eligibility age the same as it was in 2016 (19.6 years). This approach would initially raise the age more slowly than the move to age 67 by 2027, but the increase in eligibility age would continue for the entire forecast period, reaching 69 years, 3 months, by the end of the forecast period and ultimately saving more money.

A third possibility would be to adopt a higher fixed eligibility age of 70. With a phase-in rate similar to the one used in the first option to raise the eligibility age to 67, Medicare's eligibility age would reach age 70 in 2039 and remain at that age thereafter.

Finally, the eligibility age could be set to give the same expected number of years of coverage as the original Medicare plan: 14.78 years for the typical beneficiary. This higher eligibility age could phase in at the same rate as the age-70 design. After the eligibility age reached age 70, if it continued to rise at the same rate it would reach the target of 14.78 expected years of benefits with an eligibility age

> **"Reinstating statutory eligibility criteria could reduce the increase in Medicare's share of GDP by between 15.88 percent and 22.41 percent."**

must be "unable to work any job in the national economy," beneficiaries are now allowed to earn \$13,000 per year without any reduction in their benefits.[10] That would be equivalent to a full-time 35-hour week, year-round job at minimum wage. So, some beneficiaries can and do work, but choose not to work enough to lose some of their benefits.

Administrative procedures have also been changed to bias benefit determinations in favor of the claimant. First, the administrative law judges in the Social Security Administration are required to give greater weight to the opinions of the practitioners hired by the applicant than to the judgment of the government's own experts.[11] Second, a person can combine two or more nondisabling conditions to claim a benefit even though the combined demonstrable effect of both conditions still does not actually prevent them from working. Third, applicants are not required to complete a course of remedial therapy that would allow them to regain some or all of their lost function. Other countries have introduced reforms that require applicants to develop a rehabilitation plan for returning to work with an employer and to demonstrate that they have followed through on it before being approved for disability payments. In the Netherlands, this approach, combined with employer accommodation reforms, reduced newly approved cases by 60 percent.[12]

Once people are on taxpayer-financed disability benefits, they almost never admit to recovery and take up productive work. Less than 1 percent of beneficiaries ever leave the program to return to work, yet research by Till von Wachter of the University of California, Los Angeles, suggests that at least half of those in the 30–44 age group could, in fact, return to work if they were required to do so.[13]

As a result of degraded procedures and criteria, the percentage of the working-age population receiving disability benefits under Medicare has more than trebled. Reinstating statutory eligibility criteria could reduce the increase in Medicare's share of GDP by between 15.88 percent at the lower boundary and

22.41 percent at the upper boundary.[14] Making these changes in disability criteria would also create significant savings for Social Security, but those have not been incorporated here.

Increased cost sharing

True medical insurance would pay for high-cost, low-probability events such as heart surgery or a regimen of medication to cure hepatitis C. Routine care, such as wellness check-ups, vaccines, screening tests, treatments for the occasional upper respiratory infection, treatments for osteoarthritis, and even uncomplicated cataract surgery would not be insurable events because they are predictably likely and not exceptionally expensive.

Before Medicare, most medical insurance was protection against catastrophic medical events. Original Medicare reflected that type of arrangement, with deductibles equal to 44 percent of the total benefits, compared with only 14 percent today. This sharp decline in cost sharing reflects three trends. First, government began to promote and mandate so-called Health Maintenance Organizations (HMOs) in the nonsenior market that covered almost everything with minimal cost sharing. The putative tradeoff was that these HMOs could limit utilization and control costs better with a variety of managed-care techniques. The richer coverage became the widely accepted norm and was likewise added to Medicare, but without the cost control of managed care. Second, both state and federal governments mandated literally thousands of items that must be covered by insurance. While these regulations did not directly apply to Medicare, their intent was largely adopted for Medicare. Third, because Medicare was taxpayer-funded, lawmakers were not subject to market restraints and responded to political pressure that added benefits without countervailing cost controls.

A minimum starting point for reforming Medicare cost sharing would be to require at least as much financial responsibility from its beneficiaries as from the working population. In 2016, the average deductible for private-employer single plans was \$1,505, which was 17

percent lower than the $1,814 sum of the deductibles for all three Medicare parts.[15] This comparison, however, suggests a deceptive similarity. Medicare has three separate deductibles: $1,288 for hospitalization, $166 for medical, and $360 maximum for drugs (zero in many plans).[16] The private-sector average deductible applies to the sum of all three expenditure types: hospitalization, medical, and drugs.

Only 12 percent of Medicare beneficiaries have an episode of hospital care each year, so for 88 percent of the beneficiaries their effective limit on unsubsidized care is only $166. Compare that to the average for single beneficiaries in private employer plans of $1,505—9 times more. High-deductible plans are the fastest-growing type of employer plan and are offered by two-thirds of large employers. Their deductibles average $2,304, or 14 times Medicare's $166.[17] The trend is for more of these plans to stipulate $3,000 deductibles, which is 18 times Medicare's rate.

Medicare's 20 percent coinsurance appears to be in line with typical private insurance provisions for in-network providers that have demonstrated high quality at lower total cost per episode of care. Depending on the type of plan, private coverage outside the limited network is either nonexistent or at coinsurance rates of 40–50 percent. Although there is a suggestive similarity between in-network coverage and the set of doctors accepting Medicare assignment, the analogy is a poor one.

First, many physicians outside of highly affluent practices continue treating their patients once they reach age 65 out of a social, professional, or moral commitment to them, despite receiving lower fees. Second, Medicare's monopsony within the senior market is so strong that few physicians—and virtually no hospitals—can resist its power. Third, beyond the sheer market power, government has prohibited physicians and hospitals from treating both patients under Medicare and eligible senior patients outside of Medicare. If a private insurer required its in-network physicians to treat only its beneficiaries, state insurance regulators would pursue them under the

network sufficiency and any-willing-provider regulations. Antitrust litigators would also likely follow.[18] As a result, seniors have virtually unlimited provider access at a nominal in-network coinsurance.

Finally, Medicare's coinsurance percentage is applied to Medicare's government-enforced provider fee for the service. Private coinsurance percentages are applied to the contracted physician fee for in-network care and to the usual and customary charges for out-of-network care.[19] In-network fees average 79 percent higher than the corresponding Medicare fees, so Medicare's 20 percent coinsurance is applied to a lower fee, resulting in a substantially lower out-of-pocket cost for the same service.[20] To make Medicare's coinsurance equivalent to the in-network coinsurance dollar amount for the working insured, the Medicare coinsurance rate would need to be approximately 36 percent.

Beginning in 2011, Medicare eliminated all deductible and coinsurance requirements for a set of preventive health examinations and tests. Making these services free was justified as saving money by preventing costly diseases, although the evidence of actual savings is, at best, debatable for such across-the-board interventions.[21] This change reduced further the financial incentives for prudent consumption.

The substantial divergence of Medicare cost sharing from industry standard practices is both a cause for its out-of-control expenditures and a significant opportunity to regain control. Making Medicare cost sharing more like industry standard practices has two benefits. First, the beneficiaries pay a greater portion of the total expenditure and taxpayers pay less. Second, because they must spend some of their own cash, beneficiaries will be more efficient in their use of care, consuming somewhat less overall. This analysis estimates the sensitivity of beneficiary spending to the cost sharing they must pay by using the conservative lower end of such estimates from the economics literature.[22]

Table 1 shows a range of plausible alternative plan designs that bring Medicare cost-sharing closer to that for the working insured. Each of these alternatives replaces the generous Part B

> "The substantial divergence of Medicare cost sharing from industry standard practices is both a cause for its out-of-control expenditures and a significant opportunity to regain control."

deductible with one of three typical private-plan deductibles: the average of all plans, the average of consumer-directed plans, or the leading-edge $3,000 deductible. None have any first-dollar coverage. The "all parts" plans apply a unified deductible to all expenses and do not exempt the first 60 days of a hospital stay from coinsurance. The first two plan designs are the same with the exception that the first one continues the practice of zero cost sharing for dual-eligible beneficiaries, while the second adds a modest deductible and co-insurance, as do the other examples.

The addition of the dual-eligible cost-sharing strengthens the effect of the first policy option by almost two-thirds, increasing the savings from 9.24 percent to 15.29 percent at the lower boundary and from 6.74 percent to 11.16 percent at the upper boundary. Advocates for the current policy justify zero deductibles and coinsurance for dual-eligible beneficiaries on the basis of their poverty. But with no financial stake in the transaction, they have no financial incentive to restrain consumption and they consume 2.27 times more per capita than Medicare-only beneficiaries.[23] Advocates correctly note that the dual-eligible population is also sicker than the rest, but after an adjustment for health status the dual-eligible population still spends 42.42 percent more per capita than its difference in health status would predict.[24]

Giving lower-income beneficiaries totally free care incentivizes consumption of health-care for which costs exceed benefits. Even modest copays and deductibles will help limit their consumption to the necessary services because they must make at least some tradeoffs in how they spend their money. Giving poor seniors smaller premiums and maximum out-of-pocket limits can provide similar economic relief without eliminating all incentives to conserve.

The highest cost sharing for the leading edge of commercial-equivalent plans would mitigate the increase in the GDP share for 2091 by between 35.89 percent and 49.18 percent. Medicare expenditures per person would be cut by 29.29 percent, but individual consumption would be reduced by only 7.10 percent, with beneficiaries paying the difference.

Reduced consumption does not necessarily diminish the effectiveness of care. Several

Table 1
Alternative cost-sharing plan designs for Medicare, consistent with commercial insurance

Parts modified	Design of cost sharing				Percentage of increased GDP share eliminated by design		Percentage reduction in Medicare expenditure per individual	Percentage reduction in consumption per individual
	Most beneficiaries		Dual eligibles		Lower boundary	Upper boundary		
	Deductible	Coinsurance (percentage)	Deductible (dollars)	Coinsurance (percentage)				
Commercial-equivalent plans								
Part B only	Average all private	20	0	0	9.24	6.74	5.50	1.29
Part B only	Average all private	20	400	10	15.29	11.16	9.11	2.23
All	Average consumer directed	30	400	10	33.70	24.59	20.07	3.41
All	3,000	36	400	10	49.18	35.89	29.29	7.10

Source: Author's computation using elasticity estimate of −0.20 for most of the calculations. See Amanda E. Kowalski, "Censored Quantile Instrumental Variable Estimates of the Price Elasticity of Expenditure on Medical Care," National Bureau for Economic Research, NBER Working Paper no. 15085, June 2009; Joseph P. Newhouse and the Insurance Experiment Group, *Free for All? Lessons from the RAND Health Insurance Experiment* (Cambridge: Harvard University Press, 1993); and Medicare and Medicaid Board of Trustees, *2017 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds* (Washington: July 13, 2017), p. 163. Medicare Trustee forecasts use the same −0.20 elasticity. Elasticities from zero out-of-pocket cost to any coinsurance/deductible uses an elasticity of −0.35 derived from the results of Katherine Baicker, Sarah L. Taubman, Heidi L. Allen, et al., "The Oregon Experiment—Effects of Medicaid on Clinical Outcomes," *New England Journal of Medicine* 368 (May 2, 2013): 1713–22, doi:10.1056/NEJMsa1212321. Baseline data are computed from Medicare and Medicaid Board of Trustees, *2017 Annual Report of the Boards of Trustees,* the downloaded file "2017 Expanded and Supplementary Tables and Figures.zip," and Center for Medicare and Medicaid Services, "CMS Statistics Reference Booklet," 2016.

studies have concluded that one-quarter or more of the expenditures on medical care in the United States makes little or no significant contribution to improved health status.[25] Of course, when consumers cut back, they do not necessarily eliminate the items that expert panels would consider excessive, and indeed studies have found that spending reductions from higher copays are divided roughly proportionately between those items the expert analysts believe are beneficial and those they don't.[26] Proportionate noncompliance with expert panels is not necessarily bad. Even if panel consensus is sustained over time, individual patients may benefit from contrary decisions that they reach with their personal physicians. Patients, physicians, and insurers will continue to benefit from research on medical outcomes of different treatments, but the costs of these individual decisions are most appropriately borne, at least in part, by the individual who putatively gets the benefit, not entirely by the taxpayer, who does not generally benefit.

Cumulative effects of multiple interventions

Each of the three interventions examined so far offers significant improvements in the Medicare expenditure burden on GDP, but no single one is sufficient to overcome the entire problem. Since both the higher eligibility age and reinstated disability criteria ease the flow of individuals into the program, calculating their combined effect is relatively straightforward. Implementing both the eligibility age based on the 1967 years of benefits and the restored disability criteria would reduce the forecast GDP share for Medicare from the range between 9.00 and 19.79 percent of GDP to the range between 5.24 and 9.74 percent, removing about 41 percent of the problem across the range of the forecast.

Combining the market-based $3,000 deductible plan design with the other two interventions eliminates between 62.21 and 70.24 percent of the total problem and lowers the forecast range to between 5.24 and 9.74 percent of GDP.[27]

Table 2 adds the cumulative effects of all three interventions for each cost-share design and provides two more plan designs that have been calculated to reduce expenditures sufficiently to avoid the entire increased GDP share when combined with the increased eligibility age and restored disability criteria. As one would expect, the plan designed to avoid the expenditure increases under the upper-boundary scenario would create a surplus if the lower boundary obtained; the 132.86 percent reduction is consistent with that expectation.

Phasing in

While one might configure the details differently, any plausible options to avoid the unsustainable rise in Medicare expenditures by adjusting only values of its existing design parameters would require significant changes in the benefit package similar to those for the last two designs in Table 2. The required changes may appear to be large, but we must recall that the problem is very large and has been created over decades. It now needs to be unwound. Fortunately, if we do not delay too long, the changes can be phased in on a schedule that will avoid sudden large changes for individual beneficiaries and provide time for them to adapt.

About 41 percent of the problem can be solved by gradually raising the eligibility age to provide only the original expected number of years of coverage and returning to the original statutory requirements for disability. A similar gradual age increase has already been instituted for Social Security and it seems to have been tolerated well. No beneficiary will be required to give back any benefits on account of this change. In order to restrain Medicare's GDP share to its current level, the eligibility age would continue to rise beyond the currently planned Social Security level, but never at a faster rate. Once the 1967 expected years are achieved, the age could rise more slowly to maintain the same expected number of years of retirement. This approach gives individuals plenty of time for planning and it reduces the current burden for younger cohorts funding longer-than-promised retirements for their elders.

"Changes to the Medicare benefit package can be phased in on a schedule that will avoid sudden large changes for individual beneficiaries."

> **"Revised eligibility ages should be implemented immediately and the disability criteria returned to their original forms."**

Most of the disability reform involves not providing benefits to people who fail to meet the statutory "unable to work at any job in the economy" criterion. Unfortunately, over time, program officials and administrative law judges have increasingly overlooked this criterion when making regulations and benefit decisions, as I explain in Appendix E. If this criterion were reasserted, the only time that existing beneficiaries would be affected is when they fail to pass recertification of their disability under the original criteria.

Irrespective of which forecast path Medicare follows, the revised eligibility ages should be implemented immediately. The disability criteria should be immediately returned to their original forms and be quickly supported by requirements for appropriate rehabilitation and periodic audits.

If we are lucky and the lower-boundary forecast obtains, then fixing the age and disability criteria will eliminate most of the rise in Medicare's share of GDP for the next 30 years, requiring only modest increases in cost sharing to close the remaining gap. To keep the GDP share stable, standard deductibles for Part B would increase from $166 to $370 over an initial period of 20 years and then rise to the average commercial level of $1,478 for the combined three parts over the next 10 years. Coinsurance would remain at 20 percent. No cost sharing would be added for dual-eligible beneficiaries until year 30, when a $100 deductible and 10 percent coinsurance would begin.

Even under the upper-boundary conditions, the first 10 years would also need relatively

Table 2
Alternative cost-sharing Medicare designs to mitigate excess expenditures fully

| Parts modified | Design of cost sharing | | | | Percentage of increased GDP share eliminated by new design | | | |
| | Most beneficiaries | | Dual eligibles | | Effects of cost sharing only | | Effects of cost sharing plus maintaining 1967 expected years of coverage and restored disability criteria | |
	Deductible	Coinsurance (percentage)	Deductible (dollars)	Coinsurance (percentage)	Lower boundary	Upper boundary	Lower boundary	Upper boundary
Commercial-equivalent plans								
Part B only	Average all private	20	0	0	9.24	6.74	46.85	45.03
Part B only	Average all private	20	400	10	15.29	11.16	50.39	47.64
All	Average consumer directed	30	400	10	33.70	24.59	61.17	55.55
All	3,000	36	400	10	49.18	35.89	70.24	62.21
Plans calibrated to eliminate the increase in GDP share in combination with maintaining 1967 expected years of coverage and restored disability criteria								
All	7,500	36	500	10	77.78	56.77	100.00	78.80
All	13,700	36	600	15	121.38	88.58	132.86	100.00

Source: Author's computation using elasticity estimate of −.20 for most of the calculations. See Amanda E. Kowalski, "Censored Quantile Instrumental Variable Estimates of the Price Elasticity of Expenditure on Medical Care," National Bureau for Economic Research, NBER Working Paper no. 15085, June 2009; Joseph P. Newhouse and the Insurance Experiment Group, *Free for All? Lessons from the RAND Health Insurance Experiment* (Cambridge: Harvard University Press, 1993); and Medicare and Medicaid Board of Trustees, *2017 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds* (Washington: July 13, 2017), p. 163. Medicare Trustee forecasts use the same −0.20 elasticity. Elasticities from zero out-of-pocket cost to any coinsurance/deductible uses an elasticity of −0.35 derived from the results of Katherine Baicker, Sarah L. Taubman, Heidi L. Allen, et al., "The Oregon Experiment—Effects of Medicaid on Clinical Outcomes," *New England Journal of Medicine* 368 (May 2, 2013): 1713–22, doi:10.1056/NEJMsa1212321. Baseline data are computed from Medicare and Medicaid Board of Trustees, *2017 Annual Report of the Boards of Trustees,* the downloaded file "2017 Expanded and Supplementary Tables and Figures.zip," and Center for Medicare and Medicaid Services, "CMS Statistics Reference Booklet," 2016.

Figure 3

Cost-sharing parameters to maintain Medicare's proportion of GDP at forecast boundary conditions

Lower forecast boundary

Upper forecast boundary

Source: Author's computation using elasticity estimate of −0.20 for most of the calculations. See Amanda E. Kowalski, "Censored Quantile Instrumental Variable Estimates of the Price Elasticity of Expenditure on Medical Care," National Bureau for Economic Research, NBER Working Paper no. 15085, June 2009; Joseph P. Newhouse and the Insurance Experiment Group, *Free for All? Lessons from the RAND Health Insurance Experiment* (Cambridge: Harvard University Press, 1993); and Medicare and Medicaid Board of Trustees, *2017 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds* (Washington: July 13, 2017), p. 163. Medicare Trustee forecasts use the same −0.20 elasticity. Elasticities from zero out-of-pocket cost to any coinsurance/deductible uses an elasticity of −0.35 derived from the results of Katherine Baicker, Sarah L. Taubman, Heidi L. Allen, et al., "The Oregon Experiment—Effects of Medicaid on Clinical Outcomes," *New England Journal of Medicine* 368 (May 2, 2013): 1713–22, http://dx.doi.org/10.1056/ NEJMsa1212321. Baseline data are computed from Medicare and Medicaid Board of Trustees, *2017 Annual Report of the Boards of Trustees*, the downloaded file "2017 Expanded and Supplementary Tables and Figures.zip," and Center for Medicare and Medicaid Services, "CMS Statistics Reference Booklet," 2016.

Note: In combination with phased increases in eligibility age to achieve the same expected years of coverage as in 1967 and returning disability criteria to their original forms, the above cost-sharing arrangements will prevent increases in Medicare's share of GDP across the 75-year forecast horizon at the lower and upper forecast boundaries, respectively.

modest increases in cost sharing. By year 10, the deductible would need to rise to the average commercial deductible of $1,478 across all three parts while retaining a 20 percent coinsurance, and a $100 deductible with 10 percent coinsurance would begin for dual-eligible beneficiaries.

After 30 years under the lower-bound projection or 10 years under the upper-bound projection, cost sharing would then need to rise systematically every year. Under the lower boundary conditions, by the end of the

forecast period standard deductibles and coinsurance would reach $7,500 and 36 percent, with $500 and 10 percent for dual eligible beneficiaries. At the upper boundary, they would become, respectively, $13,700 with 36 percent and $600 with 15 percent. See Figure 3 for one configuration to phase in cost sharing that would keep Medicare's GDP share roughly stable. See Appendix F for more details.

Policymakers have been reluctant to make any changes that look like benefit reductions.

> "After 30 years under the lower-bound projection or 10 years under the upper-bound projection, cost sharing would need to rise systematically every year."

> "If policy-makers wish to preserve the current general design of Medicare, some combination of similar adjustments is required to prevent financial collapse."

They have also failed to confront the unsustainable growth in spending. The initial age and disability changes proposed here would not reduce any current beneficiary's benefits; they simply return the number of years of coverage and the need for disability coverage to their original intents for new beneficiaries. If policymakers wish to retain the structure of the current Medicare program, changes similar to those identified here are required to avoid the negative consequences of the unsustainable increases in Medicare expenditures. They will need to make necessary immediate changes, which will delay the onset of adverse economic effects. They can then use that delay to engage each other and the public on the reality of the current affordability threats and the need to raise cost sharing. If the increases in cost sharing identified here are not acceptable, then policymakers need to explore other, more creative changes to the overall structure—topics beyond the scope of the current paper. They might also reach a consensus on a slightly higher level of spending as being appropriate, but that new target would still need to be firm and well below the uncontrolled consequences of the current arrangements.

CONCLUSION

Medicare spending was accelerated by a political process that added beneficiary populations and expanded individual benefits. As a result, Medicare's financial burden on the economy has risen more than sixfold, from 0.55 percent of GDP to 3.64 percent. Without significant interventions, the government expenditure for senior medical care is forecast to rise by more than a factor of five: from 3.64 percent of GDP to as much as 19.79 percent. This greater resource burden can only result in some combination of deep spending cuts in both discretionary and entitlement spending, sharp tax increases, and a hazardous debt burden. Higher taxes and debt would slow economic growth and reduce our standard of living.

The rapid increases in Medicare expenditures have also driven up demand, and hence prices, for medical services generally. Those higher prices have been paid by working consumers and also created higher government expenditures for programs such as Medicaid and Affordable Care Act coverage. Keeping Medicare expenditures at a stable proportion of GDP will help moderate those costs as well.

This excessive government consumption could be moderated by plausible combinations of strong interventions to delay the eligibility age consistent with increased longevity, restore disability criteria, and increase beneficiary cost sharing. Policymakers may feel that these adjustments are too large, but if they wish to preserve the current general program design, some combination of similar adjustments is required to prevent financial collapse and deterioration in economic growth and our standard of living.

APPENDIX A: ALTERNATIVE FORECASTS OF MEDICARE EXPENDITURES

From 1967 to 2016, total federal expenditures rose to 22.5 percent of GDP and federal public debt to 77.5 percent of GDP. Medicare accounted for more than that entire increase in expenditures.[28] The Medicare growth rate in inflation-adjusted dollars has slowed to 4.30 percent in the last 20 years, but it is still rising faster than GDP and government revenues. It is rapidly becoming unaffordable, consuming ever-larger proportions of our economic value and jacking up the nation's debt burden.

This paper uses two bounding 75-year scenarios to forecast Medicare financial effects in the absence of policy changes: one at its likely upper bound and a second at its likely lower bound. Table A-1 shows how these two bounds fit within a range of forecasts based on historical periods and official government estimates.

At the high end of the forecasts, the full-history trend is unlikely to repeat because:

Table A-1
Alternative forecasts of long-term trend in real expenditures for Medicare

Source of trend	Annual real growth rate (percent)
Full history	6.81
Upper bound	**4.89**
Twenty-year recent history	4.30
Congressional Budget Office (CBO)	4.04
Lower bound	**3.79**
Medicare Board of Trustees (MBT)	3.09

Source: Medicare and Medicaid Board of Trustees, *2017 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds* (Washington: July 13, 2017); and "Expanded and Supplementary Tables and Figures.zip," 2017. The Congressional Budget Office's January 2017 report, *The Budget and Economic Outlook: 2017 to 2027*, contains tables detailing the agency's budget projections for fiscal years 2017 to 2027, https://www.cbo.gov/publication/52370. Author computed various time frames and set bounds.

- Almost all the future covered senior population has already been born, and we know it will grow more slowly.
- There are fewer major opportunities to expand coverage. Dental, hearing, and vision might be added, but even in aggregate they are smaller than drug coverage.
- Inflation differentials between medical and general prices are running only about one-third as large as they were during the first 30 years of Medicare and are generally decelerating.

The lowest forecast, published by the Medicare Board of Trustees, is unlikely because it assumes:

- New price controls on hospitals and doctors will be more effective than the historical failures of similar schemes. For instance, the infamous "sustainable growth rate" was repeatedly suspended by the "temporary doc-fix" every year for 16 years before it was repealed. The Medicare Board of Trustees itself discounts the dependability of such an effort in the future.[29]
- Reduced intensity and demand for medical service—not just a slowing, but a full reversal of the historical trend of rising demand, which has in all other times and places accompanied greater prosperity and scientific advances.[30]
- An implicit 32 percent decline in the covered disabled population, with no justification or policy change to effectuate the reversal.

APPENDIX B: FEDERAL SPENDING REDUCTIONS REQUIRED TO FUND MEDICARE EXPENDITURE GROWTH

Medicare expenditures are forecast to grow from 3.64 percent of GDP in 2016 to between 9.00 percent and 19.79 percent by 2091, an increase of between 2.47 and 5.43 times the current level for the lower- and upper-limit scenarios, respectively. Both are unsustainable levels of resource consumption for a single government transfer program. Figure A-1 shows these forecast percentages of GDP in comparison with 1967, 2016, 2036, and the point at which expenditures double. The figure also shows the percentages of GDP that were spent for major components of consumption, investment, and government in 2016. Any rise in Medicare's share of GDP will force a reduction in the share of some or all other

14

Figure A-1

Medicare expenditure percentage of gross domestic product

Medicare expenditure as a percentage of gross domestic product for selected years, compared with the percentage of GDP spent by major components of GDP in 2016, prorated for Medicare increase in subsequent years
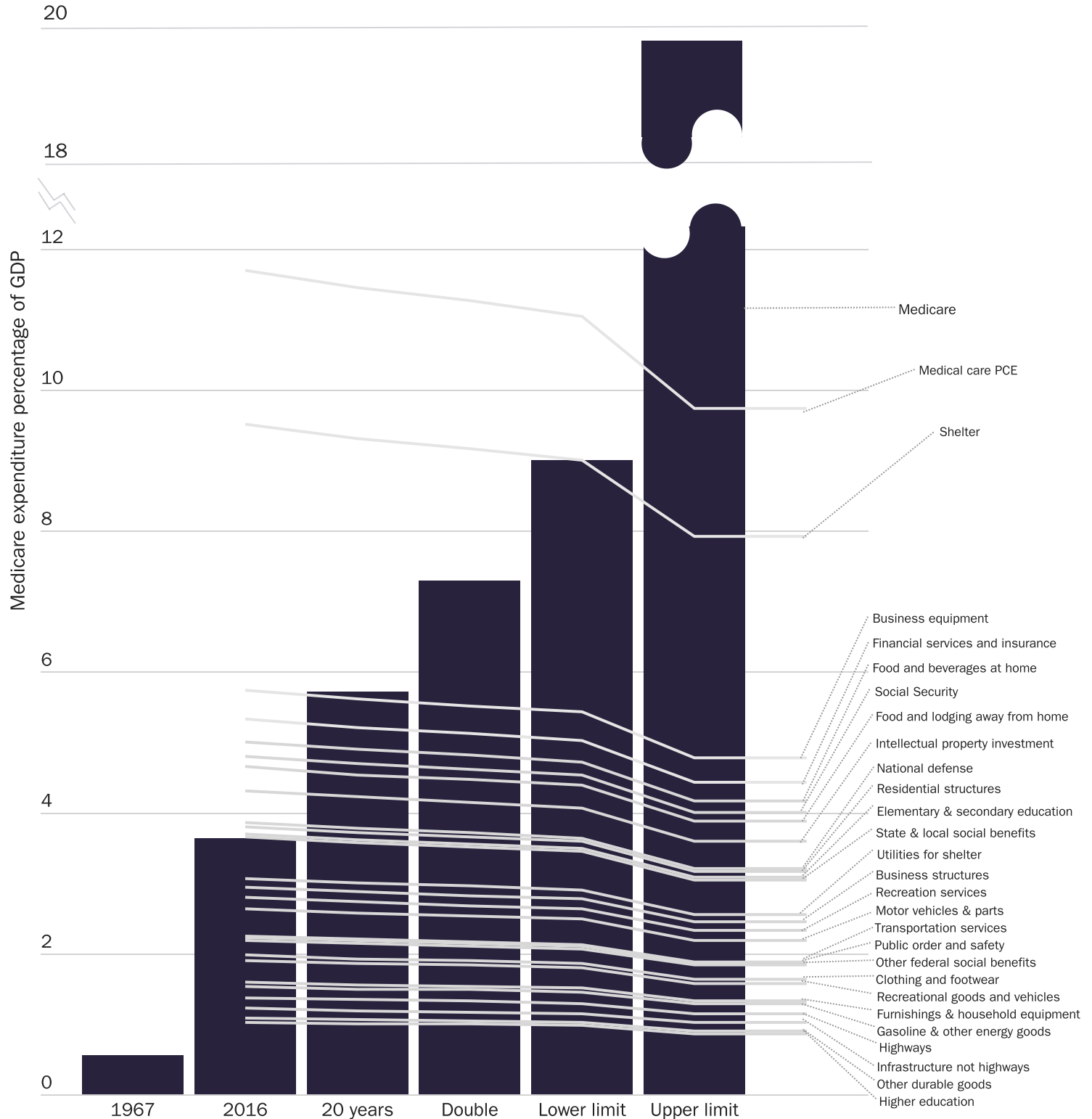
Source: Computed by author using U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts, Table 1.1.5, "Gross Domestic Product"; Table 2.3.5, "Personal Consumption Expenditures by Major Type of Product"; and Table 3.2, "Federal Government Current Receipts and Expenditures."

expenditure categories. Figure A-1 shows what those reductions would look like if they were applied pro rata to each category. While exactly proportionate reductions are unlikely, the chart demonstrates the magnitude of the average effects that would occur. Illustrative examples of the problem include:

- In 1967, Medicare expenditures were smaller than those for any major national income category.
- By 2016, they were almost as large as the spending on national defense, or on residential construction, or on elementary and secondary education. That means Medicare is competing for resources with two major government activities and one of the key drivers of economic growth. Beyond that, Medicare exceeded each of the following economy-wide expenditures by significant margins:
  - investment in industrial plants and business buildings
  - consumption by the entire population of
    - home utilities
    - recreational services
    - motor vehicles
    - transportation services
    - apparel
    - recreation goods
    - home furnishings and appliances
    - motor fuels
    - other durable goods
  - government spending for
    - state and local social services
    - public order and safety
    - federal social services other than Medicare and Social Security
    - highways
    - infrastructure other than highways
    - higher education
- In 20 years, Medicare expenditures will exceed investment in industrial equipment and business machinery or in intellectual property. They will be larger than the consumption of financial services, food and beverage at home, or

food and lodging away from home. Finally, Medicare spending will pass that of Social Security in a mere 14 years.

- If the lower-limit scenario holds, Medicare spending will surpass spending for shelter and leave consumer medical spending as the only category exceeding Medicare.
- Within the forecast range, Medicare is 90 percent likely to surpass consumer medical spending.

If Medicare's spending remains unchanged, reductions in the GDP share for some or all other public and private expenditures will be inevitable because the increased expenditures can be funded with spending cuts, tax increases, or larger debt, each with adverse practical effects on individuals.

To fund Medicare exclusively from cuts in other federal spending would require across-the-board reductions of between 30.44 percent and 91.75 percent in both other entitlement and discretionary spending.[31] If any functions such as Social Security, Medicaid, food stamps, or national defense were exempted from some or all of the cuts, other functions would need even deeper cuts. The upper-boundary scenario would allow funding only for about 90 percent of the current relative resources of Social Security, national defense, and public safety—and nothing else, including no non-senior safety net. While some reduction in federal spending might be desirable, simply spending more on Medicare and offsetting it with smaller amounts on other services would not reduce the size of government spending. Many people would also object to the sharp reductions required to achieve the offsets.

APPENDIX C: FEDERAL TAX INCREASES REQUIRED TO FUND MEDICARE EXPENDITURE GROWTH

If the Medicare spending increase were to be funded totally through taxes, on average all federal taxes—personal income, payroll, corporate

income, and others—would need to be raised by between 17.36 percent and 36.33 percent over the forecast period. The Medicare Board of Trustees estimates that an increase in the Medicare payroll tax of 0.64 percentage points to 3.54 percent would avoid depleting the funding balance projected for Part A in 2029.[32] But Part A payroll taxes and funding balances are only a small part of total Medicare, so even if this payroll tax were passed, additional tax increases averaging between 15.41 percent and 34.06 percent would be needed to cover all of the spending increases.

Higher individual taxes would lower Americans' standard of living and reduce savings for investment. Higher business taxes would cut investment in plant, equipment, and intellectual property, thereby slowing growth and further eroding the individual standard of living. Slower growth would also mean a smaller GDP, which would translate into a still larger proportion of GDP being consumed by Medicare, further exacerbating the negative effects.

APPENDIX D: PUBLIC DEBT GROWTH GENERATED BY MEDICARE EXPENDITURE GROWTH

During the last three decades, debt has been the primary funding mechanism for increases in Medicare spending. General revenue was allocated under permanent entitlement appropriations without any public attention or vote, and the Treasury simply borrowed what it needed to write the checks to Medicare. Continuing to follow this prescription would raise federal public debt from the current 77.53 percent of GDP to the level of current Greek debt (181.9 percent) within just 13 to 18 years.[33]

Projecting the exact timing and mode of financial distress from such high levels of debt would be difficult, but one can be reasonably certain that without policy changes to Medicare we are about one decade from significant financial turmoil. This is long before the end-of-forecast period, which would bring

federal public debt to between 1,056.21 percent and 3,363.38 percent of total GDP.

Well short of the catastrophic levels, the added debt would absorb more of the available savings, leaving less for investment in productive capacity. Because the pool of investable funds would be smaller, the market interest rate would be driven higher and make investments more expensive. If there are fewer savings for investment and investment costs more, we will get less capital and, therefore, less production. Less production will lower the standard of living and slow the rate of GDP growth, further increasing the adverse effects of Medicare spending.

APPENDIX E: FACTORS CREATING SOCIAL SECURITY DISABILITY CRITERIA

Government payment to people claiming disability has been one of the fastest and largest drivers of disproportionate increases in transfer payments. Very recent data show a modest reversal of the trend, owing in part to recent administrative reforms of some of the excesses documented here. These payments go only to the preretirement population. Since the largest federal disability benefit program is run by the Social Security Administration, it is often lumped in with the Old-Age and Survivors Insurance (OASI) Social Security benefits paid based on earnings up until retirement, but the two programs are related only in that they are funded by the same payroll tax (although in law they each have an assigned portion of the total) and that the Social Security Administration runs both of them.

Disability beneficiaries are also entitled to free Medicare, so a portion of the Medicare taxes also go to pay for Medicare for the disabled.

The facts of excessive payments

The facts behind the rapid rise in government disability benefits, including through Medicare, are as follows:

- The number of people receiving government disability benefits is growing more than 5.4 times faster than the population.
- The Census Bureau's Current Population Survey asks whether respondents have a "work-limiting disability." In 2014, 5.4 percent of people aged 35–44 reported that they did have such a limitation. That is slightly less than the 5.6 percent who reported such a limitation in 1984. But in that same time period government more than doubled the number of people being paid disability allowances and entitled to free Medicare.[34]
- The Americans with Disabilities Act of 1990 requires that employers make reasonable accommodations to hire disabled individuals, yet the proportion of the working age population drawing disability benefits has risen.
- Workplace safety continues to improve, reducing disability on the job.[35]
- Medical advances have reduced the debilitating effects of many disabilities.
- The average benefits received per beneficiary have risen 1.39 times faster than inflation from 2003 to 2012. Since the basic benefits are escalated by the Consumer Price Index, this means that in terms of actual purchasing power the benefits being awarded have grown.[36] While the size of these awards does not directly affect the Medicare costs, indirectly larger awards increase the incentive for people to seek disability classifications.
- We now have only 17 people working and paying the taxes for each person receiving Social Security disability benefits and the corresponding free Medicare, compared to more than 50 working to support a single disability beneficiary in 1975.[37]
- Beneficiaries who have been found disabled and "unable to work any job in the national economy" are allowed to earn $13,000 per year without any reduction in their benefit.[38] Obviously some of them can work. They just choose not to work enough to lose their benefits.[39]

Causes of rising disability roles

The above facts show that there is no reason to believe that the incidence of disability is really rising. In fact, the frequency, severity, and age of onset for most disabling conditions have been improving steadily, and the rate of industrial accidents has fallen dramatically. There are only two possible explanations for the observed increase in the frequency and magnitude of disability payments: increasing fraud by beneficiaries, and/or politicians and bureaucrats systematically liberalizing the criteria for benefits. In fact, both appear to be the case.

The U.S. Senate Permanent Subcommittee on Investigations conducted a scientific survey and evaluation of disability awards over the period 2006–2010. The report documented that at least 25 percent of applications were granted "without properly addressing insufficient, contradictory and incomplete evidence." The legal standard for a disability finding is "being unable to work any job in the national economy." This standard was systematically violated in the 25 percent of cases flagged by the investigation.[40]

The hearings on disability claims are conducted by an examiner. If the claim is denied, it can be appealed to a second-level review. If it is denied a second time, it can be appealed to an administrative law judge. Among the examples in the report, one administrative law judge in Oklahoma City approved $1.6 billion in lifetime benefits in just three years of case review. He approved 90 percent of the 5,400 cases he reviewed, all of which had already been turned down by the initial claim examiner and by a senior reviewing examiner.

The investigation uncovered many cases in which administrative law judges simply cut and pasted copies of medical records from one report to another with no evidence of independent information or review. That is actually perjury. One administrative law judge in West Virginia was indicted for running a scam with a lawyer who would submit hundreds of cases that would be approved mechanically. Both the administrative law judge and the lawyer benefited financially. In another case, more

than 70 people were arrested on fraud related to disability claims in Puerto Rico.[41]

While 70 percent of the third-level reviews confirmed findings of ineligibility, 9 percent of the administrative law judges overturned the denials they reviewed more than 90 percent of the time. There was an unbelievable consistency in those individuals. The administrative law judges who overturned 90 percent or more of their assigned cases did so year after year. Since every year they would get a random set of cases, that means something either illegal or incompetent is going on. Administrative law judges who had lower reversal rates showed substantial year-to-year variation in their determinations, reflecting the different levels of merit in the cases they would get each year. This 9 percent fraction of excessively generous administrative law judges have added 98,000 extra beneficiaries to Medicare over a six-year period, at a cost of $23 billion in taxpayer money.[42]

In addition to a general deterioration of standards and bad administration of the rules, there are at least five structural deficiencies that further bias the outcomes.[43]

1. The administrative law judge is required to advocate on behalf of the claimant, including the 85 percent of claimants who are represented by a third party. So, the same person both represents the claimant and adjudicates the dispute.
2. Not only does this dual role bias the outcome, it also places additional work burdens on the administrative law judge, who must invest time in being sure the claimants have all their documentation properly prepared to present their best case. The claimants and their representatives no longer bear that responsibility. This is the third-level appeal, not the initial claim where one might reasonably expect assistance in preparing a request. No one complains if the two earlier denials are overturned because nobody is representing the taxpayer in these third-level proceedings.
3. Hearing officers and administrative law

judges must follow the dictates of a device for determining judgments known as the "medical vocational grid." The grid is a bureaucratic construct, not something in the law. This framework sets out the rules for making a disability determination. It departs from the fundamental standard of "unable to work any job in the national economy" by setting looser standards for some classes of people, such as people with only a high school education. The theory is that they would have a harder time finding a job, but this whole theory stands the meaning of disability on its head.

With this grid, the criterion has shifted from whether the claimants are *able* to work to whether they can *find a job*—lots of unemployed people can't find jobs. The criterion is supposed to be whether there are any jobs they can do. There is a big difference.

Even in the context of using some assessment of the ease of finding a job, education is used, but not experience. A high school graduate with 20 years of progressively responsible positions might actually be able to find a job more easily than a new college graduate without any work experience. Yet the grid sets looser standards for experienced workers. Finally, the grid lowers the eligibility standards for people who don't speak English well, on the same theory that it would be harder for them to find a job. This same criterion is applied in Puerto Rico, where most business is conducted in Spanish.

4. It is too easy to shop for a biased administrative law judge that is 90 percent or more likely to award the benefit. If claimants get a rigorous administrative judge assigned to their case, they can proceed and, if they lose, just file again. An easier and faster abuse is simply to withdraw the case if it is assigned to a rigorous administrative law judge and then refile it, hoping for a better draw. This abuse could

easily be stopped by requiring at least five years between filings, including any that are withdrawn. Claimants would get the assigned judge and that's it. This reform does raise the concern that people who have progressive degeneration arising from their disease or injury may hit disabled levels before their five-year wait is over. But that would be a good disincentive for filing a capricious appeal. There may be a few hardship cases for which there really is degeneration. For those cases, the rule would need to require proof of material degeneration before the case is reopened.

5. Administrative law judges are appointed for life. There is no persuasive justification for this. The lifetime rule is just a bureaucratic construct, not the constitutional rule that applies to federal court judges. Lifetime appointments make it easy for administrative law judges to grow lax in following the program's requirements. Ten-year limits would seem to be the highest appropriate limit for the assignment.

Administrative law judges overturned the original denials in 70 percent of cases in 2008, and 67 percent of all cases were overturned in 2010. The Social Security Administration claims to have made some improvements in this regard, reducing the rate to only 56 percent in 2013.

In the course of studying this problem, investigators discovered that the Social Security Administration management, the administrative law judges, and their union claimed that no enforcement actions against overly lenient judges could be taken unless actual bribery were proved because their job descriptions granted them independence. The union objected that any managerial oversight would be political meddling. The fact that these folks have a union is prima facie evidence that they aren't real judges. They are just senior hearing officers who need to adhere to standards and procedures to protect taxpayer money

as well as grant benefits to the truly disabled. Eventually, the Social Security Administration changed the job descriptions, which was one of the improvements they claimed for 2013.[44]

Physician scholars, such as Steven Snyder at the University of California, San Francisco, Medical School, have observed that the medical community has been aiding and abetting the bureaucratic preferences for giving out more benefits. Patients are increasingly likely to ask their physicians or other caregivers such as chiropractors, acupuncturists, and physical therapists to certify them as disabled. Many diagnoses such as back pain, depression, fatigue, and fibromyalgia are not easily verified objectively and can even be easily faked by scammers. Findings of MRI "abnormalities" are frequently used to justify disability owing to chronic back pain, yet there is no objective evidence that, in fact, these physical structures cause chronic back pain. What is more, vast numbers of people have the same observed abnormalities with no pain whatsoever.[45]

Stopping excessive awards

We can hope that the modest improvements by the Social Security Administration will stick and become even stronger. We also need to insist on a complete overhaul of the approach and a systematic effort to unwind the bad decisions of recent decades. In addition to addressing the outright fraud and sloppy work habits, the government must return to the principle of disability meeting the legal requirement of "being unable to work any job in the national economy." The entire set of rules is structurally deficient, such that even those administrators seeking to be just are hamstrung by inappropriate rules. For example, the statutory "unable to work any job in the national economy" has been replaced by the administrative rule "unable to perform a job that is equally physically demanding as jobs held in the past." So, a steelworker who can no longer lift heavy parts would be granted disability even though the worker would have no physical challenge with electronic assembly work. That is a clear corruption of both the

literal statutory language and its intent.

The disability political apparatus has also made it easier to qualify by the adoption of three administrative modifications to the underlying law. First, claimants can combine two or more nondisabling conditions to claim a benefit even though the net demonstrable effect still does not actually prevent them from working. Second, the administrative law judges in the Social Security Administration are required to give more weight to the opinions of the practitioners provided by the applicant in preference over the judgment of the government's own experts. Third, applicants are not required to complete a course of remedial therapy that would allow them to regain some or all of their lost functions. Other countries have introduced reforms that require applicants to develop a rehabilitation plan for return to work with an employer and to demonstrate that they have followed through on it before being approved for disability payments. Such an approach reduced new approved cases by 60 percent in the Netherlands.[46]

Once people are on taxpayer-financed disability, they almost never admit to recovery and take up productive work. Less than 1 percent of beneficiaries ever leave the scheme to return to work, yet research by Till von Wachter of the University of California, Los Angeles, suggests that at least half of those in the 30–44 age group could, in fact, return to work if they were required to do so.[47]

The Americans with Disabilities Act (ADA) has placed a specific burden on employers to make reasonable accommodation for people with all sorts of disabilities. This means that someone with a disability that can be accommodated in some job somewhere should not be getting any government payouts for that disability while at the same time employers are spending money to accommodate it. It seems that for some portion of the disability determinations, the implicit qualification criterion has become that work is difficult, painful, annoying, unpleasant, or merely inconvenient.

APPENDIX F
An illustrative alternative for phasing in Medicare changes that avoid increasing its share of GDP

Year of implementation	0	1	10	20	30	40	50	60	70	75
Age and disability changes for all forecasts										
Eligibility age	65 yr 0 mo	65 yr 0 mo	66 yr 9 mo	69 yr 3 mo	70 yr 7 mo	71 yr 6 mo	72 yr 4 mo	73 yr 1 mo	73 yr 6 mo	73 yr 9 mo
Disability changes										
Reestablish statutory criteria		X								
Require rehabilitation			X							
Require recertification			X							
Cost sharing to ensure approximately constant share of GDP under lower boundary forecast										
Scope new general cost sharing	Part B	Part B	Part B	Part B	All parts	All parts	All parts	All parts	All parts	All parts
Deductible (dollars)	166	370	370	370	1,478	2,300	3,000	4,500	6,500	7,500
Coinsurance	20%	20%	20%	20%	20%	25%	32%	36%	36%	36%
Dual eligible cost sharing										
Deductible	-	-	-	-	100	200	400	400	400	500
Coinsurance	0%	0%	0%	0%	10%	10%	10%	10%	10%	10%

Year of implementation	0	1	10	20	30	40	50	60	70	75
Cost sharing to ensure approximately constant share of GDP under upper boundary forecast										
Scope new general cost sharing	Part B	Part B	All parts	All parts	All parts	All parts	All parts	All parts	All parts	All parts
Deductible (dollars)	166	370	1,478	2,199	3,250	6,200	9,150	11,600	12,700	13,700
Coinsurance	20%	20%	20%	20%	33%	36%	36%	36%	36%	36%
Dual eligible cost sharing										
Deductible	-	-	100	200	400	400	400	500	600	600
Coinsurance	0%	0%	10%	10%	10%	10%	10%	10%	15%	15%

Source: Author's computation using elasticity estimate of −0.20 for most of the calculations. See Amanda E. Kowalski, "Censored Quantile Instrumental Variable Estimates of the Price Elasticity of Expenditure on Medical Care," National Bureau for Economic Research, NBER Working Paper no. 15085, June 2009; Joseph P. Newhouse and the Insurance Experiment Group, *Free for All? Lessons from the RAND Health Insurance Experiment* (Cambridge: Harvard University Press, 1993); and Medicare and Medicaid Board of Trustees, *2017 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds* (Washington: July 13, 2017), p. 163. Medicare Trustee forecasts use the same −0.20 elasticity. Elasticities from zero out-of-pocket cost to any coinsurance/deductible uses an elasticity of −0.35 derived from the results of Katherine Baicker, Sarah L. Taubman, Heidi L. Allen, et al., "The Oregon Experiment—Effects of Medicaid on Clinical Outcomes," *New England Journal of Medicine* 368 (May 2, 2013): 1713–22, http://dx.doi.org/10.1056/NEJMsa1212321. Baseline data are computed from Medicare and Medicaid Board of Trustees, *2017 Annual Report of the Boards of Trustees*, the downloaded file "2017 Expanded and Supplementary Tables and Figures.zip," and Center for Medicare and Medicaid Services, "CMS Statistics Reference Booklet," 2016.

NOTES

1. Medicare and Medicaid Board of Trustees, "Table 4: Medicare Enrollment by Part and in Total," supplementary data tables to *2017 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplemental Medical Insurance Trust Funds* (Washington: July 13, 2017).

2. Center for Medicare and Medicaid Services, "2016 CMS Statistics," 2016, pp. 9–10, based on data from the Social Security Administration, the Office of the Chief Actuary and Centers for Disease Control and Prevention, the National Center for Health Statistics, and the National Vital Statistics System.

3. An average 80-year-old consumed approximately 69 percent more healthcare than an average 70-year-old in 1967, so as people live longer, one might expect that the average cost per person per year would also rise. But higher longevity is the result of better health, so, by 2013, the average 80-year-old consumed only 46 percent more healthcare than the average 70-year-old. Calculated by author from Center for Medicare and Medicaid Services, "Personal Health Care (PHC) Spending, Age and Gender Tables," https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Age-and-Gender.html; and Medicare Payment Advisory Commission, *Health Care Spending and the Medicare Program, A Data Book* (Washington: MedPAC, June 2017), p. 22. On average, spending for beneficiaries during their final year of life has been nearly four times greater than for the rest of the Medicare population. As the Medicare population became older, the age at which these higher terminal expenses were incurred shifted later, so some of the higher cost for older patients was merely a delay in their individual final costs, not a higher annual cost of continuing care. Furthermore, even the cost differential associated with the end of life dropped by about 15 percent from 2000 to 2014. Juliette Cubanski, Tricia Neuman, Shannon Griffin, and Anthony Damico, "Medicare Spending at the End of Life: A Snapshot of Beneficiaries Who Died in 2014 and the Cost of Their Care," Kaiser Family Foundation, July 2016.

4. National Safety Council, *Accident Facts*, 1994 edition, as reported by Thomas J. Kniesner and John D. Leeth, "Abolishing OSHA," *Regulation* 18, no. 4 (1995): 46–56; and United States Department of Labor, Bureau of Labor Statistics, "Census of Fatal Occupational Injuries 2013," updated from https://data.bls.gov/PDQWeb/fw

5. The last item was addition to the Medicare Provider Payment Modernization Act of 2014, "The 'Doc-Fix' Follies," *Wall Street Journal*, March 15, 2014.

6. Medicare and Medicaid Board of Trustees, "2017 Expanded and Supplementary Tables and Figures," in *2017 Annual Report of the Boards of Trustees*. Dollar amounts for 1967 (in 2016 dollars), the deductible as a percentage of average benefit, and the annual rates of change were computed by the author.

7. The four so-called Medicare Savings Programs (MSP) are: Qualified Medicare Beneficiary (QMB)(1989); Qualified Disabled and Working Individual (QDWI)(1990); Specified Low-Income Medicare Beneficiary (SLMB)(1993); and the Qualifying Individual (QI)(1998). While the funding for these programs was taken from general revenue and assigned to the Medicaid program, they increased consumption and thereby raised Medicare's expenses.

8. The Social Security Increase from age 65 to age 67 has already begun, so there would necessarily be some confusion with two different and changing eligibility ages. Several techniques might be used to limit the confusion in practical terms, but for this discussion we assume they each rise from their current levels to age 67 in 2027 in equal annual steps. Social Security is being raised by two months per calendar birth year. Medicare would need to rise approximately twice that amount to harmonize by 2027.

9. For a scholarly summary of the issue, see David H. Autor, "The Unsustainable Rise of the Disability Rolls in the United States: Causes, Consequences, and Policy Options," MIT and NBER, November 23, 2011, https://economics.mit.edu/files/7388.

10. Andrew Biggs, "Averting the Disability-Insurance Meltdown," *Wall Street Journal*, February 24, 2015.

11. Recent modest administrative adjustments have begun to reverse the trend. If they are sustained and expanded, that will be a good start on the reforms suggested here. Unfortunately, history is not encouraging in that respect. Similar reforms in the 1980s were soon eliminated, and the trend continued. See, for example, Eric Morath, "America's Hidden Workforce Returns," *Wall Street Journal*, January 16, 2019.

12. Biggs, "Averting the Disability-Insurance Meltdown." For a detailed overview of Dutch and other international systems with more preliminary results, see Richard V. Burkhauser, Mary C. Daly, Duncan McVicar, and Roger Wilkins, "Disability Benefit Growth and Disability Reform in the U.S.: Lessons from Other OECD Nations," Federal Reserve Bank of San Francisco, Working Paper 2013-40, December 2013.

13. Till von Wachter, Jae Song, and Joyce Manchester, "Trends in Employment and Earnings of Allowed and Rejected Applicants to the Social Security Disability Insurance Program," *American Economic Review* 101, no. 7 (December 2001): 3308–29.

14. For this intervention, the percentage reduction in the added expenditure is larger for the upper boundary, while for the other interventions, the percentage reduction is larger at the lower boundary. The other interventions reduce expenditures by similar amounts at both boundaries and thus have a larger effect on the smaller baseline of the lower boundary. But the upper boundary forecast includes a significantly larger forecast for the growth of disabled beneficiaries, so returning to the statutory criteria will have a much larger effect on it.

15. The Kaiser Family Foundation and Health Research Educational Trust, *Employer Health Benefits, 2017 Annual Survey* (Menlo Park, CA: Kaiser, 2017), Figure 7.8. This is an average across all types of plans that have a general deductible—that is, one deductible that applies to hospitalization, medical, and drug combined. Many private plans do have some separate deductibles, especially for drugs, but these are not represented here.

16. Note that the drug deductible (Part D) is for the base plan maximum deductible. Because Part D allows for some amount of market competition, a majority of drug plans have lower deductibles, or even none.

17. Kaiser, *Employer Health Benefits: 2017 Annual Survey*, Figure 7.8.

18. For fuller documentation of both the legislative and regulatory impediments to freedom of healthcare choice in the senior market, see Kent Masterson Brown, "The Freedom to Spend Your Own Money on Medical Care: A Common Casualty of Universal Coverage," Cato Institute Policy Analysis no. 601, October 15, 2007.

19. Patient responsibility for out-of-network costs may be even higher than the out-of-network coinsurance applied against the usual-and-customary charge because the provider is not contractually bound to accept the usual-and-customary amount and may balance-bill the patient for even more.

20. The overall average was calculated by the author from service-specific percentages in Trudy Millard Krause, Maria Ukhanova, and Frances Lee Revere, "Private Carriers' Physician Payment Rates Compared with Medicare and Medicaid," *Texas Medicine* 112, no. 6 (June 2016): e1. The Medicare–private fee differences vary widely by the particular service and also vary by geography and carrier. The differences have also grown over the last two decades. Compare S. Norton and S. Zuckerman, "Trends in Medicaid Physician Fees, 1993–1998," *Health Affairs* 19, no. 4 (2000): 222–32; M. E. Miller, S. Zuckerman, and M. Gates, "How Do

Medicare Physician Fees Compare with Private Payers?" *Health Care Finance Review* 14, no. 3 (1993): 25–39; W. Fox and J. Pickering, "Hospital and Physician Cost Shift: Payment Level Comparison of Medicare, Medicaid and Commercial Payers," Milliman (December 2008); and J. Clemens and J. Gottlieb, "Bargaining in the Shadow of a Giant: Medicare's Influence on Private Payment Systems," NBER Working Paper no. 19503, October 2013.

21. See for example, Toshiaki Iizuka, Katsuhiko Nishiyama, Brian Chen, and Karen Eggleston, "Is Preventive Care Worth the Cost? Evidence from Mandatory Checkups in Japan," NBER Working Paper no. 23413, May 2017.

22. This sensitivity is called "elasticity" by economists. This analysis uses an elasticity estimate of -0.2 for most of the calculations, and Medicare Trustee forecasts use the same value. See Amanda E. Kowalski, "Censored Quantile Instrumental Variable Estimates of the Price Elasticity of Expenditure on Medical Care," NBER Working Paper no. 15085, June 2009; Joseph P. Newhouse and the Insurance Experiment Group, *Free for All? Lessons from the RAND Health Insurance Experiment* (Cambridge, MA: Harvard University Press, 1993); and Medicare and Medicaid Board of Trustees, *2017 Annual Report of the Boards of Trustees*, p. 163. When dual-eligible beneficiaries go from zero out-of-pocket costs to any coinsurance/deductible, this analysis uses an elasticity of -0.35, as derived from the results of Katherine Baicker, Sarah L. Taubman, Heidi L. Allen, et al., "The Oregon Experiment—Effects of Medicaid on Clinical Outcomes," *New England Journal of Medicine* 368 (May 2, 2013): 1713–22, https://www.nejm.org/doi/full/10.1056/nejmsa1212321.

23. Center for Medicare and Medicaid Services, MMCO_National_Profile_CY2012.xlsx, Table 1A: "Medicare and Medicaid Enrollment and Spending by Dual-Eligible Status, Age, and Other Characteristics by Year, CY 2012."

24. Medicare Payment Advisory Commission, *June 2017 A Data Book: Health Care Spending and the Medicare Program*, Charts 2-3 and 4-1, http://medpac.gov/docs/default-source/data-book/jun17_databookentirereport_sec.pdf. Calculations of percent difference by author.

25. See, for example, Donald M. Berwick and Andrew D. Hackbarth, "Eliminating Waste in US Health Care," *Journal of the American Medical Association* 307, no. 14 (2012): 1513–16, doi:10.1001/jama.2012.362; and Mark Smith, Robert Saunders, Leigh Stuckhardt, and J. Michael McGinnis, *Best Care at Lower Cost: The Path to Continuously Learning Health Care in America*

(Washington: National Academies Press, 2013).

26. The baseline study on this point was Robert H. Brook, John E. Ware, Jr., William H. Rogers, et al., "The Effect of Coinsurance on the Health of Adults: Results from the Rand Health Insurance Experiment," Rand Corporation, R-3055-HHS, 1984. While they found lower utilization with higher coinsurance, they found no effect on overall health except for reduced outcomes among the very poor and some people suffering from severe chronic conditions. More recently, a focused study of post–myocardial infarction patients found that with non-zero coinsurance they were not as compliant with drug regimens. The results were also lower for some secondary indicators, but not statistically different for the primary indicator of survival. See Niteesh K. Choudhry, Jerry Avorn, Robert J. Glynn, et al., "Full Coverage for Preventive Medications after Myocardial Infarction," *New England Journal of Medicine* 365, no. 22 (December 2011): 2088–97. Additional analysis of the experiment is provided by Katherine Baicker, Sendhil Mullainathan, and Joshua Schwartzstein, "Behavioral Hazard in Health Insurance," *National Bureau for Economic Research Bulletin of Aging Health* 1 (2013): 2–3.

27. The reductions from the plan design are smaller here than in Table 2 because the change is applied to a smaller population that has been reduced by the later eligibility age and tighter disability criteria.

28. The increase in Medicare's share of GDP was 117.89 percent of the increase for total federal spending. It was possible for Medicare's contribution to be more than the total GDP because real expenditures for national defense and some smaller categories declined or rose more slowly than real GDP.

29. The Medicare Board of Trustees acknowledges that their assumed controls will likely create disruptions in later years and need to be replaced. See Medicare and Medicaid Board of Trustees, *2017 Annual Report of the Boards of Trustees*, p. 2.

30. As part of the 2010 Affordable Care Act (ACA), spending for Medicare was nominally cut by $716 billion over the 10-year budget forecast horizon. Since there were no reductions in Medicare benefits (in fact, there were increases in the benefits for preventive care), the reduction was strictly notional on the wish that new schemes for manipulating reimbursements would result in savings. These hypothetical savings were used to offset the added real costs of the ACA subsidies to lower-middle-income insurance purchasers, thereby making the nominal cost of the ACA appear smaller than it really was. The legislative wishes

are incorporated into the forecasts without further justification.

31. The discussion here is about reduction of federal spending only. Figure A-1 includes some state and local spending, as well, to show the relative magnitudes of Medicare. While state and local spending would not be reduced explicitly to fund Medicare, the funding of Medicare through higher taxes or debt would likely reduce state and local spending.

32. Medicare and Medicaid Board of Trustees, *2017 Annual Report of the Boards of Trustees*, p. 30. The rates cited here are the combined employee-employer rates.

33. In the short to middle term, the increase in debt is more sensitive to the effective interest rate paid by the Treasury than to the rate of increase in Medicare spending. The upper and lower spending boundaries differ by just one year in the time required to reach the Greek debt level of 181.9 percent. See United States Central Intelligence Agency, "Country Comparison: Public Debt," https://www.cia.gov/library/publications/the-world-factbook/rankorder/2186rank.html. Both the median and slow increase assumptions for interest rates are relatively conservative. The slower interest rate increase follows Congressional Budget Office projections for rate of change until the effective interest rate reaches the 25th percentile of historical rate levels (3.96 percent). See Congressional Budget Office, *The Budget and Economic Outlook: 2017 to 2027* (Washington: CBO, January 2017), Table 1-4. The median rise assumes reaching the historical median (6.12 percent) within 10 years.

34. Biggs, "Averting the Disability-Insurance Meltdown."

35. National Safety Council, *Accident Facts*, 1994 edition, pp. 46–56; and United States Department of Labor, Bureau of Labor Statistics, "Census of Fatal Occupational Injuries 2013."

36. Author calculated inflation comparison from Social Security Administration data, as reported in Damian Paletta, "Government Pulls in Reins on Disability Judges," *Wall Street Journal*, December 27, 2013.

37. Computed by author from Social Security Administration, "Ratio of Covered Workers to Beneficiaries," https://www.ssa.gov/history/ratios.html; and Medicare and Medicaid Board of Trustees, *2017 Annual Report of the Boards of Trustees*, "Expanded and Supplementary Tables and Figures," https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/index.html. Also note that the total number of government disability beneficiaries is almost 50 percent higher than these numbers as the result of yet more government disability programs. The net result is that only 12 people work and pay the taxes for each person that benefits from a government disability check.

38. Biggs, "Averting the Disability-Insurance Meltdown."

39. For detailed analysis of the disincentives to work, see Nicole Maestas, Kathleen J Mullen, and Alexander Strand, "Disability Insurance and the Great Recession," *American Economic Review Papers and Proceeding* 105, no. 5 (May 2015): 177–82.

40. *Social Security Disability Programs: Improving the Quality of Benefit Award Decisions*, Permanent Subcommittee on Investigations of the Committee on Homeland Security and Governmental Affairs, United States Senate, September 13, 2012.

41. Paletta, "Government Pulls in Reins on Disability Judges."

42. Mark J. Warshawsky and Ross A. Marchand, "Disability Claim Denied? Find the Right Judge," *Wall Street Journal*, March 9, 2015.

43. This discussion builds on an outline suggested by Warshawsky and Marchand, "Disability Claim Denied?"

44. Paletta, "Government Pulls in Reins on Disability Judges." See also, "At-A-Glance: The Significance of Changes to the Position Description of 'Administrative Law Judge' in the Social Security Administration," Association of Administrative Law Judges, which compares the new and old position descriptions. The analytical conclusions represent the interests of the administrative law judge union, but the content is straightforward.

45. Steven Snyder, "Disability: If You Build a Program, They Will Come," *Wall Street Journal*, September 18, 2018.

46. Biggs, "Averting the Disability-Insurance Meltdown."

47. Biggs, "Averting the Disability-Insurance Meltdown."

June 5, 2019

Proposed Change to ACA Enrollment Policies Would Boost Insured Rate, Improve Continuity of Coverage

By Sarah Lueck

A bill recently introduced in the Senate, the Consumer Health Insurance Protection Act (S. 1213), includes a provision similar to a policy already in place in Massachusetts that would allow lower-income people to enroll in marketplace coverage at any time during the year.[1] Evidence suggests that in Massachusetts, making it easier for people to enroll in the marketplace (in combination with other policies the state has adopted) has helped boost enrollment, prevent coverage gaps, and reduce uninsured rates, all without causing significant adverse selection.

Simplified Enrollment for Low-Income People Would Help Increase Coverage

In virtually all states, enrollment in the health insurance marketplace declines during the year, as people leaving marketplace plans outnumber those who join after the annual open enrollment period has ended. But in Massachusetts, the pattern is strikingly different. Enrollment in the Massachusetts Health Connector, as the state-run marketplace is known, actually *increases* during the year. (See Figure 1.)

One important factor: many lower-income people in Massachusetts can enroll in marketplace coverage at any point during the year, even if they would not qualify for a special enrollment period (SEP) in other states. SEPs allow people to enroll in the marketplace after the annual open enrollment period has ended if they experience events such as losing other health coverage or having a baby. In Massachusetts, a person can also enroll in a marketplace plan outside of open enrollment if they can demonstrate income up to 300 percent of the federal poverty level (about $75,000 for a family of four or $36,000 for an individual), are new to ConnectorCare (the state program available to people with incomes up to 300 percent of poverty), and are otherwise eligible to receive premium subsidies.[2] They don't have to experience, or document, any other event that triggers an SEP.

---

[1] Consumer Health Insurance Protection Act of 2019, April 11, 2019, https://www.warren.senate.gov/imo/media/doc/2019.04.11%20CHIPA%20Bill%20Text.pdf. The lead sponsor is Senator Elizabeth Warren and the co-sponsors include: Kamala Harris, Tammy Baldwin, Kirsten Gillibrand, Amy Klobuchar, Cory Booker, and Richard Blumenthal.

[2] Being new to ConnectorCare means that the person either has not been determined eligible for the program in the past or, if they had a previous determination, were found eligible for a program other than a ConnectorCare plan. For

1

This approach to enrollment is just one of the likely reasons for Massachusetts' unique enrollment pattern. Notably, the state provides additional subsidies, on top of the federal premium tax credit and cost-sharing reductions established by the Affordable Care Act (ACA), to people up to 300 percent of the federal poverty level, the same group eligible for enrollment throughout the year. In addition, Massachusetts has integrated its eligibility systems for Medicaid and the Health Connector, so that when someone loses Medicaid eligibility, they can enroll in a Health Connector plan quickly and with very little additional effort. The state also conducts outreach to consumers throughout the year, not just during the annual open enrollment period (which, at nearly three months, is longer than the federal period), and its longstanding requirement for individuals to have coverage or pay a penalty (in place since 2006) has fostered an expectation that people will seek coverage.

Massachusetts' approach appears to significantly affect enrollment. Figure 1 shows the typical pattern in marketplace enrollment — a decline during the months after the open enrollment period has ended. Enrollment in state-based exchanges tends to decline less than in states using the HealthCare.gov platform, but it still falls markedly.

For example, California's state marketplace, Covered California, has invested heavily in outreach and marketing and has achieved stronger rates of enrollment among eligible consumers and a healthier risk pool compared to many states with a federally

Massachusetts Marketplace Policies Boost Enrollment During the Year

Monthly enrollment as compared to March
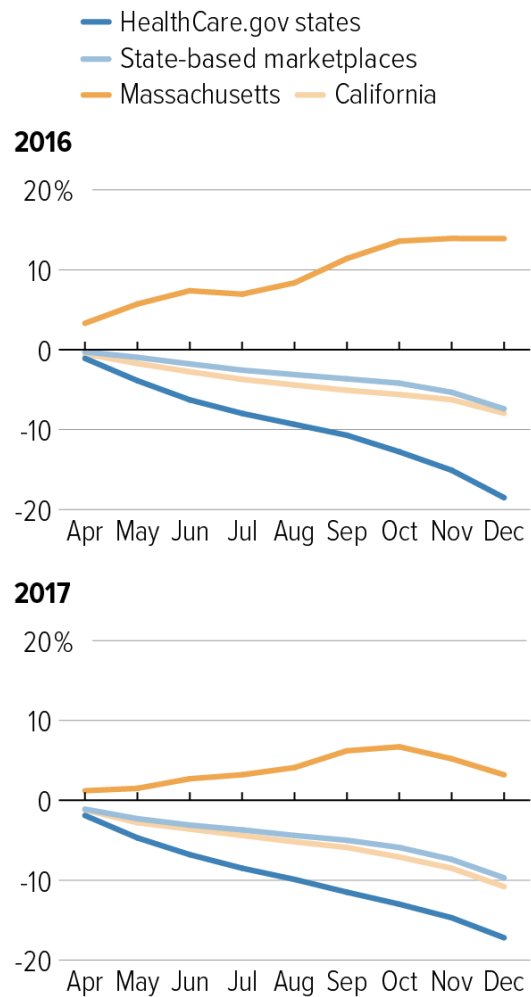
Note: Open enrollment in marketplace plans ends before March. HealthCare.gov states are those using the federal platform for enrolling people in marketplace coverage. State-based marketplace states are those that have designed their own enrollment platform.

Source: CBPP analysis using Marketplace effectuated enrollment snapshots, Centers for Medicare and Medicaid Services.

CENTER ON BUDGET AND POLICY PRIORITIES | CBPP.ORG

example, a person who applied during the last open enrollment period and was found eligible for a ConnectorCare plan but didn't enroll in it would not be able to access this enrollment pathway, even if they met the income test and other requirements. A person who hadn't applied in the past, or who applied but was found eligible for Medicaid or the unsubsidized Health Connector plans, would be able to access the simplified pathway.

run marketplace.[3] But Covered California enrollment still wanes during the year. In Massachusetts, in contrast, Health Connector enrollment data show a consistent pattern of growth during 2015, 2016, 2017, and 2018, with more people added to Connector coverage than left it in most months.[4] In Massachusetts, about one-third of monthly enrollments are people coming from Medicaid, while two-thirds are coming from elsewhere.

Massachusetts' Enrollment Policy Eases Challenges

It's not surprising that reducing paperwork barriers contributes to higher enrollment and fewer coverage gaps.

Enrolling through an SEP is challenging. People must first understand that they are eligible for an SEP, and many do not. Then, they must apply by the deadline, which is usually 60 days after the SEP-triggering event.

SEP enrollment in individual-market coverage also frequently requires people to submit documentation to prove they experienced the event, which can deter enrollment.[5] In the last few years, the federal government has restricted SEP eligibility and added documentation requirements for HealthCare.gov applicants. Now, most people who attempt to access an SEP must obtain and submit paperwork showing that they experienced the SEP-triggering event. For example, someone who loses a job with employer-sponsored health benefits must submit a letter from an employer documenting the coverage loss, generally within 30 days, before they can enroll in a marketplace plan.

Overly burdensome documentation requirements discourage people from obtaining benefits for which they are eligible, a fact shown in research and well established by experience with eligibility and enrollment rules in Medicaid and the Children's Health Insurance Program. In the federal marketplace, SEP plan selections dropped almost 15 percent in 2016, compared to the same period in 2015, after the Obama Administration began directing people enrolling through the most common SEPs to provide documentation.[6] In 2017, the Trump Administration began to require people enrolling through an SEP in the marketplace to submit documentation *before* they were granted coverage, which likely contributed to further declines in SEP take-up.

---

[3] Peter V. Lee *et al.*, "Marketing Matters: Lessons from California to Promote Stability and Lower Costs in National and State Individual Insurance Markets," Covered California, September 2017, https://hbex.coveredca.com/data-research/library/coveredca_marketing_matters_9-17.pdf.

[4] "CCA Board Report Metrics," Massachusetts Health Connector, December 10, 2015, December 7, 2016, December 7, 2017, and December 6, 2018, https://www.mahealthconnector.org/about/board-meetings.

[5] One estimate found that, in 2015, just 5 percent of people who experienced a gap in coverage and were eligible for an SEP actually used the SEP to enroll in coverage. See Stan Dorn, "Helping Special Enrollment Periods Work under the Affordable Care Act," Urban Institute, June 2016, http://www.urban.org/sites/default/files/publication/81806/2000834-Helping-Special-Enrollment-Periods-Work-Under-the-Affordable-Care-Act.pdf.

[6] "Frequently Asked Questions Regarding Verification of Special Enrollment Periods," Centers for Medicare & Medicaid Services, September 6, 2016, https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/FAQ-Regarding-Verification-of-SEPs.pdf.

In addition to people who are eligible for SEPs but are deterred from enrolling by paperwork barriers, some would-be marketplace enrollees likely miss the annual open enrollment period, not because they're purposely waiting to get sick before they buy coverage, but because they are unaware that there is a window of time each year when most people have to sign up for a marketplace plan.[7] Many people, regardless of income, experience challenges enrolling in health coverage because they lack needed information, are confused about what to do, or miss deadlines. And the marketplace enrollment schedule — with a short annual open enrollment period and (in most states) a cumbersome SEP process — leaves little room for such issues. (The Trump Administration exacerbated this problem when it cut the annual open enrollment period in half, to about six weeks, beginning with the 2018 plan year.)

Low-income people may be at particular risk of missing open enrollment deadlines. Research has shown that living in "chronic scarcity" (in which people lack money, time, and other basic resources) requires expending enormous mental effort to solve immediate problems, and that this makes decision-making more difficult and leaves less bandwidth to, for example, remember small details and remember to act.[8] Moreover, in Medicaid, low-income people can enroll in health coverage at any point during the year. And low-income marketplace enrollees have incomes that overlap with or are only a little higher than the incomes of people receiving Medicaid, which means that some may be more familiar with a continuous enrollment cycle. The marketplace open enrollment period also coincides with a period of the year when research shows lower-income households experience especially high levels of financial stress.[9]

The Massachusetts approach helps with these challenges, by allowing people with modest incomes to enroll in coverage even if they fail to apply during open enrollment.[10]

No Evidence of Significant Adverse Selection

The Massachusetts policy is a legacy of the state's pre-ACA health reform law, which initially allowed individuals to purchase coverage at any time during the year. The state later added an annual open enrollment period, after the conclusion of which enrollment became more restricted, but maintained the opportunity to enroll for those with incomes below 300 percent of the poverty line.

---

[7] In October 2017, just one-third of individual-market plan enrollees and 15 percent of the uninsured said they knew the next open enrollment period would begin November 1. Six in 10 marketplace enrollees either gave an incorrect answer or said they didn't know when open enrollment would begin. See Ashley Kirzinger *et al.*, "Kaiser Health Tracking Poll," Kaiser Family Foundation, October 2017, https://www.kff.org/health-reform/poll-finding/kaiser-health-tracking-poll-october-2017-experiences-of-the-non-group-marketplace-enrollees/.

[8] Harrison Neuert *et al.*, "Work Requirements Don't Work," Ideas 42, March 2019, http://www.ideas42.org/wp-content/uploads/2019/04/ideas42-Work-Requirements-Paper.pdf.

[9] Katherine Swartz and John Graves, "Shifting the Open Enrollment Period for ACA Marketplaces Could Increase Enrollment and Improve Plan Choices," Health Affairs, July 2014, http://www.healthaffairs.org/doi/10.1377/hlthaff.2014.0007#.

[10] Like most special enrollment periods, Massachusetts' expanded enrollment opportunity provides the applicant with 60 days to enroll in a plan, with the 60 days starting from the day they are determined eligible to enroll with federal and state subsidies.

The concern about adopting this policy nationwide is that it could result in severe adverse selection, with people waiting until they get sick to enroll in a plan. But available data suggest that, if anything, Massachusetts has an unusually strong risk pool compared to other states, even with its relatively simplified path to enrollment throughout the year. Massachusetts' marketplace premiums are among the lowest in the nation for 2019.[11] In addition, Massachusetts' marketplace premiums (as of 2017) were 40 percent *below* the premiums for employer-sponsored insurance, according to an Urban Institute study, making them the lowest compared to employer premiums in any state.[12] (Employer-sponsored plan premiums are a good marker of what it costs to cover a well-balanced risk pool in a given location.)

While multiple factors likely contribute to Massachusetts' strong market and limited adverse selection, these datapoints suggest that Massachusetts' more open enrollment policies have not significantly undermined its risk pool, even as they appear to have significantly increased coverage in the latter half of the year.

Simplified Enrollment Policy Would Supplement Other Policies in Senate Bill

The Senate bill would allow people who are determined eligible for federal premium tax credits and have incomes no greater than 300 percent of the poverty level to enroll at any time during the year, through a dedicated SEP. The Senate bill does not restrict eligibility to people who are new to the marketplace, in contrast to the Massachusetts policy.

Increased access to enrollment for lower-income people is just one provision of the broader Senate bill. Other proposals included in the Consumer Health Insurance Protection Act are likely to improve people's ability to afford and access health coverage and medical services. For example, the bill would cap people's out-of-pocket spending on prescription drugs; apply the ACA's pre-existing condition protections to short-term health plans; and allow more families that are offered employer-sponsored health coverage to qualify for marketplace subsidies if the employer plan isn't affordable to the entire family.

Perhaps most significant, the Consumer Health Insurance Protection Act would also substantially increase subsidies, resulting in net premiums closer to Massachusetts levels. For example, an individual with income below 150 percent of the poverty line (about $18,000 per year for an individual) would be able to enroll in a benchmark marketplace plan for no more than about $30 per month, while people at 250 percent of poverty (about $30,000 per year for an individual) could buy benchmark coverage for no more than about $150 per month. The Senate bill also proposes greatly reducing the deductibles and other out-of-pocket costs that both low- and moderate-income people would pay with marketplace plans. The legislation also allows people with incomes greater than 400 percent of the poverty line to receive subsidies if premiums exceed 8.5 percent of their income; this group is ineligible for subsidies today.

---

[11] Kaiser Family Foundation, https://www.kff.org/health-reform/state-indicator/average-marketplace-premiums-by-metal-tier/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D.

[12] John Holahan *et al.*, "The Evidence on Recent Health Care Spending Growth and the Impact of the Affordable Care Act," Urban Institute, May 2017, https://www.urban.org/sites/default/files/publication/90471/2001288-the_evidence_on_recent_health_care_spending_growth_and_the_impact_of_the_affordable_care_act.pdf.

It is likely that part of the reason Massachusetts has been able to maintain a more open enrollment system without serious adverse selection is that it provides additional subsidies to people with incomes up to 300 percent of the poverty level, on top of those available nationwide under the ACA. With lower net premiums ($0 or near-zero for many consumers), healthy people have no reason to wait until they get sick to enroll, so adverse selection is less of a concern. People who seek enrollment outside of the annual open period are likely mostly those who lost other coverage during the year (but who might not jump through extra hoops to prove eligibility for a Special Enrollment Period) or who missed, but didn't deliberately sit out, the prior open enrollment period.

As in Massachusetts, improving marketplace subsidies would complement the Senate bill's proposal for a simplified enrollment policy for lower-income consumers, boosting enrollment and helping to alleviate concerns about adverse selection.

Silver Linings For Silver Loading

Stan Dorn

One of the strangest chapters in the Affordable Care Act's (ACA's) history started a few hours after midnight on October 13, 2017. At 2:36 a.m., a presidential tweet announced the end of cost-sharing reduction (CSR) payments to insurers: "The Democrats [sic] ObamaCare is imploding. Massive subsidy payments to their pet insurance companies has [sic] stopped. Dems should call me to fix!" Later that morning, officials at the Department of Health and Human Services (HHS) explained that the federal government would soon stop reimbursing insurers to cover the cost of giving low-income consumers legally required reductions in out-of-pocket cost sharing. These events quickly "sent shares of health insurers and hospitals plummeting" on Wall Street. The *Washington Post* exclaimed, "President Trump is throwing a bomb into the insurance marketplacescreated under the Affordable Care Act," and Democratic leaders in Congress denounced the move as "a spiteful act of vast, pointless sabotage."

Paradoxically, this attempted sabotage wound up strengthening rather than undermining Marketplace coverage offered to low- and moderate-income families, thanks to a clever response by most plans and states. Despite the presidential decree, federal law still

required carriers to furnish CSRs to people with incomes at or below 250 percent of the federal poverty level who bought silver-tier plans on a health insurance Marketplace. Under "silver loading" strategies that are now being implemented in nearly all states, the resulting claims costs were covered by raising premiums on precisely those silver plans.

Such "loading" of CSR costs onto silver premiums raises federal premium tax credit (PTC) amounts, which helps many low- and moderate-income PTC beneficiaries—at federal expense. PTCs are calculated by subtracting each consumer's income-based premium share from the cost of the second-lowest silver-tier plan offered to the consumer. Higher silver premiums thus mean higher PTC amounts, giving more PTC beneficiaries access to zero-premium bronze coverage or to gold plans for little more than the cost of silver.

By 2019, 15 states had average gold premiums lower than average benchmark silverpremiums, and in 15 other states gold premiums exceeded benchmark silver by less than 10 percent. The Congressional Budget Office recently estimated that ending CSR payments increased the number of people receiving Marketplace coverage by roughly two to three million per year, causing nearly $10 billion in annual net federal cost increases for insurance provided during 2019 through 2021.

Independent researchers have reached similar conclusions. One analysis found that the shift to silver loading in 2018 increased enrollment by about 8 percent among PTC beneficiaries with incomes above 200 percent of poverty, largely offsetting the effects of other, simultaneous federal changes in policy and practice that depressed participation levels (a shortened open enrollment period, reduced funding for application assistance and public education, well-publicized statements calling for the ACA's repeal, and so forth). A recent study found that zero-premium coverage was available to more than half of Marketplace participants in 2018, with the exact proportion ranging from 25 percent in states that did not permit any silver loading to 58 percent in states that focused silver loading on plans offered in health insurance Marketplaces. Responding to indications that the Centers for Medicare and Medicaid Services (CMS) were considering ending silver loading and requiring CSR costs to be spread evenly among plans at all metal levels—so-called "broad loading"—another analysis, published on *Health Affairs Blog*, concluded that many individual-market enrollees would be worse off under that policy: "Detailed, actuarial simulations will be needed, but we anticipate significantly lower enrollment if states are required to spread the cost of CSRs to all plans instead of loading the costs only to silver plans."

In its recently finalized Notice of Benefits and Payment Parameters for 2020, CMS noted the agency's discomfort with silver loading and the resulting federal costs. The agency called on Congress to appropriate funding for CSR payment but did not move to end silver

loading for next year. The issue may assume increased salience now that several court decisions have ordered CMS to restore CSR payments, even though such payments combined with silver loading would overcompensate carriers and potentially force large rebates to consumers under the ACA's medical-loss-ratio rules. Further highlighting the issue's continuing relevance, health legislation just passed by the House expresses the sense of Congress that HHS should not limit the practice of silver loading.

RAND Analysis

National Estimates

Today the RAND Corporation released a study of silver loading that breaks important new ground. Using RAND's COMPARE microsimulation model, researchers estimated the effects of moving from the current practice of silver loading to either broad loading or a restoration of CSR payments for the year 2020. The report concluded that such changes would have major effects:

- Either change would lower silver premiums, thereby reducing PTC amounts, while simultaneously increasing premiums for plans at other metal levels; the latter result would be particularly pronounced under broad loading. With either broad loading or CSR payment restoration, out-of-pocket premium costs paid by consumers to maintain the same coverage they have under silver loading would rise for people currently enrolled in non-silver plans. This group includes numerous PTC beneficiaries and the vast majority of market participants who lack PTCs.
- These higher premium costs would increase the number of uninsured. Net increases in the number of people without coverage would be twice as large under broad loading (1.6 million) compared with a restoration of CSR payments (0.8 million).
- Many consumers would stay insured by moving to less generous coverage with lower actuarial value. Under either broad loading or CSR payment restoration, 2.6 million people would make this shift. Fewer would move in the opposite direction, to higher-value coverage—1.4 and 1.8 million people, under broad loading and restoration of CSR payments, respectively. The latter shifts involve changing from bronze to silver plans.
- Among PTC beneficiaries with incomes between 200 percent and 400 percent of poverty, the proportion with access to zero-premium bronze plans would drop precipitously—from 40 percent to 11 percent, under either broad loading or CSR payment restoration. (Bronze plans generally limit access to care by charging high deductibles, with a median of $6,400 in 2018. However, nearly 40 percent of bronze plans furnish some pre-deductible coverage of generic drugs or office visits, and some carriers report that consumers who initially seek coverage based on the

prospect of "free" bronze insurance often wind up purchasing silver or gold coverage instead.)

- The federal government would save $8.0 billion a year on PTCs under the shift from silver loading to broad loading. If the federal government restored CSR payments, PTCs would fall by $14.4 billion annually, but CSR payments would total $8.3 billion, yielding $6.1 billion in net federal savings.

Some of the report's most startling findings involve "rate shock," the increased premium costs consumers would be charged to keep the coverage they have today. At every income level, but particularly among consumers with incomes above 200 percent of poverty (including both those with and those without PTCs), the vast majority of consumers would experience significant premium increases for their existing coverage (Exhibits 1 and 2).

Exhibit 1: Number Of People Charged More Or Less For Their Current Coverage: Change From Status Quo To Broad Loading, 2020

PTC Status	Income	People charged more		People charged less	
		# (millions)	Average increase	# (millions)	Average decrease
Beneficiary	<200% FPL	2.1	$1,480	0.5	($245)
	200-400% FPL	4.5	$1,483	0.1	($153)
Non-beneficiary	>400% FPL	3.1	$2,410	0.2	($514)
Total:		9.6	$1,800	0.8	($325)

Source: Analysis by National Center for Coverage Innovation at Families USA of RAND study results, 2019. Totals may not match the sum of all rows due to rounding.

Exhibit 2: Number Of People Charged More Or Less For Their Current Coverage: Change From Status Quo To CSR Payment, 2020

PTC Status	Income	People charged more		People charged less	
		# (millions)	Average increase	# (millions)	Average decrease
Beneficiary	<200% FPL	3.2	$878	1.0	($348)
	200-400% FPL	4.7	$1,508	0.1	($227)
Non-beneficiary	>400% FPL	2.9	$2,033	0.4	($146)
Total:		10.7	$1,475	1.6	($270)

Source: National Center for Coverage Innovation analysis of RAND study results, 2019. Totals may not match the sum of all rows due to rounding.

Put differently:

- Out of an estimated 14.3 million people projected to receive individual-market coverage in 2020, 9.6 million, or 67 percent, would be charged more to maintain their existing insurance coverage under broad loading; and 10.7 million, or 75 percent, would be charged more if policy makers restored CSR payments to health insurers. Average cost increases would exceed $1,400 under either scenario.
- A change from the current, silver-loaded policy to broad loading would raise consumer premium costs for more than 12 times as many people as those who would pay less; and the average cost increase would be more than five times the size of the average savings.
- Restoring CSR payments, thereby ending silver loading, would increase out-of-pocket premiums for nearly seven times as many people as those who would experience savings; and the average cost increase, per capita, would be more than five times the average savings experienced by the small group that saves money due to CSR payment restoration.

On net, consumers' premium charges for current coverage would rise by $17.0 billion under broad loading in 2020 and $15.4 billion under CSR payment restoration, compared to costs with current silver-loading rules.

Following the major sea change resulting from either broad loading or the restoration of CSR payments, many consumers could change plans to mitigate or avoid these cost increases. Some would not have any affordable alternatives and thus would become uninsured. Others may have difficulty navigating the changes that result from silver loading's termination, ultimately paying needlessly high premiums or dropping coverage entirely despite the availability of viable alternatives. Under either policy change, the majority of Marketplace consumers would likely be upset about the dramatic cost increases they find themselves charged for keeping their current coverage.

California Estimates

With a large exchange that illustrates broader trends in states that have been proactive in maximizing coverage gains under the ACA, California deserves special attention. RAND's projections thus include California estimates. They are similar to the national estimates described above, but several relatively minor differences are evident.

The first difference involves the balance between "winners" and "losers." Hardly any Californians buying individual-market coverage would pay lower premiums for existing coverage if silver loading was replaced by broad loading or CSR payments to insurers. Why?

- Nationally, some PTC beneficiaries who use tobacco would see their premium costs decline under broad loading or CSR payment restoration. That is because most states let carriers raise premiums by up to 50 percent for tobacco users, and PTCs do not cover that extra cost. Lower premiums thus reduce the dollar cost of tobacco surcharges, which are set as a percentage of each enrollee's gross premium. In California, however, carriers may not raise premiums based on tobacco use. Lower premiums would therefore not yield this category of savings for California's PTC beneficiaries.

- For 2018, California's exchange encouraged its 65,000 unsubsidized enrollees in silver-tier coverage to shift to silver plans offered only off-exchange, which did not raise premiums under the state's approach to silver loading. By December 2018, fewer than 31,000 people without PTCs—just 2.4 percent of the 1.3 million Californians who received Marketplace coverage—were still buying silver plans in the exchange. By contrast, 3 percent of consumers covered through the federally operated, HealthCare.gov web site in 2019 (700,000 out of 8.3 million people) purchased silver-tier, Marketplace plans while paying full premiums.

Second, California's individual market exhibits several different relationships among plan premiums than are present in the country as a whole. For example:

- Many fewer PTC beneficiaries with incomes above 200 percent of poverty have access to zero-premium bronze plans: 23 percent in California, compared to 40 percent nationally. In part, this reflects California's implementation of the ACA's Medicaid expansion plus the state's Medicaid coverage of low-income immigrants who would otherwise qualify for PTCs. These steps limit the silver loading needed to cover CSR costs.

- Both in California and nationally, broad loading and CSR payment restoration increase consumer premium costs overall and raise the number of uninsured. However, in California, unlike the rest of the country, the number who move from lower to higher metal tiers of coverage is equal to or greater than the number who move from higher to lower tiers.

Conclusion

If national policy makers ended silver loading by restoring CSR payments to insurers or by broad loading CSR costs across the entire individual market, massive disruption would result. At least two-thirds of everyone now covered through that market would be charged more for their current coverage, with average increases that exceed $1,400 a year. For consumers as a whole, annual premium costs would rise by more than $15 billion, even after subtracting the modest savings that a small minority would enjoy. The number of uninsured would grow, and millions would move to plans with lower actuarial value that provide less access to care and reduced financial protection. Although federal costs would decline, those savings would come at the expense of millions of people who rely on the individual market for coverage.

Author's Note

Effects of Alternative Insurer Responses to Discontinued Federal Cost-Sharing Reduction Payments

Broad Loading as an Alternative to Silver Loading

Preethi Rao and Sarah A. Nowak

RAND CORPORATION

Preface

This report addresses the effects of disallowing the current practice of increasing only the premiums of silver-tiered individual market plans in response to discontinued federal payments of cost-sharing reductions (silver loading). We consider a scenario in which the costs of cost-sharing reduction subsidies must be spread among all metal-tiered individual market plans, a practice known as broad loading. We compare the silver loading, or status quo, scenario with the broad loading scenario to estimate the impacts on insurance enrollment, individual market premiums, and federal spending. In addition, we examine a scenario in which federal cost-sharing reduction payments are restored.

The research described in this report was performed under a grant to Families USA from the California Endowment and carried out within the Payment, Cost, and Coverage Program in RAND Health Care.

RAND Health Care, a division of the RAND Corporation, promotes healthier societies by improving health care systems in the United States and other countries. We do this by providing health care decisionmakers, practitioners, and consumers with actionable, rigorous, objective evidence to support their most complex decisions. For more information, see www.rand.org/health-care or contact

RAND Health Care Communications
1776 Main Street
P.O. Box 2138
Santa Monica, CA 90407-2138
(310) 393-0411, ext. 7775
RAND_Health-Care@rand.org

Contents

Tables

Summary

Under the Affordable Care Act (ACA), insurers are required to offer cost-sharing reductions (CSRs) to eligible exchange enrollees who have incomes below 250 percent of the federal poverty level and are enrolled in silver-tiered exchange plans. CSRs reduce consumers' out-of-pocket health care costs (premiums, deductibles, and coinsurance), thereby increasing the actuarial value of plans. Under the original implementation of the ACA, the federal government made payments to insurers to cover the costs of CSRs. In late 2017, the Trump administration decided that federal payment of CSRs was unlawful and halted federal payments for CSR subsidies. A new congressional appropriation would be needed to reinstate federal CSR funding under the current administration's policy. Despite the fact that the federal government is no longer making CSR payments to insurers, insurers are still required to provide CSR subsidies to qualifying enrollees. As a result, most states and insurers have adopted a practice known as silver loading to fund CSRs.

Silver loading is a way for states and insurers to try to finance the cost of providing legally required CSRs while limiting the degree to which the costs are passed on to individual market enrollees and consumers, and to pass most of the cost back to the federal government. With silver loading, insurers finance the increased claims costs that result from CSRs by raising premiums for the silver plans that provide CSRs. This has the effect of increasing advance premium tax credits (APTCs). APTCs offset premium costs for individual market enrollees and are benchmarked to the second-lowest-cost silver plan. Therefore, while the federal government no longer pays the cost of CSRs, most of those costs are covered by increased federal spending on APTCs. In the recently issued Notice of Benefit and Payment Parameters for 2020, which updates guidance related to implementation of the ACA, the U.S. Department of Health and Human Services does not take action on silver loading for the 2020 plan year; however, it suggests that changes in 2021 are possible, and there is speculation that silver loading could be disallowed in future years. Consistent with a recommendation in that guidance, the administration's budget proposes a restoration of CSR payments through an appropriation.

In this analysis, we use a microsimulation approach to estimate the effects of an alternative known as broad loading, which could be implemented by insurers and states if the Department of Health and Human Services ends silver loading without congressional restoration of CSR payment. In broad loading, insurers load the costs of CSRs onto all individual market plans, as opposed to silver plans only. We consider one scenario in which insurers engage in silver loading to fund CSRs, compared with a scenario in which insurers engage in broad loading and a scenario in which federal payment of CSRs is restored. We compare the estimated effects of broad loading or CSR restoration with the current silver loading policy. Those effects include health insurance enrollment, individual market premiums, and federal spending on APTCs. This

report is aimed at California and national policymakers, and we present results both nationally and in California.

Our analysis uses the COMPARE microsimulation model, which utilizes data from the Survey of Income and Program Participation, the Medical Expenditure Panel Survey, and the Kaiser Family Foundation/Health Research and Educational Trust Employer Health Benefits Survey. COMPARE is a national model, so to produce estimates specific to California, we used state-representative data from the American Community Survey Public Use Microdata Sample to reweight the national model to match California's population size and distribution of age, gender, income, health insurance coverage, and race/ethnicity.

Relative to silver loading, we find that broad loading and restoration of federal CSR payments result in lower individual market premiums for silver plans but higher premiums for bronze, gold, and platinum plans. Furthermore, because APTC amounts are benchmarked to the second-lowest-cost silver plan, we find that under broad loading, APTCs decline in value, APTC-eligible individuals have to pay more out of pocket for their premiums on the individual market, and fewer choose to enroll. As a result, while federal spending on APTCs is lower under broad loading or CSR payment restoration, insurance coverage also declines overall, driven by reductions in coverage in the individual market.

Overall, our results suggest that while broad loading or the restoration of CSR payments would lead to lower federal spending on APTCs, it would also lead to higher premium costs for many consumers and lower insurance enrollment. Policymakers may wish to consider options for addressing consumers' premium costs when considering changes to policies related to CSR payments and silver loading.

Acknowledgments

Abbreviations

ACA	Affordable Care Act
APTC	advance premium tax credit
CBO	Congressional Budget Office
CSR	cost-sharing reduction
FPL	federal poverty level
HHS	Department of Health and Human Services
MEPS	Medical Expenditure Panel Survey

1. Introduction

Under the Affordable Care Act (ACA), insurers are required to offer cost-sharing reductions (CSRs) to eligible exchange enrollees who have incomes below 250 percent of the federal poverty level (FPL) and are enrolled in silver-tiered exchange plans. CSRs reduce consumers' out-of-pocket health care costs (premiums, deductibles, and coinsurance), thereby increasing the actuarial value of plans. Under the original implementation of the ACA, the federal government made payments to insurers to cover the costs of CSRs. In late 2017, the Trump administration decided that federal payment of CSRs was unlawful and halted federal payments for CSR subsidies. A new congressional appropriation would be needed to reinstate federal CSR funding under the current administration's policy. Despite the fact that the federal government is no longer making CSR payments to insurers, insurers are still required to provide CSR subsidies to qualifying enrollees. As a result, most states and insurers have adopted a practice known as silver loading to fund CSRs.

Silver loading is a way for states and insurers to try to limit the degree to which the costs of halted CSR payments are passed on to their individual market enrollees and consumers, and to pass most of the cost back to the federal government. Silver loading can accomplish this because advance premium tax credits (APTCs), which lower premium costs for eligible exchange enrollees, are linked to the cost of silver plans. APTCs are set by specifying an expected premium contribution for subsidy-eligible individuals and families with incomes between 100 and 400 percent of the FPL. Expected premium contributions increase with the FPL. APTC amounts are the difference between an individual's or family's expected premium contribution and a benchmark premium—the second-lowest-cost silver plan that an individual or family has access to.[1]

Therefore, when insurers increase the costs of silver premiums in response to halted federal payments for CSRs, APTCs also increase. In fact, the Congressional Budget Office (CBO) has projected that halting CSR payments substantially increased net federal spending on subsidies as a result of higher APTC spending (CBO, 2018a). While APTC amounts are set based on the cost of a benchmark plan, an individual or family can apply their APTC to any exchange plan. For subsidized enrollees, increased silver premiums and APTCs do not change what enrollees pay for a silver plan, since their income-based premium contribution is the same. Subsidized enrollees who choose coverage outside the silver tier face lower net premium costs, as premiums for

---

[1] For individuals who are subject to increased premiums as a result of tobacco use, the benchmark premium is that for a non–tobacco user. Most states allow insurers to charge tobacco users up to 1.5 times the premiums faced by non–tobacco users. Because tobacco users can face significant surcharges but receive premium subsidies based on premiums without the surcharge, their out-of-pocket premium costs can be much higher than out-of-pocket costs for non–tobacco users with similar incomes.

bronze, gold, and platinum plans are unaffected by silver loading,[2] but APTCs increase. This can lead to some consumers becoming eligible for free bronze plans, which is the tier with the lowest actuarial value available, or being able to upgrade to a gold plan, which is more generous than a silver plan, for less than the net cost of their silver plan.

For the 2019 plan year, the Notice of Benefit and Payment Parameters, which provides revised regulations and updated guidance each year on the implementation of the ACA's individual market rules and is issued by the Department of Health and Human Services (HHS), made no mention of silver loading, but HHS may disallow such targeted increases in premiums going forward (HHS, 2018). In the recently issued Notice of Benefit and Payment Parameters for 2020, HHS seeks comment on ways in which HHS may address funding of CSR payments in the absence of congressional action to restore federal payment of CSRs, notes that the administration has asked Congress to appropriate such payments, and suggests that upcoming changes in 2021 are possible (HHS, 2019).

In this analysis, we use a microsimulation approach to estimate the effects of a policy change that would disallow silver loading, likely leading states and insurers to move toward "broad loading," whereby the costs of CSRs are loaded onto *all* individual market plans as opposed to silver plans only.

This work was conducted under a grant to Families USA from the California Endowment. We estimated the effects of a broad loading policy at the national level and for California, using the COMPARE microsimulation model. COMPARE is a tool developed at RAND Corporation that uses economic theory and data to estimate how people will respond to health insurance policy changes.

We considered three policy scenarios:

1. **Status quo:** silver loading is permitted, costs of CSRs are loaded onto silver plans.
2. **Broad loading:** silver loading is not permitted, costs of CSRs are loaded onto all individual market plans.
3. **Restoration of CSR payments by the federal government:** CSR costs are not loaded on to premiums, as direct payments from the federal government to insurers cover these costs.

We estimated the effects of broad loading, as well as the effects of restored CSR payments, relative to the status quo on several outcomes, including health insurance enrollment, marketplace premiums, average out-of-pocket premiums, and federal spending on APTCs, projected to the year 2020.

Chapter 2 of this report describes the methods that we use to estimate the effects of broad loading, and Chapter 3 presents the results. Chapter 4 describes limitations of the analysis, and in the final chapter, we discuss the implications of our findings.

---

[2] Silver loading can have secondary effects on the bronze, gold, and platinum premiums if it changes the composition of individual market enrollees. For example, increased APTCs that result from silver loading could make younger or healthier individuals more likely to enroll in the individual market, which would lead to decreased premiums for nonsilver plans.

2. Methods

We used RAND's COMPARE model to estimate the effects of a policy where silver loading is replaced by broad loading as a response to halted federal payments of CSRs and the effects of restored CSR payments by the federal government. COMPARE is a microsimulation model that uses nationally representative, publicly available data and economic theory to estimate changes in health insurance enrollment and health care spending in response to policy changes. The primary data sources are the Survey of Income and Program Participation, Medical Expenditure Panel Survey (MEPS), and Kaiser Family Foundation/Health Research and Educational Trust Employer Health Benefits Survey. In the model, individuals choose between insurance plans based on a utility maximization framework, and employers choose whether to offer insurance to their employees. We regularly update the model to reflect population growth, health care cost growth, and policy changes. See the Appendix for further details on the COMPARE model.

For the California-specific analyses, we weighted the national-level COMPARE data to match the age, gender, race/ethnicity, poverty level, and health insurance composition of the California population using the public use microdata sample from the American Community Survey given 2017 market characteristics, a year in which CSR costs were paid by the federal government. That means, if we were to run the model assuming CSRs were paid (and the individual mandate penalty was in effect), we would reproduce insurance enrollment patterns observed in 2017. When we run the model under alternative assumptions—such as under silver or broad loading scenarios—individuals' enrollment decisions adjust to reflect these factors. In addition, we adjusted individual market spending in California in the model so that we could reproduce differences between national and California individual market premiums. We derived our target from the 2017 benchmark premiums (Kaiser Family Foundation, 2018). In addition, we modeled California's regulatory policy that allows insurers to charge exchange enrollees a silver premium that includes CSR loading and to charge off-exchange enrollees a lower silver premium without CSR loading. We do not explicitly model on- and off-exchange plans in COMPARE, so we applied silver loading to silver plans for subsidy-eligible individuals only as a proxy for exchange enrollment. We also modeled California's prohibition on charging tobacco users and non–tobacco users different premiums.

We project the 2017 weights forward to 2020 using state-specific population projections from the University of Virginia Cooper Center's Demographics Research Group (2018). We make further adjustments to the weights to ensure that subsidized marketplace enrollment, CSR enrollment, and the silver load amount match California's 2017 experience, using detailed enrollment data from Covered California (n.d.), California's insurance marketplace.

3. Results

Insurance Enrollment Falls Under Broad Loading

Table 3.1 shows estimated insurance enrollment under the status quo (silver loading), broad loading, and restored CSR payment scenarios nationally and for California. The total number of insured nonelderly individuals drops in the broad loading scenario relative to the status quo (silver loading) scenario in both the national model (a decrease of 1.5 million) and the California model (a decrease of 160,000). These decreases are largely driven by reductions in insurance coverage in the individual market, where total enrollment drops by 12.5 percent at the national level and by 10.5 percent in California. Enrollment decreases are larger among the population with incomes higher than 400 percent of the FPL who do not qualify for subsidies (23.5 percent at the national level and 20.0 percent in California). Under a scenario in which CSR payments are restored, we estimate that the total number of insured and the number of individual market enrollees would fall relative to the status quo, but that enrollment would be higher than under a broad loading scenario. Enrollment is higher under restored CSR payments than under broad loading because, as we will show in Table 3.3, individual market enrollees face higher premiums under broad loading than under restored CSR payments.

Table 3.1. Health Insurance Enrollment for Individuals Under Age 65 in 2020 (in millions)

	National			*California*		
	Status Quo (Silver Loading)	**Broad Loading**	**CSR Payments Restored (No Loading)**	**Status Quo (Silver Loading)**	**Broad Loading**	**CSR Payments Restored (No Loading)**
Total insured	242.6	241.1	241.8	30.28	30.12	30.16
Individual market	14.3	12.5	13.4	1.62	1.45	1.48
<139% FPL	2.5	2.5	2.6	0.03	0.03	0.03
139%– 199% FPL	4.1	3.8	3.9	0.52	0.52	0.52
200%– 299% FPL	3.7	3.1	3.3	0.45	0.41	0.40
300%– 399% FPL	2.3	1.8	2.0	0.21	0.18	0.18
400%+ FPL	1.7	1.3	1.7	0.40	0.32	0.35
Employer	154.7	154.9	154.7	18.33	18.35	18.35
Medicaid	61.2	61.2	61.2	8.67	8.66	8.66
Other	12.5	12.5	12.5	1.67	1.67	1.67
Uninsured	35.4	37.0	36.2	3.79	3.94	3.91

Table 3.2 describes insurance transitions in two different scenarios: between the status quo and broad loading; and between the status quo and a scenario in which CSR payments are restored. Compared with the status quo, both broad loading and a restoration of CSR payments lead to more insured people becoming uninsured. The majority of those enrolled in individual market plans under both the status quo and our alternative scenarios stay on plans in the same tier. We also see enrollees transitioning to both higher and lower tiers under the broad loading and restoration of CSR payments scenarios. This is because silver loading makes silver plans expensive relative to plans on other tiers, causing enrollees to choose either lower-actuarial-value bronze plans or higher-actuarial-value gold or platinum plans. Broad loading and federal payment of CSRs make silver plans more attractive relative to the status quo, causing some bronze enrollees to upgrade to silver, and some gold and platinum enrollees to downgrade to silver.

Table 3.2. Health Insurance Transitions from Status Quo (Silver Loading) to Broad Loading and to Restored Cost-Sharing Reduction Payments in 2020 (in millions)

	National		*California*	
	Broad Loading	**CSR Payments Restored (No Loading)**	**Broad Loading**	**CSR Payments Restored (No Loading)**
Moved from insured to uninsured	1.8	1.2	0.17	0.14
Moved from uninsured to insured	0.3	0.4	0.02	0.02
Individual market plans				
Moved from higher to lower metal tier	2.6	2.6	0.10	0.07
Moved from lower to higher metal tier	1.4	1.8	0.10	0.10
Stayed on same metal tier	8.3	8.7	1.25	1.30

Premiums and Subsidies

Table 3.3 shows the premiums for individual market plans for a 40-year-old nonsmoker. First, we note that under the status quo, national premiums for silver plans are higher than premiums for gold. The premiums for gold plans are very close to premiums for silver premiums in the California model—less than 1 percent difference. This suggests that unless an individual qualifies for significant CSR subsidies on a silver plan, gold plans are almost certainly a better value than silver plans under the status quo. Predictably, broad loading leads to higher premiums for bronze, gold, and platinum plans and decreases premiums for silver plans relative to silver

Table 3.3. Individual Market Premiums for a 40-Year-Old Nonsmoker in 2020

	National			California		
	Status Quo (Silver Loading)	Broad Loading	CSR Payments Restored (No Loading)	Status Quo (Silver Loading)	Broad Loading	CSR Payments Restored (No Loading)
Bronze	$4,868	$5,517	$5,044	$4,779	$5,146	$4,965
Silver	$6,995	$6,436	$5,884	$6,352	$6,003	$5,792
Gold	$6,491	$7,356	$6,725	$6,372	$6,861	$6,619
Platinum	$7,302	$8,275	$7,566	$7,168	$7,719	$7,447

NOTE: Premiums listed are for a 40-year-old nonsmoker.

loading. In particular, premiums increased by 13.3 percent for nonsilver plans and decreased by 8.0 percent for silver plans nationally; nonsilver plan premiums rose by 7.6 percent and silver plan premiums decreased by 5.5 percent in California.[3] This pattern makes sense; the majority of individual market enrollees enroll in silver plans (Kaiser Family Foundation, 2019). With broad loading, nonsilver plans with relatively few enrollees must pay CSR costs formerly covered by silver plans with many more enrollees. That means the per capita cost increases for the former are relatively large, while the per capita savings of the latter are relatively small. If CSR payments were restored, silver premiums would be lower than under either the status quo or broad loading. Premiums for nonsilver plans would be higher than under the status quo but lower than under broad loading.

Table 3.4 shows the out-of-pocket premiums for enrollees in bronze, silver, and gold plans who remain enrolled in individual market plans on the same tier and maintain the same APTC subsidy status (i.e., subsidized or unsubsidized). The out-of-pocket premium is the full premium minus any APTCs the enrollee receives. Among subsidized enrollees, out-of-pocket premiums for bronze and gold plans increase substantially under broad loading both nationally and in California. This reflects the fact that under broad loading, APTCs, which are tied to the cost of a silver plan, decrease. At the same time, nonsilver premiums increase; the net result is an increase in out-of-pocket premiums paid for nonsilver plans. For example, the national out-of-pocket premium for subsidized enrollees in bronze plans more than doubled from $772 under silver loading to $1,820 under broad loading. Premiums for unsubsidized enrollees also increase as a result of higher age-specific premiums. For example, out-of-pocket premiums for bronze plans increased from $8,497 to $9,627 among unsubsidized enrollees at the national level.

---

[3] Premium changes are uniform across bronze, gold, and premium plans because of rate banding.

Table 3.4. Out-of-Pocket Premiums for Individual Market Plans in 2020

	National			California		
	Status Quo (Silver Loading)	Broad Loading	CSR Payments Restored	Status Quo (Silver Loading)	Broad Loading	CSR Payments Restored
Bronze						
Subsidized enrollees	$772	$1,820	$1,918	$1,294	$2,013	$1,994
139%–199% FPL	$670	$1,006	$1,076	$520	$714	$903
200%–399% FPL	$793	$2,037	$2,144	$1,387	$2,168	$2,158
Unsubsidized enrollees	$8,497	$9,627	$8,902	$7,005	$7,555	$7,274
Silver						
Subsidized enrollees	$633	$631	$629	$1,067	$1,067	$1,067
139%–199% FPL	$913	$913	$912	$940	$940	$940
200%–399% FPL	$1,736	$1,721	$1,689	$1,443	$1,443	$1,443
Unsubsidized enrollees	$5,676	$5,221	$4,770	$7,803	$8,279	$8,214
Gold						
Subsidized enrollees	$3,589	$5,653	$5,271	$3,072	$3,756	$3,712
139%–199% FPL	$2,491	$3,410	$2,958	$1,714	$2,553	$2,520
200%–399% FPL	$3,607	$5,688	$5,316	$3,115	$3,796	$3,749
Unsubsidized enrollees	$9,483	$10,745	$9,768	$8,055	$8,633	$8,206

NOTES: Out-of-pocket premiums are calculated for those who stay on the same metal tier plan under both scenarios. Premium payments were calculated per capita. Out-of-pocket premiums are omitted for subsidized enrollees with incomes less than 139 percent of the FPL and for those in platinum plans because of low sample sizes.

Conversely, out-of-pocket premiums for silver plans fall slightly as a result of broad loading nationally but not in California. The modest average decrease at the national level results from the fact that while most subsidized silver enrollees experience no change in out-of-pocket premiums, subsidized tobacco users have lower out-of-pocket silver premiums under silver loading. This is because such enrollees can be charged up to 1.5 times more than non–tobacco users in most states, while subsidy levels are based on the cost of a plan for a non–tobacco user. California does not allow insurers to charge higher rates to tobacco users, and thus those enrollees see no difference in out-of-pocket costs for a silver plan under broad loading compared with the status quo.

Table 3.5 shows the proportion of individual market enrollees with access to a no-cost bronze plan under each scenario. The proportion of individual market enrollees with access to no-cost bronze plans falls for all income groups under the broad loading and restoration scenarios. Declines are particularly steep for individuals in higher income categories.

**Table 3.5. Percentage of Individual Market Enrollees with Access
to No-Cost Premium Bronze Plans**

	National			California		
	Status Quo (Silver Loading)	Broad Loading	CSR Payments Restored (No Premium Loading)	Status Quo (Silver Loading)	Broad Loading	CSR Payments Restored (No Premium Loading)
Subsidized enrollees	63	35	33	49	28	27
<139% FPL	89	76	75	80	69	68
139%–199% FPL	81	40	36	65	33	31
200%–399% FPL	40	11	11	23	3	3
Unsubsidized enrollees	0	0	0	0	0	0

To further illustrate changes in premiums, Table 3.6 shows changes to out-of-pocket premium costs required to maintain the same individual market coverage under broad loading as under silver loading. Both nationally and in California, a larger proportion of subsidized enrollees face higher out-of-pocket premiums to maintain the same coverage under broad loading than under silver loading. In particular, 59 percent of subsidized enrollees nationally face premiums that average $1,482 higher, while only 9 percent face lower premiums, with decreases that average $249 (the remaining 32 percent of enrollees face no change in premiums). Most individuals who face no change in premium are enrolled in silver benchmark plans. We estimate that nearly all unsubsidized enrollees face higher premiums under broad loading compared with the status quo. While silver premiums decrease under broad loading, we estimate that few unsubsidized individuals choose to enroll in silver loaded plans. In California, unsubsidized individuals cannot pay more under broad loading than under silver loading, since they do not face silver loaded premiums (unless they decide to buy a plan subject to silver loading on the exchange instead of the same plan that is less expensive off-exchange). In addition, the subsidized individuals who pay less under broad loading compared with silver loading in the national model are tobacco users who face higher premiums in most states. Because tobacco rating is prohibited in California, no subsidized enrollees in the state pay less under broad loading compared with the status quo for the same coverage. Table 3.7 shows changes to out-of-pocket premium costs required to maintain the same individual market coverage under a scenario in which CSR payments are restored compared with silver loading. Overall, patterns are similar to out-of-pocket premium changes under broad loading.

8

Table 3.6. Out-of-Pocket Premium Changes to Maintain Coverage from Status Quo (Silver Loading) Under Broad Loading Scenario

	National					California				
	Number of Enrollees in Status Quo (millions)	% Paying More	Average Change for Those Paying More	% Paying Less	Average Change for Those Paying Less	Number of Enrollees in Status Quo (millions)	% Paying More	Average Change for Those Paying More	% Paying Less	Average Change for Those Paying Less
Subsidized enrollees	11.0	59	$1509	5	-$245	1.19	45	$887	0	n/a
<139% FPL	2.2	12	$1,475	8	-$269	0.03	14	$254	0	n/a
139%–199% FPL	3.7	50	$1,481	9	-$233	0.51	18	$482	0	n/a
200%–299% FPL	3.2	87	$1,443	2	-$153	0.44	60	$865	0	n/a
300%–399% FPL	1.9	90	$1,549	0	n/a	0.21	98	$991	0	n/a
Unsubsidized enrollees	3.3	94	$2,410	7	-$514	0.43	100	$1,919	0	n/a

Table 3.7. Out-of-Pocket Premium Changes to Maintain Coverage from Status Quo (Silver Loading) Under Cost-Sharing Reduction Payments Restored (No Loading) Scenario, 2020

	National					California				
	Number of Enrollees in Status Quo (millions)	% Paying More	Average Change for Those Paying More	% Paying Less	Average Change for Those Paying Less	Number of Enrollees in Status Quo (millions)	% Paying More	Average Change for Those Paying More	% Paying Less	Average Change for Those Paying Less
Subsidized enrollees	11.0	71	$1,265	11	–$307	1.19	44	$884	0	n/a
<139% FPL	2.2	54	$121	26	–$398	0.03	13	$220	0	n/a
139%–199% FPL	3.7	54	$1,328	12	–$283	0.51	17	$450	0	n/a
200%–299% FPL	3.2	91	$1,414	3	–$194	0.44	58	$866	0	n/a
300%–399% FPL	1.9	94	$1,660	0	n/a	0.21	98	$992	0	n/a
Unsubsidized enrollees	3.3	89	$2,033	11	–$146	0.43	100	$1,612	0	n/a

Federal Spending on Advance Premium Tax Credits

Table 3.8 shows the number of enrollees receiving APTCs under silver loading and broad loading, per capita federal spending on APTCs among recipients, and total federal APTC spending. Both nationally and in California, the numbers of enrollees receiving APTC subsidies declines under broad loading and a restoration of CSR payments relative to the status quo. These decreases are driven largely by disenrollment of subsidy-eligible individuals with incomes between 200 percent and 400 percent of the FPL as a result of lower APTCs and higher out-of-pocket premium costs. Per capita spending on APTCs falls for nearly every income group both nationally and in California under the broad loading and restored CSR payment scenarios. Total federal spending on APTCs is lowest under the scenario in which CSR payments are restored, but combined federal spending on APTCs and CSRs is lowest under the broad loading scenario.

Table 3.8. Federal Spending on Advance Premium Tax Credits

	National			California		
	Status Quo (Silver Loading)	Broad Loading	CSR Payments Restored (No Loading)	Status Quo (Silver Loading)	Broad Loading	CSR Payments Restored (No Loading)
Number of enrollees receiving APTCs (in millions)	11.0	10.0	10.1	1.19	1.10	1.10
<139% FPL	2.2	2.2	2.2	0.03	0.03	0.03
139%–199% FPL	3.7	3.6	3.6	0.51	0.51	0.51
200%–299% FPL	3.2	2.7	2.7	0.44	0.39	0.39
300%–399% FPL	1.9	1.6	1.6	0.21	0.17	0.17
APTC spending per recipient	$6,729	$6,539	$5,880	$5,688	$5,437	$5,194
<139% FPL	$6,962	$6,404	$5,869	$5,932	$5,594	$5,386
139%–199% FPL	$7,226	$6,906	$6,243	$6,364	$6,007	$5,764
200%–299% FPL	$6,490	$6,575	$5,883	$5,358	$5,158	$4,910
300%–399% FPL	$5,879	$5,825	$5,073	$4,685	$4,358	$4,117
Federal APTC spending (in billions)	$73.7	$65.7	$59.3	$6.8	$6.0	$5.7
Federal spending on CSRs (in billions)	$0	$0	$8.3	$0.0	$0.0	$0.8
Total federal spending on APTCs and CSRs (in billions)	$73.7	$65.7	$67.6	$6.8	$6.0	$6.5

4. Limitations

One important limitation of our analysis is that we do not consider that individuals may have access to a range of plans on the individual market. We assume each individual has access to a single plan on each metal tier, which assumes a single insurer or a perfectly competitive market. In reality, many consumers have access to a variety of plans at each metal tier offered by different insurers, with different benefit structures; our out-of-pocket spending estimates are based on a single benefit structure for each metal tier. In addition, we may not capture certain noncost aspects of decisionmaking, such as loyalty to a particular insurer. Our assumption of a perfectly competitive market also has important implications for individuals who enroll in silver plans other than the benchmark (second-lowest-cost) plan. We find that silver premiums would fall under both the broad loading and restoration of CSR payment scenarios. However, because our only silver plan is the benchmark plan, we find that subsidized enrollees on silver plans would see no change in their out-of-pocket premiums, with the exception of tobacco users in the national model, who face decreased out-of-pocket premiums relative to the status quo. However, with multiple insurance carriers, if all silver plans go down by a constant percentage under either the broad loading or restored CSR payment scenario, the spread between benchmark and nonbenchmark premiums shrinks. That means those who enroll in the lowest-cost silver plan pay more and those who enroll in higher-cost silver plans pay less. These out-of-pocket changes could induce silver enrollees to switch carriers under a broad loading or restored CSR payment scenario, as carriers that charge more than the benchmark premium would become more affordable. Finally, due to a policy in California that allows insurers to use silver loading in their marketplace plans but not in their off-exchange plans, we assume that all unsubsidized enrollees on silver plans in California are enrolled in off-exchange plans (Anderson et al., 2018)

5. Conclusions

In this report, we used the COMPARE microsimulation model to estimate the effects of broad loading and restored federal payments for CSRs on enrollment, premiums, and costs to individual market enrollees and to the federal government. Under both broad loading and a restoration of federal payments for CSRs, premiums for silver plans would fall, while the premiums for bronze, gold, and platinum plans would rise, both nationally and in California. Since APTCs are tied to the premium for the second-lowest-cost silver plan, APTC amounts would also fall. Changes to premiums and APTCs would not affect subsidy-eligible individuals who enroll in benchmark silver plans. However, those who purchase bronze, gold, or platinum plans would face higher premiums and lower subsidies simultaneously and would need to spend more to maintain enrollment in those plans.

We find that enrollment in individual market plans falls as a result of both broad loading and restoration of federal CSR payments. Under broad loading, national enrollment in individual market plans falls by 1.8 million individuals and individual market enrollment in California falls by 170,000. These findings are consistent with the experience of states that opted for broad loading rather than silver loading (Anderson et al., 2018). Individuals with incomes above 200 percent of the FPL are more likely to disenroll under broad loading than individuals with incomes below 200 percent of the FPL. Most of those who leave individual market plans become uninsured rather than switching to another insurance type. Under a restoration of federal payments for CSRs, at the national level, the number of insured individuals drops by 0.8 million and the number of individual market enrollees in California drops by 140,000. In its May 2018 baseline, the CBO estimated that at the national level, restoration of federal CSR payments would decrease enrollment by 2–3 million (CBO, 2018c). While our estimates of the impact of restored CSR payments on enrollment are lower than the most recent CBO estimates, they are consistent with an earlier estimate from the CBO that projected that enrollment would decrease by 0.5 to 1 million if CSR payments were restored (Hall, 2018). Total federal spending on APTCs decreases under both the broad loading and restoration of CSR payments scenarios, reflecting the lower silver premiums and APTC amounts, as well as a reduced number of APTC beneficiaries.

Our estimates on the effects of restoring CSR payments on premiums are broadly consistent with other estimates of the effects of silver loading relative to federal payment of CSRs. The CBO estimates that by 2021, silver loading will increase benchmark premiums on the individual market by 20 percent relative to a scenario in which the federal government continued to fund CSR payments directly (CBO, 2018b). We estimate that silver premiums will be 19 percent higher in 2020 under the status quo compared with a scenario in which CSRs are paid. Similarly, a Covered California report estimated that silver premiums would be about 17 percent higher

under silver loading in the 2018 plan year (Yin and Domurat, 2017). We estimate that in California, silver premiums would be 10 percent higher in 2020 under silver loading compared with a scenario in which CSRs are paid. We estimate that in 2020, silver premiums that include silver loading and are sold on-exchange will be 14 percent higher than silver premiums for plans sold off-exchange.

Our analyses suggest that while broad loading as an alternative to silver loading would lead to decreased federal spending on subsidies, it would also lead to decreased subsidy eligibility, higher total and out-of-pocket premiums on the individual market, and decreased insurance enrollment both in the individual market and overall. Restoring federal payment of CSRs would also decrease both federal spending and health insurance enrollment. Policymakers should consider these impacts when contemplating changes to CSR funding and rules related to silver loading.

Appendix

Overview of the National Model

COMPARE is a microsimulation model that uses economic theory, nationally representative data, and evidence from past experience to estimate how consumers and business will respond to health policy changes (Cordova et al., 2013). The model creates a synthetic population of individuals, families, and firms and assigns health expenditures using data from the April 2010 wave of the 2008 Survey of Income and Program Participation, the 2010–2011 MEPS, and the 2009 Kaiser Family Foundation/Health Research and Educational Trust Employer Health Benefits Survey. While the data sources predate the implementation of the ACA, we update them to reflect population growth based on factors reported by the U.S. Census Bureau and to reflect health care cost growth using the Centers for Medicare and Medicaid Services National Health Expenditure Accounts.

We assign each individual in the Survey of Income and Program Participation a spending amount using the spending of a similar individual from the MEPS. We then augment spending imputations with data on high-cost claims from the Society of Actuaries. These adjustments account for the fact that the MEPS underrepresents individuals with high spending. We also adjust the MEPS spending estimates to align with the National Health Expenditure Accounts estimates, according to the procedure developed by researchers from the Agency for Healthcare Research and Quality (Sing et. al., 2006; Bernard, Selden, and Pylypchuk, 2015).

Individuals in COMPARE make health insurance enrollment decisions by weighing the costs and benefits of available options, an approach that is referred to by economists as "utility maximization." The utility-maximization framework accounts for the following:

- premium costs
- anticipated out-of-pocket health care spending
- the value of health care consumption
- the risk of incurring a financially devastating health care bill.

Premium costs are adjusted to account for tax credits, if such credits are available to the enrollee. All else being equal, higher premiums reduce an individual's probability of enrolling in health insurance. In contrast, several factors encourage enrollment, such as a lower risk of catastrophic spending, reduced out-of-pocket spending, the avoidance of penalties (if they apply), and increases in health care utilization.

Businesses in the model make decisions by considering the value of health insurance to their workers. Tax credits for individual market coverage and Medicaid eligibility expansions may reduce the value of health insurance to workers, leading firms to drop insurance. However,

mandates requiring individuals to enroll in insurance, as well as mandates requiring firms to offer coverage, tend to increase the likelihood that a firm will offer insurance.

We calibrate the model to ensure that it accurately predicts outcomes for years in which complete data exist. As new data emerge, we update the model to reflect this information. For example, we added an adjustment to our Medicaid enrollment algorithm to account for the "welcome mat" effect, in which people who were previously eligible for Medicaid enrolled after the ACA's Medicaid expansion.

In this chapter, we describe the health insurance enrollment algorithm used in COMPARE to model the current law scenario, as well as recent adjustments to the model that we have incorporated to better match the post-ACA experience (e.g., administrative reports on enrollment, subsidy payments, and tax collections). We then describe the adjustments made to model the broad loading scenario and to produce California-specific estimates. We also discuss how our results compare with those of the CBO.

Health Insurance Enrollment Decisions

To model individual and family health insurance enrollment decisions under the ACA, COMPARE uses a utility-maximization approach, in which decisionmakers weigh the costs and benefits of available options. The utility-maximization framework accounts for the value of health care consumption, premium costs, expected out-of-pocket health care spending, and financial risk associated with out-of-pocket spending.

We scale each of these components of utility to dollars and assume that they are additively separable.[1] We further assume that individuals' utilities are separable in consumption and health. The health-related component of the utility function is modeled as follows:

$$U_{ijk} = u(H_{ij}) - E(OOP_{ij}) - P_{ij} - [0.5 * r * \text{VAR}(OOP_{ij})] + Calibration_{jk}. \qquad (1)$$

Within this equation,

- $u(H_{ij})$ is the utility associated with consuming health care services for individual i under insurance option j
- k represents an individual's demographic group based on age and income
- $E(OOP_{ij})$ is the expected out-of-pocket spending
- P_{ij} is the individual's premium contribution (after adjusting for tax credits)
- r is the coefficient of risk aversion.

---

[1] This approach follows D. P. Goldman, J. L. Buchanan, and E. B. Keeler, "Simulating the Impact of Medical Savings Accounts on Small Business," *Health Services Research*, Vol. 35, No. 1, Pt. 1, April 2000, pp. 53–75.

Possible health insurance enrollment choices (j) under the ACA may include employer coverage, Medicaid or Children's Health Insurance Program coverage, an ACA-compliant individual market plan (including plans available on and off the marketplaces), or another source of coverage.[2] Individuals can also choose to forgo insurance. Not all individuals will have access to all forms of coverage. For example, access to Medicaid is contingent on eligibility, and individuals will have access to employer coverage only if they (or their spouse or parent) work for a business that offers insurance.

The term *Calibration*$_{jk}$ is a factor that adjusts utilities to match enrollment patterns observed in pre-ACA data. The term accounts for nonpecuniary factors that may influence preferences for different types of insurance. Such factors include the convenience associated with enrolling in employer coverage and access constraints associated with Medicaid. Specific modeling strategies for each source of coverage (j) are described next.

Small-Group Employer Coverage

Small employers in the model choose whether to offer coverage based on worker preferences and a small set of other factors, including the employer's industry and whether workers are unionized. Under the ACA, all small firms are part of a single risk pool with guaranteed issue, three-to-one rate banding on age, and restrictions that preclude insurers from charging different premiums to different groups other than based on geography, family size, tobacco use, and plan generosity.

In the current version of the model, small-group market regulations apply to all firms with 50 or fewer employees, regardless of year. Earlier versions of the model expanded the small group market to include firms with 100 or fewer workers after 2015, as originally intended by the ACA. We revised the definition because the Protecting Affordable Coverage for Employees Act, signed into law in late 2015, amended the ACA's definition of *small employer* to include firms with 1 to 50 employees in perpetuity, unless states opt to extend the small-group market to firms with up to 100 workers; California is one state that opted to extend the small-group market in this way.

Small firms in the model are permitted to purchase a 60-percent, 70-percent, 80-percent, or 90-percent actuarial value plan on the ACA's regulated small-group market, which includes the Small Business Health Insurance Options marketplaces. Small firms in the model may retain grandfathered status, which exempts them from the ACA's rating regulations, although we assume that a certain percentage of small firms will lose grandfathered status each year.

The ACA also offers a small-business tax credit to small firms with low-wage workers who obtain coverage through the Small Business Health Insurance Options marketplaces. Because

---

[2] Other sources of coverage include Medicare for the nonelderly with qualifying conditions and military-related sources of coverage, such as TRICARE.

firms can take advantage of these credits for only two years, we assume that all small firms will have exhausted their tax credit eligibility by 2020.

Large-Group Employer Coverage

Like small employers, large employers choose whether to offer coverage based on worker preferences and several other characteristics, including union status and industry. We allow large firms that offer coverage to choose between four different plans, which are distinguished by plan generosity and rated based on enrollees' expected health expenditures. We estimate premiums for the large-group market based on a regression. The firm's decision to offer is modeled using structural econometric techniques.

Medicaid

Through our calibration process, the model accounts for the fact that not all Medicaid-eligible individuals choose to enroll, perhaps because of stigma, lack of information, or transaction costs associated with enrolling. To account for the fact that the ACA increased Medicaid enrollment among the previously eligible population (Frean, Gruber, and Sommers, 2017), we increase the calibration parameter by a factor of approximately $200 in the post-2014 period.

Individual Market

ACA-compliant individual market premiums are calculated endogenously in the model based on the health expenditure profile of those who choose to enroll. The total, unsubsidized premium is based on enrollees' age, smoking status, and market-rating reforms implemented under the ACA (Patient Protection and Affordable Care Act, 2013). We model three-to-one rate banding on age for adults ages 21 and older, with a separate age band for children and young adults under age 21. We also account for the ACA's risk-adjustment requirements, which transfer funds from plans with lower-than-average actuarial risk to plans with higher-than-average actuarial risk.

Under the ACA, the actual premium an enrollee pays is adjusted to account for tax credits available to qualifying individuals with incomes between 100 percent and 400 percent of the FPL who do not have affordable offers of insurance from another source (e.g., employer coverage, Medicaid). We apply the ACA's subsidy formula using the benchmark silver premium and the individual's income. Eligible individuals who have incomes between 100 percent and 250 percent of poverty can also receive CSR subsidies that help to lower out-of-pocket spending. As required by the ACA, individuals who receive CSR subsidies in COMPARE must be tax credit eligible and purchase a silver plan (i.e., 70 percent actuarial value). With the CSR subsidies, the effective actuarial value of the plan is increased to 94 percent if income is below 150 percent of the FPL, 87 percent if income is between 150 and 200 percent of the FPL, and 73 percent if income is between 200 and 250 percent of the FPL. Accordingly, out-of-pocket spending is adjusted downward to reflect the higher actuarial value of the plan. Note that

out-of-pocket spending enters the individual's utility function; hence, individuals receiving CSR subsidies are more likely to purchase coverage. In May 2017, the Centers for Medicare and Medicaid Services updated the default age rating curve to adjust premium rating factors for children and young adults ages 20 and under (Center for Consumer Information and Insurance Oversight, 2017). We use the revised rating curve in this analysis.

HHS reported that approximately 14 percent of individual market enrollees are eligible for tax credits but forgo those credits by purchasing coverage outside the marketplaces (HHS, 2016). HHS further estimates that 9 million people are potentially eligible for tax credits but remain uninsured. Because these findings suggest that some people may be unaware of their tax credit eligibility, we assume that 30 percent of tax-credit-eligible individuals will not account for these credits in their health insurance enrollment decisions. With this assumption, we match HHS's estimate that approximately half of all individual market enrollees receive tax credits.

Adjustments to Model Broad Loading

As described earlier, we model silver loading by assuming that insurers build the costs of CSRs into premiums for silver individual market plans. Similarly, we model broad loading by assuming that insurers build the costs of CSRs into premiums for all individual market plans, regardless of metal tier.

Weighting the National Model to California

For the California-specific analyses, we weighted the national-level COMPARE data to match the age, gender, race/ethnicity, poverty level, and health insurance composition of the California population using the public use microdata sample from the American Community Survey given 2017 market characteristics, a year in which CSR costs were paid by the federal government. That means, if we were to run the model assuming CSRs were paid (and the individual mandate penalty was in effect), we would reproduce insurance enrollment patterns observed in 2017. When we run the model under alternative assumptions—such as under silver or broad loading scenarios—individuals' enrollment decisions adjust to reflect these factors.

We project the 2017 weights forward to 2020 using state-specific population projections from the University of Virginia Cooper Center's Demographics Research Group (2018). We make further adjustments to the weights to ensure that subsidized marketplace enrollment, CSR enrollment, and the silver load amount match California's 2017 experience, using detailed enrollment data from Covered California (n.d.). In addition, we adjusted individual market spending in California in the model so that we could reproduce differences between national and California individual market premiums. We derived our target from the 2017 benchmark premiums (Kaiser Family Foundation, 2018). Finally, based on the enrollment data from Covered California, California has a much higher proportion of individual market enrollees receiving subsidies than is the case nationally. Therefore, for California estimates, we assume all

tax-credit-eligible individuals are aware that tax credits are available to them, unlike in the national model, where we assume some lack awareness of tax credits.

Comparison with the Congressional Budget Office

Table A.1 compares our insurance estimates assuming CSRs are paid by the federal government without the individual mandate with those of the CBO (CBO, 2018c).

The analyses differ in the assignment of primary insurance category and estimated population size. RAND assigns individuals to a primary insurance category, while the CBO allows people to have more than one source of coverage. Hence, the CBO's estimates do not sum to population totals. For the estimated population size, RAND matches population estimates published by the U.S. Census Bureau, which estimates that there will be 278 million nonelderly U.S. residents by 2020 (Vespa, Armstrong, and Medina, 2018).

RAND's estimated number without insurance is slightly lower than the CBO's. Further, compared with the CBO, we estimate that slightly fewer people will be enrolled in employer coverage and slightly fewer people will be insured in Medicaid. Estimates for individual market enrollment are similar across the two models.

Table A.1. Comparison with the Congressional Budget Office, Enrollment in Millions

	COMPARE, 2020 No Individual Mandate, CSRs Paid	CBO, 2020 No Individual Mandate, CSRs Paid
Total insured		
Employer	154.7	159
Individual market	14.3	12
Medicaid	61.2	66
Other	12.5	13
Uninsured	35.4	34
Total population	278	274
Percentage uninsured	12.7	12.4

NOTE: The CBO allows multiple sources of coverage, so estimates do not sum to population totals.

Bibliography

Anderson, David, Louise Norris, Andrew Sprung, and Charles Gaba, "Implications of CMS Mandating a Broad Load of CSR Costs," *Health Affairs Blog*, May 15, 2018. As of April 5, 2019:
https://www.healthaffairs.org/do/10.1377/hblog20180511.621080/full/

Bernard, D., Thomas M. Selden, and Yuriy O. Pylypchuk, "Aligning the Medical Expenditure Panel Survey to Aggregate U.S. Benchmarks, 2010," Agency for Healthcare Research and Quality Working Paper No. 15002, January 2015.

CBO—*See* Congressional Budget Office.

Center for Consumer Information and Insurance Oversight, *Market Rating Reforms: State Specific Rating Variations*, Centers for Medicare and Medicaid Services, 2017.

Congressional Budget Office, *The Budget and Economic Outlook: 2018 to 2028*, Washington, D.C., 2018a.

———, *Cost-Sharing Reductions in CBO's Spring 2018 Baseline*, Washington, D.C., 2018b.

———, *Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2018 to 2028*, Washington, D.C., 2018c.

Cordova, A., F. Girosi, S. Nowak, C. Eibner, and K. Finegold, "The COMPARE Microsimulation Model and the U.S. Affordable Care Act," *International Journal of Microsimulation*, Vol. 6, No. 3, 2013, pp. 78–117.

Covered California, "Data & Research," n.d. As of April 5, 2019:
https://hbex.coveredca.com/data-research/

Demographics Research Group, "National Population Projections," University of Virginia Weldon Cooper Center for Public Service, 2018. As of April 5, 2019:
https://demographics.coopercenter.org/national-population-projections

Department of Health and Human Services, *Patient Protection and Affordable Care Act: HHS Notice of Benefit and Payment Parameters for 2019*, Washington, D.C., 2018.

———, *Patient Protection and Affordable Care Act: HHS Notice of Benefit and Payment Parameters for 2020*, Washington, D.C., 2019.

———, *About 2.5 Million People Who Currently Buy Coverage Off-Marketplace May Be Eligible For ACA Subsidies,* October 4, 2016. As of April 5, 2019:
https://aspe.hhs.gov/pdf-report/people-who-currently-buy-individual-market-coverage-could-be-eligible-aca-subsidies

Frean, M., J. Gruber, and B. D. Sommers, "Premium Subsidies, the Mandate, and Medicaid Expansion: Coverage Effects of the Affordable Care Act," *Journal of Health Economics*, Vol. 53, 2017, pp. 72–86.

Goldman, D. P., J. L. Buchanan, and E. B. Keeler, "Simulating the Impact of Medical Savings Accounts on Small Business," *Health Services Research*, Vol. 35, No. 1, Pt. 1, April 2000, pp. 53–75.

Hall, K., "Re: Appropriation of Cost-Sharing Reduction Subsidies," letter to the Honorable Lamar Alexander, March 19, 2018. As of April 5, 2019:
https://www.cbo.gov/system/files/115th-congress-2017-2018/reports/53664
-costsharingreduction.pdf

HHS—*See* Department of Health and Human Services.

Kaiser Family Foundation, "Marketplace Average Benchmark Premiums," October 2018. As of April 5, 2019:
https://www.kff.org/health-reform/state-indicator/marketplace-average-benchmark-premiums

———, "Marketplace Enrollment by Metal Level," 2019. As of April 5, 2019:
https://www.kff.org/health-reform/state-indicator/marketplace-enrollment-by-metal-level/

Patient Protection and Affordable Care Act; Health Insurance Market Rules; Rate Review, 78 Federal Register 13405, Feb. 27, 2013. As of April 5, 2019:
https://www.govinfo.gov/app/details/FR-2013-02-27/2013-04335

Sing, M., J. S. Banthin, T. M. Selden, C. A. Cowan, and S. P. Keehan, "Reconciling Medical Expenditure Estimates from the MEPS and NHEA, 2002," *Health Care Financing Review*, Vol. 28, No. 1, 2006, pp. 25–40.

Vespa, J., D. M. Armstrong, and L. Medina, "Demographic Turning Points for the United States: Population Projections for 2020 to 2060," *Current Population Reports*, P25-1144, U.S. Census Bureau, Washington, D.C., 2018.

Yin, W., and R. Domurat, "Evaluating the Potential Consequences of Terminating Direct Federal Cost-Sharing Reduction (CSR) Funding," *Covered California*, January 26, 2017.

ITUP
Insure the Uninsured Project

Health Care Programs for California Immigrants

JUNE 2019

California has the largest foreign-born population of any state in the U.S. In 2017, the most recent year for which data is available, 27 percent of California's population, or 11 million residents, were foreign-born (not citizens at birth, including those who become U.S. citizens through naturalization), more than double the percentage in the rest of the country.[1]

California has historically administered health care programs that exceed federal requirements, generally funded with state and local funds, expanding the health care options for California immigrants. For example, California provides comprehensive coverage for undocumented, low-income children up to age 19 in the state's Medicaid program, Medi-Cal, as well as lawfully residing immigrants during the 5-year waiting period for federally supported Medicaid.

Policymakers are currently considering coverage expansion options for the largest group of the remaining uninsured in California, undocumented adults, projected to reach 1.5 million in 2020.[2] Among undocumented adults with incomes at or below 138 percent of the Federal Poverty Level (FPL), 90 percent lack health insurance, compared to 10 percent of all other California adults in the same income range.[3]

This fact sheet provides an overview of existing health coverage programs for California immigrants.

1.5 Million by 2020[2]
Uninsured Undocumented Adults

WHO ARE CALIFORNIA'S IMMIGRANTS?

- **Over 11 million Californians are foreign-born**, approximately 27 percent of California's population.[4]

- Approximately half of California immigrants are naturalized citizens, 34 percent are lawfully present and approximately 14 percent are undocumented.[5]

- Two-thirds of workers in California's agriculture, forestry, fishing, and hunting industries, and **one-third of California's total labor force**, are immigrants.[6]

- Non-citizens are three times more likely to be uninsured when compared to naturalized and U.S. born citizens. **At 90 percent, low-income undocumented adults have the highest uninsured rate among Californians.**[7]

Figure 1. Percent Insured and Uninsured in California, by Citizenship Status, 2017
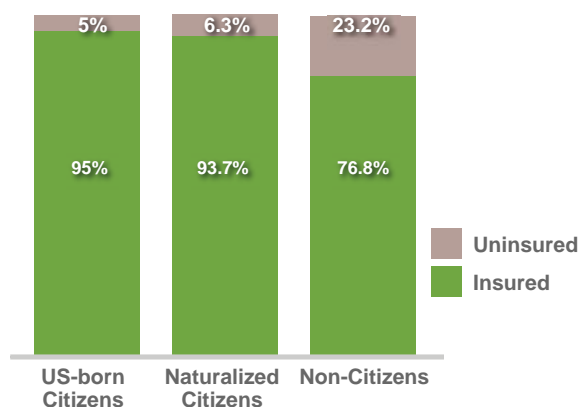
Source: UCLA Center for Health Policy Research, 2017 California Health Interview Survey, Public Use File, October 2018.

THE INTERSECTION OF IMMIGRATION AND HEALTH CARE

Under federal immigration laws, foreign-born residents may have different legal status or classifications depending on a variety of factors, including the reasons they came to the U.S., their country of origin, family connections, whether their presence is authorized or unauthorized and whether they are authorized to reside in the U.S. on a temporary or permanent basis (see terminology below).

The intricate categories of U.S. immigration law, and federal, state and local benefit laws, form the backdrop for a complicated patchwork of federal, state and county health care programs that serve foreign-born populations in California. Federal law and legal precedents may affect immigrants' eligibility for public programs, including health care programs, depending on

their legal status. Many Californians also live in mixed-status households where some family members may be citizens, some may be immigrants who are lawfully present, and some may be undocumented. Navigating coverage options can be difficult for immigrants generally and especially challenging for "mixed-status" families.

Federal Immigration Terminology

For federal immigration purposes, the term "immigrant" (or "foreign born") refers to people residing in the United States who were not U.S. citizens at birth. This population includes naturalized citizens, lawful permanent residents (LPRs), certain nonimmigrants (e.g., persons on student or work visas), those admitted under refugee or asylee status, and persons residing in the United States without authorization, referred to as undocumented or "unauthorized" persons.

The federal government distinguishes between *immigrants* (lawfully admitted on a permanent basis) and *nonimmigrants* (lawfully admitted for a specific purpose or time period).[8]

Deferred Action for Childhood Arrivals (DACA). A federal policy allowing temporary relief from deportation for undocumented immigrants who arrived in the U.S. as children and meet certain criteria. DACA allows eligible individuals to receive a renewable two-year period of deferred action from deportation and to become eligible for a work permit in the U.S.

Lawfully Present Immigrants (LPI). A classification for non-citizens granted authorization to live and, in most cases, work in the U.S., on a permanent or temporary basis, including lawful permanent residents, refugees and asylees. This classification is used in the Affordable Care Act (ACA) and affects eligibility for federal ACA programs.

Lawful Permanent Residents (LPR). A classification for non-citizens granted authorization to live and work in the U.S on a permanent basis. In general, LPRs can apply to become naturalized citizens after living in the U.S. for five years. Lawful permanent residents are given a "green card," a photo ID that proves their status (although the card is no longer green).

Naturalized Citizen. Foreign-born residents who have become citizens of the U.S.

Permanently Residing Under Color of Law (PRUCOL). A public benefits eligibility category created by the courts that is not an immigration status. The definition of PRUCOL may vary from program to program and from state to state. The term generally means that federal immigration officials are aware of a person's presence in the U.S. and have no plans to remove them from the country (either due to their status, individual circumstances or some combination). Individuals granted relief under the DACA program are classified as PRUCOL in California.

Refugees and Asylees. Classifications of foreign nationals unable or unwilling to return to their country of origin because they fear persecution based on their political opinion, religion, national origin, race, or membership in a particular social group. These classifications provide authorization to reside in the U.S. and a pathway to lawful permanent residence.

Temporary Protected Status. A temporary status given to eligible nationals of designated countries affected by armed conflict or natural disaster that allows them to live and work in the United States for a limited time as specified by federal rules.

Undocumented or Unauthorized Immigrants. Foreign nationals residing in the U.S. without authorization. This classification includes individuals who entered the country without authorization and individuals who were admitted to the U.S. and stayed after their visa or other legal status expired.

In addition to complicated program rules and eligibility, the federal immigration enforcement climate affects immigrant access to health care and coverage. See *ITUP Notes from the Field: Immigrant Communities in California Under the Cloud of Immigration Enforcement*.

Immigrants may be confused or hesitant to seek health coverage programs for fear of exposing themselves or other family members to immigration enforcement actions or deportation. For example, pending federal rules would revise the public programs affecting some immigrant applications for a change in immigration status. Since the release of the proposed changes to the so-called "public charge" rule, anecdotal evidence suggests that immigrants may be declining or dropping coverage for which they are eligible. For more information, see *ITUP Comments on the Proposed Federal Rule Affecting Public Charge*.

HEALTH CARE COVERAGE FOR IMMIGRANTS IN CALIFORNIA

California administers some of the nation's largest public health care programs, including Medi-Cal and coverage through California's Affordable Care Act (ACA) exchange, Covered California. Although federal restrictions limit which immigrant groups have access to federally supported health coverage, California has historically extended coverage for immigrants up to and beyond federal standards, including some cases where there is no federal financial participation or federal "match."

Medi-Cal

Medi-Cal provides health coverage for approximately 13 million low-income Californians. The full-scope Medi-Cal program provides comprehensive benefits and services like those under job-based coverage to beneficiaries who meet income and other eligibility requirements. Restricted scope Medi-Cal covers specific services for low-income immigrants (and some other groups) who are ineligible for full-scope Medi-Cal, including emergency services, pregnancy-related services and, when needed, long-term care.

In general, under federal law, lawfully present immigrants must have a "qualified" immigration status to be eligible for federal Medicaid or the Children's Health Insurance Program (CHIP).[9] Many eligible immigrants, including most LPRs, (green card holders), must wait five years after obtaining qualified status before they may enroll in federal Medicaid.[10] The delay is often referred to as the "five-year bar."[11]

Some immigrants, such as refugees and asylees do not have to wait five years for federal comprehensive Medicaid, and some immigrants, such as those with temporary protected status, are not federally eligible regardless of their length of time in the country.

Federal Medicaid payments are available for emergency and pregnancy-related services for all otherwise eligible individuals without a qualifying immigration status.

California extends Medi-Cal eligibility to LPRs who meet income and other eligibility requirements during the five-year waiting period, making them eligible for Medi-Cal regardless of their date of entry. California also extends full-scope Medi-Cal eligibility to refugees, asylees, PRUCOL immigrants and undocumented children up to age 19. For these immigrant groups not eligible for full-scope federal Medicaid, California pays for comprehensive services with state funds and federal matching funds for restricted scope services (emergency and pregnancy services) provided to enrolled immigrants.

Figure 2 outlines Medi-Cal eligibility by immigrant category. For additional details on the Medi-Cal program see *ITUP Issue Brief: Mapping the Future of Medi-Cal*.

Figure 2. Medi-Cal Eligibility by Immigrant Category		
Immigrant Group	**Program Eligibility** (subject to income and other eligibility rules)	**Funding Sources**
▪ Naturalized Citizens ▪ LPRs – legally residing in the U.S. for 5 years or longer ▪ Refugees, Asylees and certain other "humanitarian" immigrants	▪ Full-scope Medi-Cal	▪ State funds ▪ Federal Medicaid match for all Medi-Cal services
▪ LPRs – legally residing in the U.S. for less than 5 years ▪ Immigrants under PRUCOL category ▪ Undocumented children up to age 19	▪ Full-scope Medi-Cal	▪ State funds ▪ Federal match for restricted scope services only (emergency and pregnancy-related services)
▪ Undocumented adults ▪ Immigrants given Temporary Protected Status ▪ Nonimmigrants with temporary status, such as those on student and work visas	▪ Restricted scope Medi-Cal	▪ State funds ▪ Federal match for emergency and pregnancy-related services only ▪ State funds for long-term care, if needed

Source: Insure the Uninsured Project, 2019

Covered California

Covered California is the state's ACA exchange and offers private individual and small group coverage options in 19 geographic regions outlined in state law. Covered California was the first ACA state exchange and at approximately 1.5 million enrollees has the second highest state exchange enrollment in the country.[12]

Covered California administers ACA federal tax credits that reduce monthly premiums for individuals between 100 and 400 percent of the federal poverty level (FPL) ($12,140 - $48,560 in annual household income for one person) on a sliding fee scale basis. In addition, the ACA requires qualified health plans (QHPs) offered in the exchange to lower consumer out-of-pocket costs (deductibles and copayments) through Cost-Sharing Reductions (CSRs) for individuals and families with incomes between 100 and 250 percent FPL. The ACA included federal funds to reimburse health plans for the CSRs, but in 2017 the Trump Administration cancelled the federal CSR payments. QHPs still provide the CSR discounts, but because of how ACA premium tax credits are structured, the federal tax credits adjust to cover the premium increases resulting from the loss of CSR payments. For more information, see *ITUP Health Policy Essentials: Covered California and Individual Health Insurance*.

The ACA established the new lawfully present immigrant (LPI) category and included eligibility for ACA federal subsidies for lawfully residing immigrant groups. LPIs with incomes between 100-400 percent FPL are eligible for premium tax credits as well as LPIs below 100 percent FPL who are not eligible for Medicaid because they are subject to the five-year bar or do not have "qualified status" under federal law. In California, LPIs under 138 percent FPL are eligible for full-scope Medi-Cal.

Significantly, undocumented immigrants are not eligible for ACA financial assistance and cannot enroll or purchase coverage in ACA exchanges, even using their own funds, but may purchase individual coverage outside of the exchange if they pay the full premium.

Figure 3 outlines immigrant eligibility for federal tax credits and CSRs in Covered California.

County Medically Indigent Programs

Under state law, California counties are the "providers of last resort" for lawfully present county residents with no other source of care.[13] Counties have historically administered a range of programs in this role, including local health care programs for low-income uninsured county residents (typically known as medically indigent (MI) programs, or medically indigent adult (MIA) programs). The primary funding sources for county MI programs are Realignment funds (dedicated sales tax and motor vehicle license fees), and county general funds.

In administering MI programs, counties have broad discretion to define eligibility, benefits, and services, including whether to serve undocumented county residents. Most county MI programs serve citizens and lawfully residing immigrants. Forty-seven county MI programs also serve undocumented residents, but services and length of eligibility vary depending on county of residence. Following implementation of the ACA, enrollment in most county MI programs dropped, especially in counties that limit eligibility for undocumented residents.[14]

Figure 4 provides an overview of county MI programs. For more information on county MI programs, see *ITUP Tracking: County Medically Indigent Programs* and *ITUP Health Policy Essentials: California's Health Care Safety Net*.

Figure 3. Immigrant Eligibility for Subsidies in Covered California		
Immigrant Group	**Program Eligibility** (subject to income and other eligibility rules)	**Funding Source**
▪ Naturalized Citizens ▪ LPIs	▪ Eligible for federal tax credits ▪ Eligible for CSR reductions in deductibles and copayments	▪ Federal funds ▪ Health plan premiums
▪ Undocumented Individuals, DACA grantees, and some immigrant groups who may fall within the PRUCOL category	▪ Ineligible for tax credits or CSRs ▪ Prohibited from purchasing individual coverage in Covered California even if using their own funds	Not applicable

Source: Insure the Uninsured Project, 2019

Figure 4. County Medically Indigent Programs		
Key Features		**Number of Counties**
Income Eligibility*	Under 200% FPL	13
	Up to 300% FPL	39
	300+ % FPL with at least one program	6
Coverage Period	< 3 months	3
	4-6 months	38
	6-12 months	17
Immigration Status	Eligibility regardless of immigration status	47
Enrollment **(July 1, 2018)**	< 1,000	46
	> 1,000	11
	> 10,000	4

*Some counties impose cost-sharing in the form of deductibles or copayments on a sliding scale based on income.
Source: Insure the Uninsured Project, 2019

Conclusion

In general, California provides immigrants better access to health care coverage than other states.[15] As outlined above, California extends coverage that is available to citizens to low-income, lawfully residing immigrants, as well as some other immigrant groups, even if federal matching funds are not available for the coverage.

Undocumented adults are the largest group of remaining uninsured in California.[16] Although they are generally eligible for emergency and pregnancy-related services, without comprehensive coverage they often are left to episodic care in emergency rooms and public and nonprofit hospitals and clinics. Some may simply go without care until a treatable condition becomes more serious and often more costly to treat.

The Legislature is currently considering 2019-20 budget and policy legislation that would extend coverage to some or all uninsured undocumented adults in California. For background on legislative efforts, see *ITUP California Strategies (2018)*. Policymakers will need to maintain existing immigrant coverage programs and consider additional coverage options for undocumented adults as part of the effort to reach universal coverage in the state.

Notes

1. Hans Johnson and Sergio Sanchez, *Immigrants in California*, Public Policy Institute of California, May 2018.

2. Laurel Lucia, *Toward Universal Coverage: Expanding Medi-Cal to Low-Income Undocumented Adults*, February 2019. In this calculation, individuals in restricted Medi-Cal are considered uninsured.

3. Lucia, *Toward Universal Coverage.*

4. Johnson and Sanchez, *Immigrants in California.*

5. Johnson and Sanchez, *Immigrants in California.*

6. American Immigration Council, *Immigrants in California*, 2017.

7. UCLA Center for Health Policy Research, 2017 California Health Interview Survey, Public Use File, October 2018.

8. William Kandel, Congressional Research Service, *A Primer on U.S. Immigration Policy*, June 22, 2018.

9. The Children's Health Insurance Program (CHIP) is a federal-state partnership created in 1997 to help more low-income children have access to affordable health care. In California, CHIP is for children 18 years of age or younger whose families do not meet Medicaid income criteria. California's CHIP has been integrated into Medi-Cal. According to the state Department of Health Care Services, children enrolled in California's CHIP account for 25 percent of all children enrolled in Medi-Cal.

10. Kaiser Family Foundation, *Health Coverage of Immigrants*, February 15, 2019.

11. To be eligible for federally supported, full-scope Medi-Cal, federal law subjects many lawful permanent residents (LPRs) and certain other immigrants with a "qualified" immigration status (defined at 8 USC 1641) to a five-year waiting period. Federal law exempts refugees, asylees and certain other "humanitarian" immigrants from the five-year waiting period.

12. Kaiser Family Foundation, *Marketplace Enrollment 2014-2019*, obtained online May 23, 2019.

13. Insure the Uninsured Project (ITUP), *2019 County Medically Indigent Programs*, March 2019.

14. ITUP, *2019 County Medically Indigent Programs.*

15. Tanya Broder, *Table: Medical Assistance Programs for Immigrants in Various States*, National Immigration Law Center, January 2018.

16. Lucia, *Toward Universal Coverage.*

Resources

National Immigration Law Center (NILC): *https://www.nilc.org*

    NILC Health Care Toolkits available at *https://healthtoolkit.nilc.org*

California Immigrant Policy Center (CIPC): *https://caimmigrant.org*

Immigrant Legal Resource Center (ILRC): *https://www.ilrc.org/community-resources*

About ITUP

ITUP
Insure the Uninsured Project

FAQ: The Trump Administration's Proposal to Lower the Federal Poverty Line

Center on Budget and Policy Priorities

What change is the Administration considering?

On May 6, the Office of Management and Budget (OMB) issued a notice requesting comments on changing the methodology for updating the federal poverty line for inflation. The notice floats the idea of updating the Census Bureau's poverty thresholds using an alternative, lower measure of inflation than the traditional Consumer Price Index (known as the CPI-U) — either the "chained" CPI or the Personal Consumption Expenditures Price Index. This would result in lower poverty thresholds, with the gap between the current and proposed methodologies increasing each year.

How would the proposal affect low- and moderate-income people?

Each year the Department of Health and Human Services (HHS) puts out *poverty guidelines,* which are the basis for program eligibility and/or benefits in many health care, nutrition, and other basic assistance programs. Because the HHS poverty guidelines are based directly on the Census Bureau's *poverty thresholds,* the proposed change would lower the income-eligibility cutoffs for all of these programs, cutting or eliminating assistance to some individuals and families.

The policy's impact would be small at first but would grow each year. For example, by the tenth year, millions of people would lose eligibility for, or receive less help from, health and nutrition programs:

- More than 250,000 seniors and people with disabilities would lose or receive less help from Medicare's Part D Low-Income Subsidy, meaning they would pay higher premiums for drug coverage and pay more out of pocket for prescription drugs.

- More than 300,000 children would lose comprehensive coverage through Medicaid or the Children's Health Insurance Program, and more than 250,000 adults would lose coverage through the Affordable Care Act's (ACA) Medicaid expansion.

- Millions of ACA marketplace consumers would receive lower premium tax credits, meaning they would pay higher premiums, and more than 150,000 would get less help with cost sharing, meaning their deductibles would increase.

- Significant numbers of low-income households, primarily in working families, would lose eligibility for federal nutrition assistance programs including SNAP (food stamps); the WIC nutrition program for low-income women, infants and children; and free school meals.

Would the change make the poverty line more accurate?

No. The Administration's claim that the alternative indices would be appropriate for adjusting the poverty line because they more accurately measure inflation has several flaws:

- The poverty line is already below what is needed to raise a family. Research has identified many ways in which it is inadequate; for example, it doesn't take into account the full costs of low-income families' basic necessities, and it largely excludes some necessities that have become more important in families' budgets in recent decades, like child care. The high rates of hardship among families with incomes just above the poverty line provide more evidence of its inadequacy. The Administration proposal, by ignoring all other issues and making a single change that would further lower the poverty line, would make the poverty line less accurate.

- Studies suggest that costs may rise more rapidly for low-income households than for the population as a whole. This means that adjusting the poverty line — meant to equal the level of income needed for families to be able to afford the basics — by a lower measure of inflation would make the poverty line more out of touch with families' true expenses each year.

What's the next step in the Administration's process?

For now, OMB is seeking comments on the possible change. *Comments are due June 21 and can be submitted here.* After that, it's not clear whether the Administration will undertake any additional process; it might just try to implement a change through OMB guidance, rather than issuing a regulation and seeking additional comments.

Trump Proposal to Lower Poverty Line Would Cut Eligibility or Benefits for Many Health, Nutrition, Other Basic Assistance Programs

Medicare prescription drug Low-Income Subsidy Program

Programs that help low-income people pay Medicare premiums

Medicaid and CHIP coverage for children and pregnant women

Medicaid coverage for adults, including ACA Medicaid expansion

Medicaid coverage for family planning services

Premium tax credits for ACA marketplace coverage

Cost-sharing assistance for ACA marketplace coverage

Supplemental Nutrition Assistance Program (SNAP)

School breakfast and school lunch programs

Head Start comprehensive early education programs for low-income children

WIC nutrition program for low-income women, infants, and young children

LIHEAP home energy assistance program for low-income households

ACA = Affordable Care Act. CHIP = Children's Health Insurance Program

Healthcare Costs Top Financial Problem for U.S. Families

BY **JEFFREY M. JONES**

STORY HIGHLIGHTS

- 17% name healthcare in response to open-ended question
- Lack of money or low wages only other issue mentioned by at least 10%
- Healthcare has been most commonly named top problem historically

WASHINGTON, D.C. -- Americans are more likely to name healthcare costs than any other issue when asked to say what is the most important financial problem facing their family. Seventeen percent name healthcare, followed by lack of money or low wages, named by 11%. A year ago, those two issues and personal debt essentially tied for first; healthcare was also the clear leader in 2017.

Most Important Family Financial Problem, 2017-2019

What is the most important financial problem facing your family today? [OPEN-ENDED]

	2017	2018
	%	%
Healthcare costs	17	12
Lack of money/Low wages	10	13
College expenses	10	8
Cost of owning/renting a home	9	7
Taxes	5	5
Too much debt/Not enough money to pay debts	11	11
High cost of living/Inflation	8	7
Retirement savings	6	5
Unemployment/Loss of job	3	5
State of the economy	1	1
Social Security	3	1
Lack of savings	2	2
Interest rates	1	*
Transportation/Commuting costs	1	1
Stock market/Investments	*	2
Controlling spending	1	*
Energy costs/Oil and gas prices	*	1
Other	4	5
None	16	14
No opinion	4	4

Percentages total more than 100% due to multiple responses; * Less than 0.5%

GALLUP

After healthcare costs and low wages, college expenses, housing costs and taxes are the problems mentioned next-most commonly in this year's survey, with 8% of Americans citing each.

The April 17-30 survey comes at a time of high economic confidence, when relatively few Americans name economic matters as the most important problem facing the country. Additionally, several different measures of Americans' personal financial situations are among the most positive Gallup has measured in years.

Consistent with their sunny financial outlook, 20% of Americans respond that they do not have a "most important financial problem." That is one of the highest percentages responding "none" in Gallup's 14-year trend on the question, surpassed only by the 21% who said so in a February 2005 poll. Still, even in these generally good economic times, the vast majority of Americans do mention some financial matter that is a major concern for their family.

Healthcare Costs Usually Near Top of the List

Gallup has asked the "most important family financial problem" question on 48 separate occasions since 2005. During that time, only three issues -- healthcare costs, energy costs/oil and gas prices and lack of money/low wages -- have topped the list in any single poll.

Healthcare costs typically vied with energy costs as the top problem before the Great Recession, largely dependent on the price of gasoline. This included a record-high 29% mentioning gas prices in July 2008, when gasoline prices averaged over $4 per gallon nationwide. But in the ensuing periods of high unemployment and a sluggish economic recovery between 2009 and 2014, lack of money or low wages was most often the No. 1 personal financial problem. Healthcare costs have ranked first in two of the past three surveys, and have been at least tied for first in each poll since 2014.

Most Frequently Mentioned Issues as Most Important Family Financial Problem, 2005-2019

■ % Healthcare costs   ■ % Lack of money/Low wages   ■ % Energy costs/Oil and gas prices

GALLUP
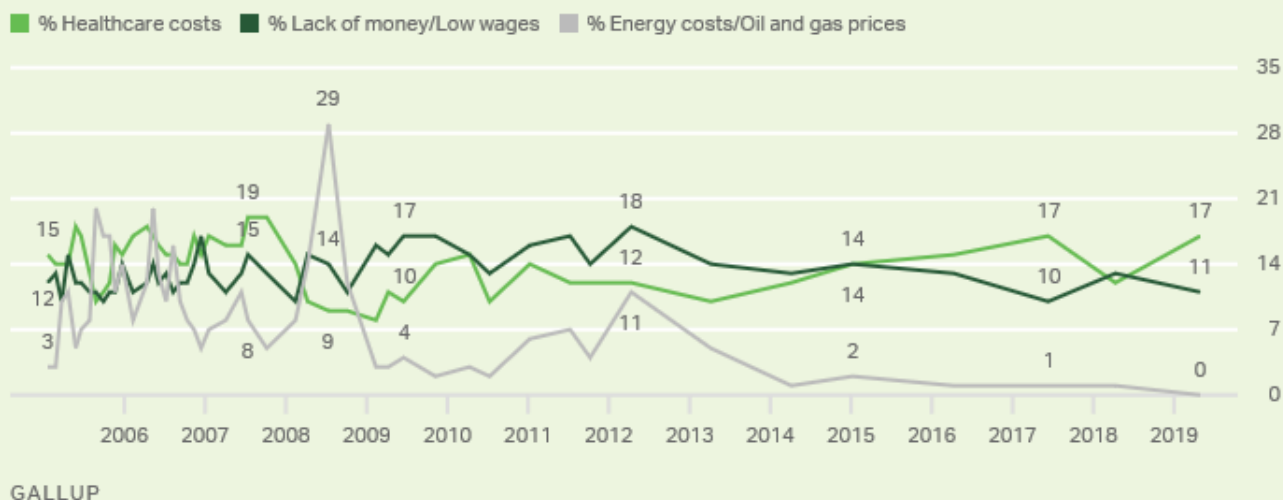
Mentions of energy costs have dwindled in recent years as gas prices have been lower, and in the current survey, no respondent cited energy costs as the most important financial problem. Since 2005, an average of 8% of U.S. adults have named energy costs. Healthcare costs (14%) and lack of money (13%) have been most frequently mentioned. Those are the highest averages for any issues and the only two above 10%.

Older Americans Especially Likely to Name Healthcare Costs as Top Problem

Healthcare is the most commonly mentioned financial challenge for key subgroups and is especially likely to be named by older Americans. Twenty-five percent of adults between the ages of 50 and 64, and 23% of those aged 65 and older, say healthcare costs are the biggest problem for their family's finances.

Healthcare ties for first among adults younger than 50, who are about as likely to name lack of money, college expenses and housing costs as their greatest financial challenges. The youngest adults -- those under age 30 -- also commonly mention debt and the high cost of living.

Retirement savings are a greater concern for those in the pre-retirement years (aged 50 to 64), but something few young adults or senior citizens view as a problem.

Most Important Financial Problem, by Age

	18-29 years old	30-49 years old	50-64 years old	65+
	%	%	%	
Healthcare costs	11	13	25	
Lack of money/Low wages	13	10	12	
College expenses	11	12	6	
Housing costs	12	11	5	
Taxes	5	8	11	
Debt	10	6	6	
High cost of living/Inflation	10	4	4	
Retirement savings	1	5	11	

GALLUP, APRIL 17-30, 2019

Americans at different income levels are about equally likely to name healthcare as the most important financial problem, with between 17% and 19% in each income group doing so. Lack of money is, not surprisingly, a much greater concern for lower-income Americans. Upper- and middle-income Americans are more inclined to cite college expenses, taxes and retirement savings as their chief financial challenges.

Most Important Financial Problem, by Annual Household Income

	Under $40,000	$40,000-$99,999	$100,000 o
	%	%	%
Healthcare costs	19	17	17
Lack of money/Low wages	16	10	6
College expenses	3	10	12
Housing costs	10	9	5
Taxes	4	10	11

GALLUP, APRIL 17-30, 2019

	Under $40,000	$40,000-$99,999	$100,000 o
	%	%	%
Debt	9	4	6
High cost of living/Inflation	8	6	4
Retirement savings	1	6	10

GALLUP, APRIL 17-30, 2019

Implications

Even in generally good economic times, Americans still face significant personal financial challenges. Foremost among these are healthcare costs, which have been a consistent concern over time but currently stand above all other concerns. As such, healthcare will likely continue to be a major focus in national elections, including the 2020 presidential election. Older Americans, who are more likely to need healthcare and who are more likely to vote than younger Americans, may pay special attention to what the candidates' plans are for addressing healthcare costs.

View complete question responses and trends.

Learn more about how the Gallup Poll Social Series works.

SURVEY METHODS

May 30, 2019

Trump Administration's Overbroad Public Charge Definition Could Deny Those Without Substantial Means a Chance to Come to or Stay in the U.S.

By Danilo Trisi

The Trump Administration's proposed public charge rule unveiled last October could result in large numbers of individuals being denied lawful permanent residence status, the ability to extend their stay, to change their status, or to enter the United States, despite extensive research on the benefits of immigration to the country and immigrants' demonstrated upward mobility.[1]

Under longstanding immigration law, certain individuals can be denied entry to the United States or permission to remain here if they are determined likely to become a "public charge," which for decades has been defined as being primarily dependent on government for monthly cash assistance or long-term institutional care. The proposed rule would significantly alter the public charge definition and, in turn, change the character of the country to one that only welcomes those who already have substantial wealth and income.

Under the proposed rule from the Department of Homeland Security (DHS), individuals who are determined likely to receive even modest assistance from a far broader set of benefits — including benefits that help many workers like SNAP (formerly known as food stamps) and Medicaid — at any point over their lifetimes would be considered a public charge. Immigration officials would look at many factors to determine the likelihood of benefit receipt, including whether the immigrant's current family income is above 125 percent of the federal poverty level.

The proposed policy is so radical and would change the public charge definition to one so broad that *more than half* of all U.S.-born citizens could be deemed a public charge — and by extension and implication, considered a drag on the United States — if this definition were applied to them. The proposed rule does not apply to U.S. citizens.[2] It is instructive, however, to consider the share of

---

[1] The full text of the administration's proposed rule can be found here: https://www.govinfo.gov/content/pkg/FR-2018-10-10/pdf/2018-21106.pdf.

[2] Lawful permanent residents are not reevaluated for public charge as part of the application process to become a U.S. citizen.

U.S.-born citizens whom the proposed rule would characterize as a public charge when considering the reasonableness of the standard.

- If one considers benefit receipt of the U.S.-born citizens over the 1997-2017 period, some 43 to 52 percent received one of the benefits included in the proposed public charge definition.

- In just a single year, 3 in 10 U.S.-born citizens receive a benefit included in the proposed public charge definition.

- If data allowed us to look at U.S.-born citizens over the course of their full lifetimes, benefit receipt would *exceed 50 percent of the population.*

- A significant share of individuals working in the United States — 16 percent — receive one of the benefits included in the proposed definition in just a single year. These are workers upon whom our economy relies.

The current definition is, by contrast, far narrower. In a single year, just 5 percent of U.S.-born citizens and 1 percent of individuals working in the United States meet the current benefit-related criteria in the public charge determination.

The proposed public charge criteria are not only broad, but would discriminate against individuals from poorer countries, regardless of their talents, because the incomes of the vast majority of people from many countries fall below the new 125 percent-of-poverty threshold included as a consideration in the public charge determination under the proposed rule. This criterion would have racially disparate impacts, as people from countries with low incomes are disproportionately people of color. This threshold would be particularly problematic for immigrants from poor countries seeking entry to the United States, even if they have some family already here, because their own income is likely to be very low compared to U.S. poverty standards. In addition, given the more complex prediction that immigration officials would have to make, their discretion, which could be influenced by implicit (or explicit) racial/ethnic bias, would likely affect the outcome for more people. This bias could lead immigration officials to keep out large numbers of people from certain countries or racial/ethnic groups, and to deny adjustment or entry to people of color at higher rates than similarly situated white individuals.

The proposed rule is a shortsighted attempt to remake the U.S. immigration system — without congressional approval — into one that welcomes only those with significant wealth. Immigrants fill important jobs and contribute to economic growth, and research has shown that immigrants raise children who demonstrate substantial upward mobility, attaining more education than their parents and moving up the economic ladder.[3] Had this rule been in effect in prior decades, the United States would have been deprived of the talents of many hardworking immigrants who moved to this country to build a better life for themselves and their children and, in turn, made important contributions to their communities and the United States as a whole.

---

[3] See, for example, David Card, "Is New Immigration Really So Bad?" National Bureau of Economic Research Working Paper 11547, Revised August 2005, https://www.nber.org/papers/w11547. For a more recent and comprehensive review of the literature, see: National Academy of Sciences, "The Economic and Fiscal Consequences of Immigration," 2017, https://www.nap.edu/read/23550/chapter/2.

The Trump Administration's proposed public charge rule has not been finalized yet, and the government is required to review and consider the evidence and views presented in the more than 266,000 public comments it received before finalizing it. Moreover, the proposed rule indicates that immigration officials will not apply the new definition of public charge until the rule becomes effective (likely 60 days after the rule is finalized). Benefits that the public charge determination previously excluded (such as Medicaid and SNAP) will be considered only if applicants receive them after the final rule becomes effective.[4] Nonetheless, many families that include immigrants already have forgone needed services due to extensive media coverage about the proposed rule and confusion caused by the Administration implementing policy changes similar to those in the rule when considering applications for entry into the United States.[5] Additional Administration actions, such as a reported forthcoming proposed rule by the Department of Justice (DOJ) on deportability, could further increase fear and confusion in immigrant communities. (See box, below, for more details on the potential DOJ rule.)

Proposed DHS Rule Significantly Expands Definition of "Public Charge"

Under federal law back to the late 1800s, immigration officials can turn down people seeking to enter the United States and/or become lawful permanent residents (also known as green card holders) if officials determine that they are, or are likely to become, a "public charge." Longstanding federal policy considers someone a public charge if they receive more than half of their income from cash assistance programs, such as Temporary Assistance for Needy Families (TANF) and Supplemental Security Income (SSI), or receive long-term care through Medicaid.

The proposed rule significantly expands the definition of public charge in two major ways. First, it broadens the list of public benefit programs considered in a public charge determination to also include health coverage through Medicaid, food assistance through SNAP (food stamps), housing assistance, and Medicare Part D low-income subsidies to help beneficiaries afford prescription drugs. Second, instead of looking at whether more than half of a person's income comes (or would likely come in the future) from cash assistance tied to need, as they do now, immigration authorities would consider whether the individual received, or is likely to receive, modest amounts of any of these benefits — even if the benefits reflect only a small share of an immigrant's total income.[6]

---

[4] For more details, see: National Immigration Law Center, "How to Talk About Public Charge with Immigrants and Their Families," updated January 2019, https://www.nilc.org/issues/economic-support/how-to-talk-about-public-charge-pif/.

[5] National Immigration Law Center, "Changes to 'Public Charge' Instructions in the U.S. State Department's Manual," updated August 7, 2018, https://www.nilc.org/wp-content/uploads/2018/02/PIF-FAM-Summary-2018.pdf. For evidence on immigrants forgoing assistance, see Hamutal Bernstein *et al.*, "One in Seven Adults in Immigrant Families Reported Avoiding Public Benefit Programs in 2018," Urban Institute, May 22, 2019, https://www.urban.org/research/publication/one-seven-adults-immigrant-families-reported-avoiding-public-benefit-programs-2018.

[6] The rule directs immigration officials to disregard projected program participation if the official believes the benefit amounts or durations would fall below thresholds established in the rule. However, those provisions would be difficult for officials to apply when they are trying to predict whether or not an individual is likely to become a public charge in the future. To apply those provisions, an immigration officer would need to calculate the amount of benefits that an individual immigrant might receive in the future which would require in-depth knowledge about program benefit rules and predictions about the income and characteristics of an immigrant's future household members. That is so difficult that as a practical matter, immigration officials will likely default to only determining whether there is a likelihood of

The proposed rule creates new criteria and standards for immigration officials to use when evaluating whether an individual is likely to become a public charge. Particularly concerning is a new income criterion that would count as a negative factor in the public charge determination. Under this "income test," having family income below 125 percent of the poverty line — currently about $31,375 for a family of four — would count against an individual in the public charge determination. Many low-wage workers have earnings below this level and could be deemed "likely to become a public charge" under the proposed rule, even if they receive no benefits. And many seeking admission to the United States from a poorer country would be unable to have current earnings (in their home country) above this level.

Department of Justice Will Likely Seek to Conform to DHS' Public Charge Definition

A recent media report indicates that the Department of Justice (DOJ) plans to propose a rule related to grounds for deporting individuals determined to have become a public charge.[a] That rule would likely conform the public charge definition for deportability purposes to the definition used in the Department of Homeland Security's rule on inadmissibility discussed in this paper. The details of the DOJ proposed rule are not known but the scope of the changes would be limited by certain statutory requirements. To be deportable as a public charge, a person would need to have received the relevant benefits within the first five years after entry based on circumstances that predated their entry. Most immigrants are not eligible for the major benefits during their first five years in the country, And, immigrants could still show that they received the benefits based on conditions that arose after entry, e.g., they lost their job, had an accident, became pregnant, or lost their housing. Still, some immigrants and their families would be affected and the publication of such a rule is certain to generate more confusion and fear in immigrant communities, and lead families to forgo assistance that they need and are eligible for.

[a] Yeganeh Torbati, "Exclusive: Trump administration proposal would make it easier to deport immigrants who use public benefits," Reuters, May 3, 2019, https://www.reuters.com/article/us-usa-immigration-benefits-exclusive/exclusive-trump-administration-proposal-would-make-it-easier-to-deport-immigrants-who-use-public-benefits-idUSKCN1S91UR.

More Than Half of U.S.-Born Citizens Likely to Participate in Programs Included in Proposed Definition During Their Lifetimes

The breadth of the rule's expansive definition of public charge is clear when one considers the share of U.S.-born citizens who would be considered a public charge if the proposed definition were applied to them. The rule, of course, applies only to individuals seeking entry or adjustment of status, but it is instructive to consider the share of U.S.-born citizens whom the proposed rule would characterize as a public charge when considering the reasonableness of the standard.

Looking at the U.S.-born citizen population in 2017 and considering benefit receipt over the 1997-2017 period, some 43 to 52 percent received one of the benefits in the public charge

---

receiving any amount of benefits. Therefore, any projected future receipt would likely result in a person being deemed "likely to become a public charge."

definition. If data allowed us to look at U.S.-born citizens over their full lifetimes, benefit receipt would exceed 50 percent of the population.

The benefits included in the proposed definition serve a far broader group of low- and moderate-income families than those served by cash assistance and institutional care programs (those considered under the current definition). Looking at just one year of program participation shows that 28 percent — nearly 3 in 10 — of U.S.-born citizens receive one of the main benefits included in the proposed definition.[7] By contrast, about 5 percent of U.S.-born citizens meet the *current* benefit-related criteria in the public charge determination.[8]

Under the rule, immigration authorities are tasked with predicting whether someone will ever, over the course of their lifetimes, receive one of the benefits included in the public charge definition. To understand the breadth of this definition, we'd ideally want to look at U.S.-born citizens over their lifetimes and measure the share who receive one of the named benefits. Unfortunately, data limitations preclude that. But we can look at the share of U.S.-born citizens who receive these benefits both in a single year using Census data and over a 19-year period using the Panel Study of Income Dynamics (PSID), a longitudinal data set.[9]

Approximately 43 to 52 percent of U.S.-born individuals present in the PSID survey in 2017 participated in either SNAP, Medicaid, TANF, SSI, or housing assistance over the 1997-2017 period.[10] If we were able to capture more years and a higher share of people's childhoods with data that are corrected for underreporting, we estimate that *more than half* of the U.S.-born population participate in SNAP, Medicaid, TANF, SSI, or housing assistance over their lifetimes.[11]

Additional PSID analyses make this clear. Benefit receipt is higher during childhood than during adulthood, so capturing childhood years increases the share receiving benefits at some point. We find that 59 percent of children born during 1999-2017 (in non-immigrant PSID households) received one of the five benefits over the period. This makes clear that a majority of U.S.-born citizens will receive one of these benefits at some point over the course of their lives.

---

[7] See methodological appendix for further details.

[8] The current definition is modeled as: Personally receiving more in TANF, SSI, and General Assistance than in earnings, or a member of a family that receives more in TANF, SSI, and General Assistance than earnings. Due to data limitations we did not include participation in institutional care programs.

[9] The PSID, conducted by the University of Michigan's Institute of Social Research, began in 1968 and follows about 5,000 families (and the families that branched off from the original survey respondents) annually.

[10] This is based on a CBPP update of an analysis done by Diana Elliott from the Urban Institute using a PSID dataset created by Sara Kimberlin from the California Budget & Policy Center and Noura Insolera from the University of Michigan's Institute of Social Research, which runs the PSID. The survey data were collected between 1999 and 2017, but the program participation questions generally ask about participation in the current and previous two calendar years. The PSID does not include data on Medicare Part D Low-Income Subsidies. We also did not include General Assistance in our PSID analysis due to concerns about the quality of the data for that variable. The inclusion of those programs would increase our estimates of the share of U.S.-born citizens who receive benefits included in the proposed rule.

[11] See methodological appendix for a detailed explanation of how we reached this estimate.

Many Workers Participate in Programs Included in Proposed Definition

Another way to examine the breadth of the rule's definition of public charge is to apply it to all individuals working in the United States, regardless of citizenship status. If all U.S. workers were subjected to a public charge determination, a significant share would be considered a public charge under the proposed rule. Looking at just one year of program participation shows that 16 percent of U.S. workers receive one of the main benefits included in the proposed definition. By contrast, just 1 percent of U.S. workers meet the *current* benefit-related criteria in the public charge determination.

The reality of the current U.S. labor market is that many workers combine earnings with government assistance to make ends meet. Table 1 shows that a significant share of workers in all major industry groups would be defined as a public charge if the definition were applied to them, despite the important role that these workers play in these industries and in the economy.

TABLE 1

Many U.S. Workers Use Benefits Considered Under Proposed Public Charge Definition

	Percent that use benefits under current definition*	Percent that use benefits under proposed definition**
All workers	1%	16%
Leisure and hospitality	1%	28%
Other services (repair and maintenance, private household workers, etc.)	1%	20%
Wholesale and retail trade	1%	20%
Agriculture, forestry, fishing and hunting	4%	19%
Construction	1%	17%
Transportation and utilities	1%	15%
Educational and health services	1%	15%
Professional and business	1%	14%
Manufacturing	0%	13%
Information (publishing, broadcasting, telecommunications, etc.)	0%	10%
Financial activities	0%	9%
Public administration	0%	8%
Mining	0%	7%

Note: Estimates are based on benefit receipt in the current year.

*Current definition is modeled as: Personally receiving more in TANF, SSI, and General Assistance than in earnings, or a member of a family that receives more in TANF, SSI, and General Assistance than earnings.

**Proposed definition is modeled as: Personally receiving any SNAP, Medicaid/Children's Health Insurance Program, housing assistance, SSI, TANF, or General Assistance.

Source: CBPP analysis of Census Bureau data from the Current Population Survey (CPS) and SPM public use files, with corrections for underreported government assistance from the Department of Health and Human Services/Urban Institute. These data are for 2016, the most recent year for which these corrections are available. Data are presented using the major industry classification recodes found in the CPS.

Income Test Likely to Keep Many out of United States

The proposed rule creates a variety of new criteria and standards for immigration officials to use when evaluating whether an individual is likely to become a public charge. Particularly concerning is a new income criterion that would be considered as a negative factor in the public charge determination. Under this "income test," having family income below 125 percent of the poverty line — about $31,375 for a family of four, which is more than twice what full-time work at the federal minimum wage pays in the United States — would count against an individual in the public charge determination.

Many low-wage U.S. workers have earnings below this level and could be deemed "likely to become a public charge" under the proposed rule, even if they receive no benefits. This test could prevent individuals with low or modest incomes from being granted status adjustment or lawful entry/re-entry to the United States.

That standard could also be out of reach for many people seeking to enter from a country where incomes in general are much lower than in the United States. The 125 percent test would disproportionately affect immigrants from poor countries (especially those who are not in families already living and working in the United States) and have a racially disparate impact on who is allowed into the United States. The World Bank provides an online data tool that allows users to estimate the percent of the population from various countries that's below different poverty thresholds.[12] To approximate 125 percent of the U.S. poverty line, one can use a $20 per-person, per-day poverty line in the World Bank online tool. According to the tool, 13 percent of the U.S. population is below the $20 per-person, per-day poverty line. (Similarly, 15 percent of the U.S. population is below 125 percent of the U.S. poverty line.)

If we apply that $20 a day threshold to the rest of the world, many individuals would fall below that threshold, including:

- 80.8 percent of the world population;
- 99.2 percent of the population of South Asia;
- 98.5 percent of the population of Sub-Saharan Africa; and
- 79.0 percent of the population of Latin America and the Caribbean.

Of course, the figures are much different in wealthy countries. In countries the World Bank defines as "high income," 14.4 percent of people in those countries would fall below the 125 percent threshold.

The map below color codes countries based on the percent of their populations with income below the $20 per-person, per-day poverty line. (These calculations use the March 2019 update of 2013 data because they are available for more countries. Currently, the World Bank tool includes 2015 data for a more limited number of countries.)

---

[12] PovcalNet: the online tool for poverty measurement developed by the Development Research Group of the World Bank: http://iresearch.worldbank.org/PovcalNet/povDuplicateWB.aspx.

FIGURE 1

Income Test in Proposed Public Charge Rule Likely to Keep Many out of United States

Percent of population with income below $20 per person per day – roughly the income that immigrants would need to avoid having immigration officials view them as likely to become a public charge
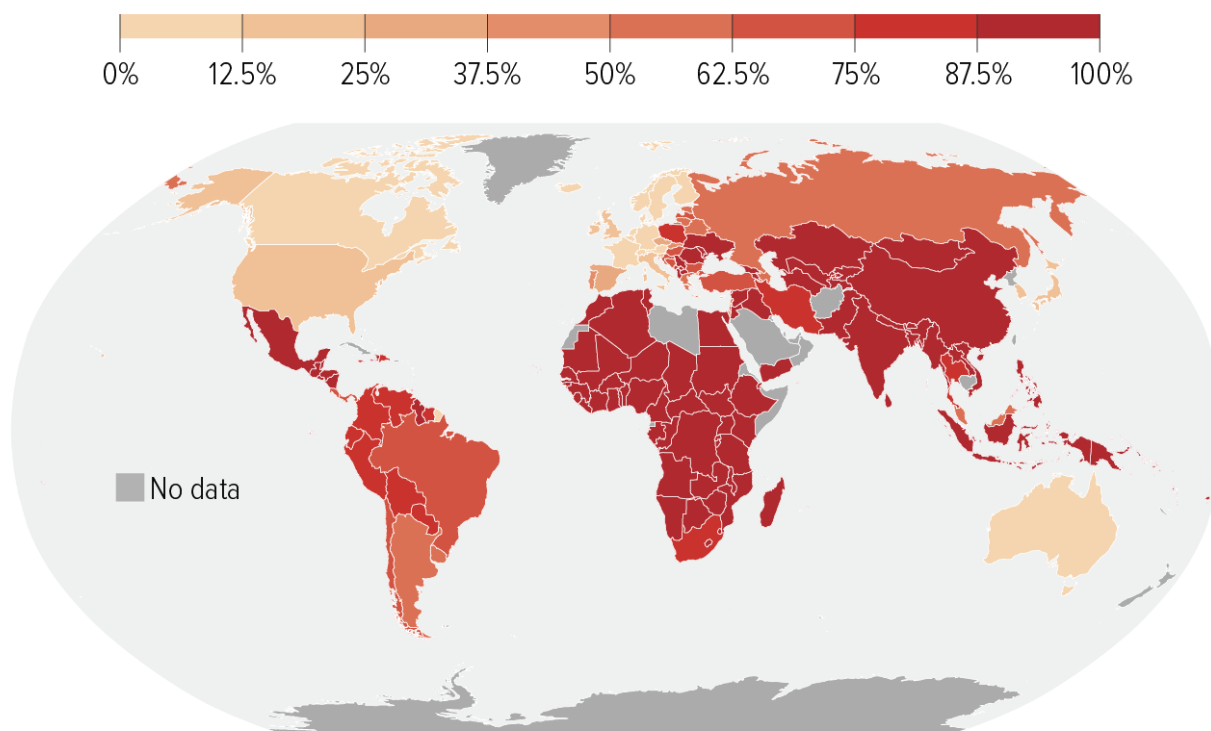
Note: This is an analysis of the income test in the Department of Homeland Security's public charge inadmissibility proposed rule.

Source: CBPP analysis of March 2019 update of World Bank PovcalNet online analysis tool using 2013 reference year and $20/day poverty line. http://iresearch.worldbank.org/PovcalNet/povDuplicateWB.aspx

These data show that the application of the 125 percent threshold to potential immigrants living abroad could have a dramatic effect on who would be allowed to come in to the United States lawfully. To be sure, many immigrants seeking to rejoin family in the United States will be joining families that also have income that can count toward this 125 percent of poverty test. The test will remain hard, however, for those joining family of modest means, because the arriving individual will have income on the wage scale of their home country.

A country's low wage rates are not determinative of a potential immigrant's core traits and skills or their ability to develop skills and succeed in the United States. Indeed, throughout our history, poor individuals have come to the United States and have achieved significant upward mobility for themselves and their children, helping to grow the nation and its middle class, its industries, and its innovation sector.

Broadened Public Charge Definition Could Lead to Racial Bias in Immigration Decisions

Broadening the definition of public charge opens the door to increased discrimination in the adjudication of adjustment and lawful entry applications based on race, ethnicity, and country of origin.

Under current policy, immigration officials are trying to answer a very narrow question: Is someone likely to become *primarily dependent* on a narrow range of benefits that only a small share of Americans receive? Individuals who are determined likely to become a public charge under the current policy can generally overcome the finding with a legally enforceable affidavit of support from a sponsor.

In contrast, under the proposed rule, immigration officials would be asked to predict whether an individual is likely to receive at some point in the future any of a much broader range of benefits that a significantly larger share of Americans receive. (It also appears likely that fewer individuals would be able to overcome a public charge determination through an affidavit of support, raising the stakes of the determination for individuals seeking entry or permission to remain in the United States.)

Given the more complex prediction that immigration officials would have to make, their discretion, which could be influenced by implicit (or explicit) racial/ethnic bias, would likely affect the outcome for more people. Some immigration officials, faced with the difficult task of predicting future benefit use, may assume that immigrants from certain countries or racial/ethnic groups will be more likely to receive benefits than similarly situated white immigrants and use that assumption to deny adjustment or entry to people of color at higher rates than their circumstances justify.

Higher rates of poverty and benefit receipt in the United States among people of color are due to (among other factors) a history of slavery and discrimination leading to a large and persistent racial wealth gap; unequal education, job, and housing opportunities; and for some recent immigrants, lower educational opportunities in their home countries. These opportunities are more plentiful in the United States, resulting in higher educational attainment among the children of lower-skilled immigrants.[13]

The rule could have a discriminatory impact and result in applicants for status adjustment or lawful entry being denied at higher rates based on their race or ethnicity, all else being equal.

Immigrants' Children Tend to Be Highly Upwardly Mobile

By using such a broad public charge definition, the proposed rule appears to presume that both immigrants themselves and by extension and implication, U.S.-born citizens who receive government assistance contribute little to the economy which, as the data above indicate, is untrue. In the case of immigrants, the proposed rule is saying that the nation would be better off without their offspring, as well. Yet when immigrants' children are considered, the economic case for this rule is even harder to support.

---

[13] See National Academy of Sciences, "The Economic and Fiscal Consequences of Immigration," 2017, Table 8-8, https://www.nap.edu/read/23550/chapter/13#425.

Studies have long found that the children of immigrants tend to attain more education, have higher earnings, and work in higher-paying occupations than their parents. Economist David Card observed in 2005 that "Even children of the least-educated immigrant origin groups have closed most of the education gap with the children of natives."[14] The National Academy of Sciences' 2015 immigration study similarly concluded that second-generation members of most contemporary immigrant groups (that is, children of foreign-born parents) meet or exceed the schooling level of the general population of later generations of native-born Americans.[15] Even for immigrants without a high school education, the overwhelming majority of their children graduate from high school. According to the National Academy of Sciences 2017 report, 36 percent of new immigrants lacked a high school education in 1994-1996; two decades later, only 8 percent of second-generation children (i.e., children of foreign-born parents) lacked a high-school education.[16]

The United States remains a country with a dynamic economy and opportunity for upward mobility, educational attainment, creativity, and entrepreneurship. Given the inevitable inaccuracies in immigration officials' predictive capabilities, removing individuals or keeping them out of the country based on an extremely broad definition of "public charge" would cost the United States many needed workers, including those who care for children and seniors and build homes as well as those who start businesses, go to college, and have children who become teachers, inventors, and business leaders. Forfeiting this talent would weaken the entire nation and our local communities.

Methodological Appendix

To calculate the percent of U.S.-born citizens that participate in a single year in programs included in the Administration's proposed rule, we used the Current Population Survey. Our calculations include SNAP, TANF, SSI, Medicaid, housing assistance, and state General Assistance programs. We corrected for underreporting of SNAP, TANF, and SSI receipt in the Census survey using the Department of Health and Human Services/Urban Institute Transfer Income Model (TRIM). The figures are for 2016, the latest year for which these corrections are available. Our estimates understate the share of U.S.-born citizens who participate in a single year in programs included in the definition because we do not correct for the underreporting of Medicaid or account for low-income subsidies in the Medicare Part D program, which are also included in the rule.

The PSID, a longitudinal dataset, shows that 24 percent of the U.S.-born population interviewed in 2017 recently participated in at least one of the five programs.[17] This estimate is lower than

---

[14] Card.

[15] National Academy of Sciences, "The Integration of Immigrants into American Society," 2015, p. 3, https://www.nap.edu/read/21746/chapter/2#3.

[16] National Academy of Sciences, "The Economic and Fiscal Consequences of Immigration," 2017, Table 8-5, https://www.nap.edu/read/23550/chapter/13#425.

[17] Throughout this PSID analysis, "U.S. born" refers to individuals in the PSID's main sample, and excludes a later, supplemental sample of immigrants added to the PSID in 1997-1999 and in 2017. The main sample actually includes a small number of immigrants, including some who were present in the United States since 1968 when the PSID began or those who joined existing PSID households in later years. PSID respondents in 2017 were asked about current receipt of

CBPP's single-year figures presented above (28 percent) because the PSID data are not corrected for survey respondents' tendency to underreport receipt of government benefits.[18]

The PSID-based figures undoubtedly would have been higher if we could have corrected for the underreporting of benefit receipt in the PSID. The CPS/TRIM-based estimate of the share of individuals who participated in one of the benefit programs in 2016 is about 1.2 times as large as the PSID-based estimate.[19] We use this adjustment factor to estimate that as many as roughly 52 percent of U.S.-born citizens participated in SNAP, Medicaid, TANF, SSI, or housing assistance in at least one year over the 1997-2017 period.[20]

But underreporting is only one reason that the 43 percent estimate described above is lower than the share of U.S.-born citizens who receive benefits in at least one year over this period and well below the figure for the share of U.S.-born citizens who receive one of these benefits at some point over their lifetimes.

In looking at benefit receipt over the 1997-2017 period, the PSID only provides data on benefit receipt for most programs every other year. The PSID dataset thus lacks any measure of participation in alternate years for some programs such as Medicaid.

More importantly, these data do not measure benefit receipt over individuals' entire lives. Using PSID data for 1997-2017 is an important improvement over using a single year of data to analyze the share of U.S.-born citizens who receive one of the benefits included in the proposed rule's public charge definition, but it still captures only a portion of most respondents' lifetimes and significantly underestimates the share of U.S.-born citizens who receive a benefit at some point during their lives. If we were able to capture more years and a higher share of people's childhoods with data that are corrected for underreporting, as described above, we estimate that more than half of the U.S.-born population participate in SNAP, Medicaid, TANF, SSI, or housing assistance over their lifetimes.

To be sure, not all citizens who participate in the programs listed in the proposed rule would technically meet the proposed definition of a public charge. The rule directs immigration officials to disregard program participation if the benefit amounts or durations fall below thresholds established

---

Medicaid and housing assistance, receipt of TANF and SSI in the past year, and receipt of SNAP last month, last year, and two years ago.

[18] Using the Current Population Survey and baseline data from the Health and Human Services/Urban Institute Transfer Income Model version 3 (TRIM3) to correct for the underreporting of TANF, SSI, and SNAP, we find that 28 percent of the U.S.-born population participated in one of the five programs in 2016. The CPS/TRIM figure would be even higher if we were able to correct for the underreporting of Medicaid.

[19] To calculate the adjustment factor of 1.2 we divide the CPS/TRIM share of U.S.-born citizens participating in 2016 (28.4 percent before rounding) by the comparable point-in-time figure from the PSID (23.6 percent). In calculating the latter figure, we include people who reported receiving SNAP during the last month, last year, or two years ago. If we only count those in the PSID who report receiving SNAP last year (as our TRIM figure does), the PSID point-in-time participation rate for the five programs would be 22.1 percent, the undercount adjustment factor would be 1.3, and our adjusted estimate of the share of U.S.-born citizens ever participating over the 1997-2017 period would be even higher at 56 percent.

[20] We estimate this upper bound by applying the annual underreporting factor (1.2) to the estimate of benefit receipt over the full period (43.4 percent).

in the rule. Due to data limitations, we cannot appropriately model all of those provisions. However, we think that those provisions would be extremely difficult for officials to apply when making a prospective determination, so any projected future receipt would likely bar an applicant from status adjustment or entry.

Finally, when the Census Bureau asks about health coverage in the Current Population Survey, it asks about Medicaid and the Children's Health Insurance Program (CHIP) together, so the data on Medicaid also include CHIP recipients. CHIP is not included among the benefits in the proposed rule, however; in many states Medicaid and CHIP programs are so closely aligned that parents wouldn't be able to tell whether their children were Medicaid or CHIP recipients, and it is unclear whether immigration officials projecting future benefit receipt would be able to distinguish either.

One in Seven Adults in Immigrant Families Reported Avoiding Public Benefit Programs in 2018

Hamutal Bernstein, Dulce Gonzalez, Michael Karpman, and Stephen Zuckerman
May 2019

Immigration policy has been at the center of public debate for many years, but the debate has intensified since the 2016 presidential election. In October 2018, after months of anticipation, the administration published a proposed rule altering "public charge" determinations that would make it harder for immigrants to get a green card (i.e., establish permanent residency). After a public comment period that closed in December, the rule is being finalized. If implemented, the rule would make it more difficult for immigrants to get green cards if they have received certain noncash public benefits or have low incomes or other characteristics considered to increase their likelihood of using benefits in the future. Beyond reducing future immigration numbers, there is widespread concern this revised public charge rule would have "chilling effects" on low-income immigrant families by discouraging them from applying for and receiving public benefits for which they are eligible, for fear of risking future green card status.[1] This chilling effect could spill over to many people, including US citizen children.

So far, evidence on this chilling effect has largely been based on anecdotal reports from service providers.[2] In this brief, we use unique data from a nationally representative, internet-based survey conducted in December 2018 to provide the first systematic evidence on the extent of chilling effects among immigrant families before release of a final public charge rule.[3] The survey included nearly 2,000 nonelderly adults who are 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 2017 American Community Survey. We provide here the first estimates of self-

reported chilling effects on participation in public benefit programs associated with the proposed public charge rule. These findings complement projections that other researchers have developed to model expected chilling that will follow a final rule (Artiga, Damico, and Garfield et al. 2018; Artiga, Garfield, and Damico 2018; Batalova, Fix, and Greenberg 2018; Fiscal Policy Institute 2018; Kenney, Haley, and Wang 2018; Laird et al. 2019; Zallman and Finnegan 2018).[4]

We find the following:

- About one in seven adults in immigrant families (13.7 percent) reported "chilling effects," in which the respondent or a family member did not participate in a noncash government benefit program in 2018 for fear of risking future green card status. This figure was even higher, 20.7 percent, among adults in low-income immigrant families.

- Though the proposed rule would only directly affect adults who do not yet have a green card (i.e., lawful permanent residence), we observed chilling effects in families with various mixes of immigration and citizenship statuses, including 14.7 percent of adults in families where all noncitizen members had green cards and 9.3 percent of those in families where all foreign-born members were naturalized citizens.

- Hispanic adults in immigrant families were more than twice as likely (20.6 percent) as non-Hispanic white and non-Hispanic nonwhite adults in immigrant families (8.5 percent and 6.0 percent, respectively) to report chilling effects in their families.

- Though the proposed rule would only directly apply to adults, many households with children experienced chilling effects. Adults in immigrant families living with children under age 19 were more likely to report chilling effects (17.4 percent) than adults without children in the household (8.9 percent).

- Most adults in immigrant families reported awareness of the public charge rule (62.9 percent). Adults who had heard "a lot" about the proposed rule were the most likely to report chilling effects in their families (31.1 percent).

Background on Public Charge

The administration has advanced sweeping changes to federal immigration policy, including heightened immigration enforcement, termination of temporary protections against deportation, and cuts to refugee and asylee admissions. In 2018, the administration also proposed expanding the criteria used in "public charge" determinations, in which immigration officials may deny applications for permanent residency (green cards) or temporary visas to immigrants who are deemed "likely to become a public charge."[5]

The new approach would make it more difficult for immigrants to get green cards or temporary visas if they received or are deemed likely to receive cash and noncash public benefits. Departing from past practice where only primary reliance on cash benefits or long-term medical institutionalization were considered in public charge determinations, under the proposed rule, officials would consider an

applicant's use of either cash or noncash benefits as "negative factors," as well as several personal characteristics, including income level, age, English proficiency, educational attainment, employment status, family size, health status, credit score, and other financial resources. The proposed rule, posted for public comment in October 2018, expanded the list of benefits to be considered in future public charge determinations to include the Supplementary Nutrition Assistance Program (SNAP, formerly known as food stamps), Medicaid, Section 8 housing assistance, public housing, and subsidies for drug benefits under Medicare Part D.

The proposed rule would affect applicants adjusting from another immigration status who already live in the US and people applying from abroad through family sponsorship or other pathways (Capps et al. 2018). The rule specifically excludes certain groups, such as refugees and other humanitarian entrants, and clarifies that benefits received by eligible children will not be considered in adults' future immigration applications. However, there remains confusion about when and how the final rule will be implemented and what aspects of the proposed rule will carry over to the final version. In the meantime, a parallel change to the public charge test in the Foreign Affairs Manual, used by consular officials considering visa applications filed abroad, was implemented in January 2018, and recent data show that admissions decisions have already been affected; refusals of applications on public charge grounds quadrupled to 13,500 during the 2018 fiscal year.[6] News outlets have also recently reported that the Department of Justice is preparing to publish a rule on deporting green card holders on public charge grounds.[7]

The proposed rule could have pervasive effects for immigrant families, given the complicated nature of the regulation and widespread uncertainty about how or when it will go into effect. Already many immigrant families are reportedly avoiding interaction with public authorities and dropping out of or being reluctant to enroll themselves or their children in critical safety net programs like Medicaid and the Children's Health Insurance Program (CHIP), SNAP, or the Special Supplemental Nutrition Program for Women, Infants, and Children, even though the latter is not on the list of benefits in the proposed rule.[8] Immigrant-serving organizations are reporting heightened reluctance and fear in immigrant communities to receive public benefits for which adults and children are eligible, including programs that would not be considered in public charge determinations (Greenberg, Feierstine, and Voltolini 2019). There is also evidence of far-reaching fear and insecurity among immigrant families in the context of the administration's immigration policy changes and rhetoric; for example, psychological effects are widespread not only for undocumented people or temporary visa holders but among naturalized US citizens (Cervantes, Ullrich, and Matthews 2018; Roche et al. 2018).

Though these reports help clarify the impact of the broader immigration climate, there is no information yet on systematic changes to participation in safety net programs among immigrant families in the context of the debate around the proposed public charge rule. This brief provides new insight into the extent to which immigrant families avoided participating in these programs because of concerns about future green card status in 2018, as this proposed rule was debated. This includes both people who would be directly affected by the rule and have not yet applied for a green card and would receive

the revised public charge test in the future, as well as others who perceive potential risk despite the rule not directly applying to them.

Data and Methods

Data and Sample

We draw on data from the December 2018 round of the Well-Being and Basic Needs Survey (WBNS), a nationally representative 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 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.[9] In December 2018, the survey also included an oversample of noncitizens to support analyses of current policy issues affecting immigrant families. The panel includes only respondents who can complete surveys that are administered in English or Spanish, and adults without internet access are provided laptops and free internet access to facilitate participation.

To assess chilling effects and other immigration policy issues, we constructed a set of weights for analysis of the 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 who are English proficient or primarily speak Spanish.[10] 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 final analytic sample consists of 1,950 adults in immigrant families. When assessing the types of programs for which respondents reported chilling, we limit the sample to the 314 adults in immigrant families who reported any chilling effect on participation in public programs.

Measures

SELF-REPORTED CHILLING EFFECTS WITHIN A FAMILY

Our main outcome is self-reported chilling effects on participation in public programs *within a family*. We define these chilling effects as either not applying for or stopping participation in a noncash government benefit program, such as Medicaid/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.[11] For this measure, a respondent could have defined family as both their immediate family and other relatives who may be living with them or in another household; we have learned from some initial qualitative follow-up work that some respondents took into account family members living in other households when they reported chilling effects. Respondents may also have reported chilling for a program for which they themselves may not have been eligible. For instance,

some parents may have 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.

To assess awareness of the proposed public charge rule published in October 2018, we asked respondents to report how familiar they were with a proposed rule that would make it harder for immigrants to enter the United States or become permanent residents of the US if they have low incomes or use public benefits such as Medicaid, SNAP, or housing subsidies. Respondents could make one selection from the options "a lot," "some," "only a little," or "nothing at all."[12]

Limitations

One limitation of the WBNS is its low response rate, which is comparable to other panel surveys that account 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 error associated with sample coverage and nonresponse, and this is likely to be larger 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 that our analytic sample of 1,950 adults in immigrant families has precision comparable to a simple random sample of approximately 800 adults, increasing the sampling error around our estimates. We only report differences across subgroups of adults in immigrant families that are statistically significant at the 0.05 level or lower.

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 2017 American Community Survey, 5 percent of this group speaks English less than "well"[13] 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 2012). It is also possible that respondents conflated awareness of the public charge rule with overall awareness of an increasingly hostile political climate toward immigrants, which may have resulted in overreported awareness of the proposed public charge rule. Moreover, follow-up qualitative interviews with respondents for a related project suggested that some respondents did not understand the distinction between two separate survey items: "not applying for a program" versus "stopping participating in a program." Consequently, we have opted to combine

responses to report on the questions in combination: either not applying for or dropping out of a noncash assistance program.

Analysis

We assess chilling effects within a family, overall and by the following characteristics: annual family income as a percentage of the 2018 federal poverty level, citizenship and immigration status of family members living in the household, race and ethnicity of the respondent, presence of children under age 19 in the household, and respondents' awareness of the proposed public charge rule. We impute missing responses for family income, marital status, and number of children in the household using a multiple-imputation regression approach. 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. All estimates are weighted to be representative of the national population of nonelderly adults in immigrant families (as described above) and account for the complex survey design.

Findings

About one in seven adults in immigrant families (13.7 percent) reported "chilling effects," in which the respondent or a family member did not participate in a noncash government benefit program in 2018 for fear of risking future green card status. This figure was even higher, 20.7 percent, among adults in low-income immigrant families.

Adults in immigrant families across the income distribution reported chilling effects on their participation in noncash public benefit programs for fear of disqualification from obtaining a green card. Overall, one in seven (13.7 percent) reported chilling effects in his or her family (figure 1). Among adults in low-income immigrant families (i.e., those with family incomes below 200 percent of the federal poverty level), over one in five (20.7 percent) reported chilling, compared with 8.6 percent of adults in immigrant families with higher incomes.

Share of Adults in Immigrant Families That Avoided Noncash Public Benefits in the Past Year Because of Green Card Concerns, Overall and by Family Income, December 2018

By family income
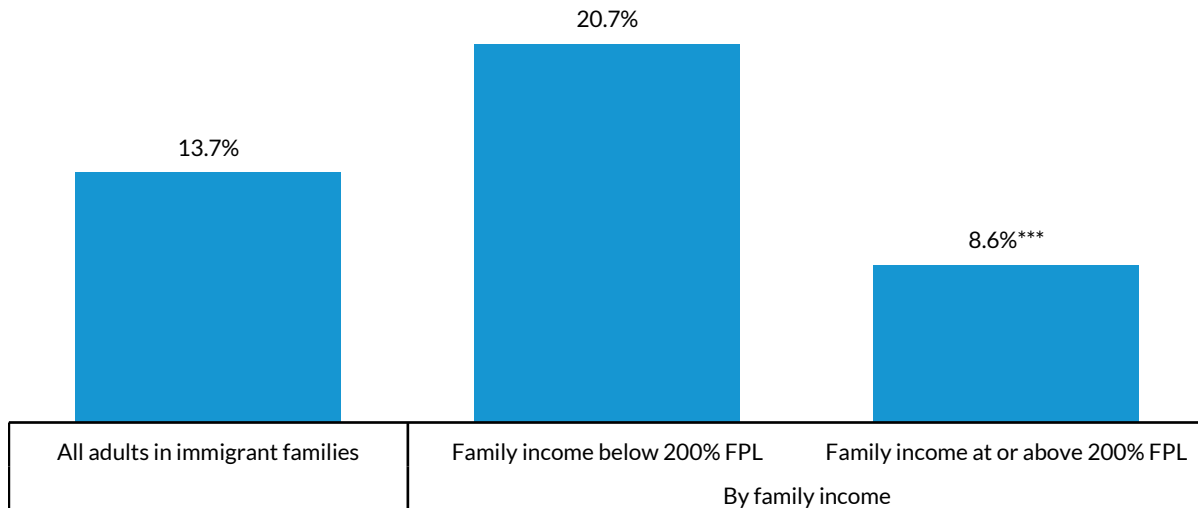
Source: Well-Being and Basic Needs Survey, December 2018.
Notes: FPL = federal poverty level. Adults are ages 18 to 64. Respondents reported that either they or someone in their family did not apply for *or* stopped participating in noncash public benefits because they worried it would disqualify them or a family member from obtaining a green card.
*** Estimate differs significantly from adults in immigrant families with family incomes below 200 percent of FPL at the 0.01 level, using two-tailed tests.

Among adults in immigrant families reporting any chilling effects, nearly half (46.0 percent) reported that someone in their family did not apply for or stopped participating in SNAP, making it the most common program for which chilling was reported among the programs assessed in this survey (figure 2). Medicaid or CHIP was second, with a share of 42.0 percent among adults in immigrant families who reported chilling. One in three (33.4 percent) adults reporting chilling within his or her family reported not applying for or stopping participation in housing subsidies. A smaller share of adults in immigrant families (8.6 percent) experiencing chilling reported stopping participation or not applying for other programs, offering responses such as federal Marketplace subsidies for health insurance and energy bill assistance programs (data not shown).

One in six (16.7 percent) adults who reported chilling effects indicated that the implicated program was specifically Medicaid or CHIP benefits for a child in their family (data not shown). Though this detail is not available for the other noncash programs, we know that SNAP and housing subsidies affect the entire household, and we found chilling effects disproportionately among households with children.

FIGURE 2

Share of Adults in Immigrant Families in Which Someone Did Not Participate in SNAP, Medicaid/CHIP, or Housing Subsidies, among Those That Avoided Noncash Public Benefits in the Past Year Because of Green Card Concerns, December 2018
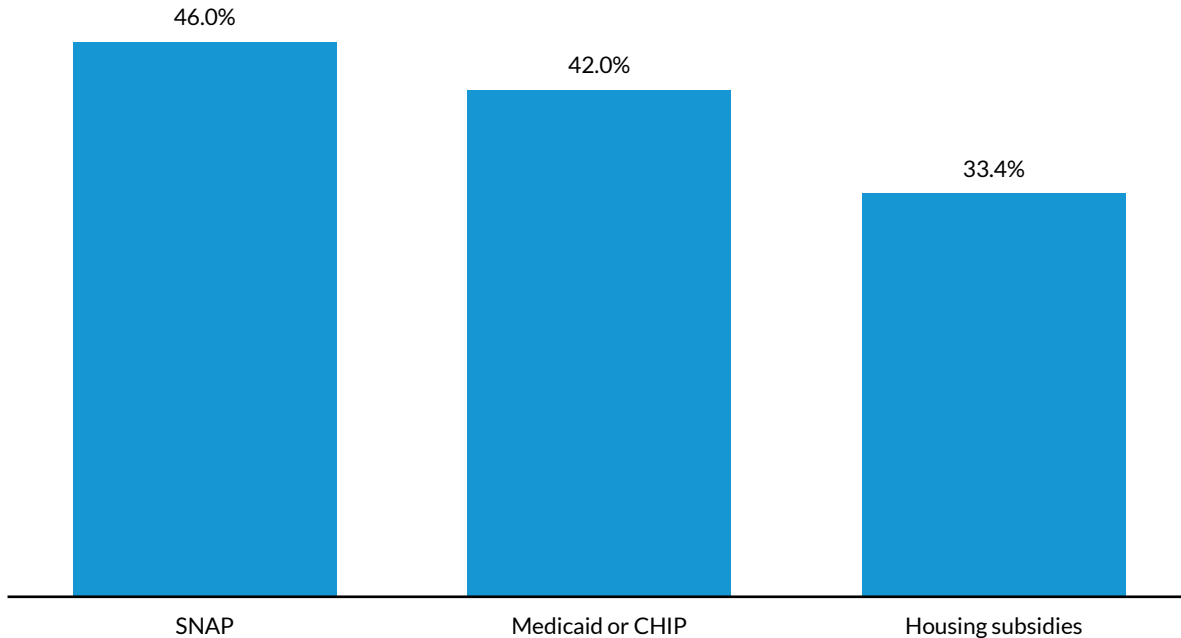
URBAN **INSTITUTE**

Source: Well-Being and Basic Needs Survey, December 2018.
Notes: SNAP = Supplemental Nutrition Assistance Program. CHIP = Children's Health Insurance Program. Adults are ages 18 to 64. Because respondents could report multiple programs, the program categories displayed are not mutually exclusive. Respondents reported that either they or someone in their family did not apply for *or* stopped participating in noncash public benefits because they worried it would disqualify them or a family member from obtaining a green card.

Though the proposed rule would only directly affect adults who do not yet have a green card (i.e., lawful permanent residence), we observed chilling effects in families with various mixes of immigration and citizenship statuses, including 14.7 percent of adults in families where all noncitizen members had green cards and 9.3 percent of those in families where all foreign-born members were naturalized citizens.

Immigrant families often include a wide range of citizenship and immigration statuses, including US-born citizens, naturalized US citizens, green card holders, and foreign-born people without permanent residence. Among households where one or more noncitizen family members was not a permanent resident, 20.4 percent of adults reported chilling effects (figure 3). The share was slightly lower but still substantial (14.7 percent) for respondents in households where all noncitizen relatives were permanent residents.

Some respondents living in what should be the least vulnerable households, in which all foreign-born family members are naturalized US citizens, also seem to be affected, with 9.3 percent of these adults reporting chilling effects within their family in the previous year. This suggests spillover effects

on people who will not be subject to future public charge determinations but may be confused about the rule and who it applies to, or fear it could impair their ability to sponsor other family members for green cards.

Share of Adults in Immigrant Families That Avoided Noncash Public Benefits in the Past Year Because of Green Card Concerns, by Household Citizenship and Immigration Status, December 2018
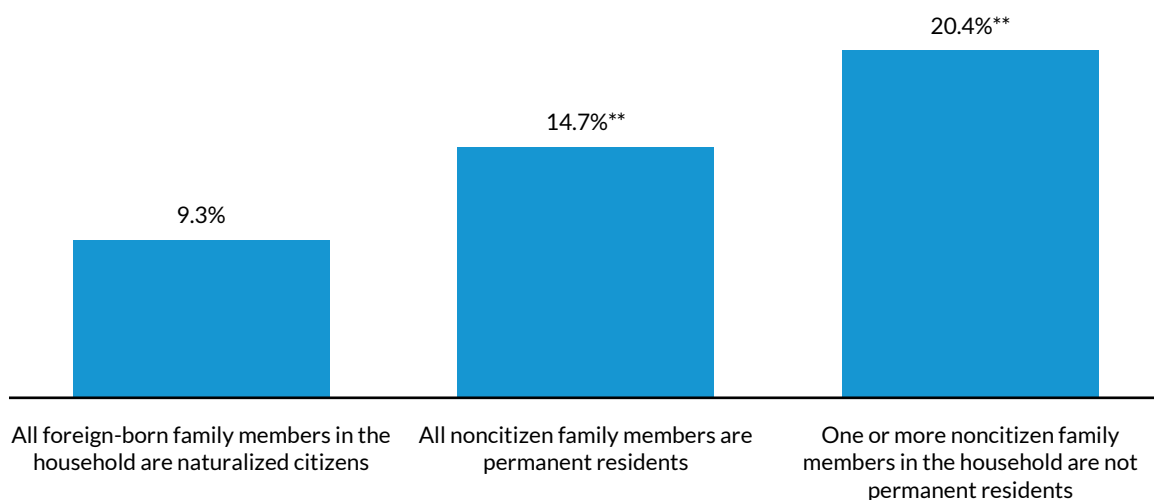
9.3%	14.7%**	20.4%**
All foreign-born family members in the household are naturalized citizens	All noncitizen family members are permanent residents	One or more noncitizen family members in the household are not permanent residents

URBAN **INSTITUTE**

Source: Well-Being and Basic Needs Survey, December 2018.
Notes: Adults are ages 18 to 64. Categories are constructed around the citizenship and immigration status of the foreign-born family members in the household, but each group may contain US-born family members (including the respondent). Respondents reported that either they or someone in their family did not apply for *or* stopped participating in noncash public benefits because they worried it would disqualify them or a family member from obtaining a green card.
** Estimate differs significantly from adults in households where all foreign-born family members are naturalized citizens at the 0.05 level, using two-tailed tests.

Hispanic adults in immigrant families were more than twice as likely (20.6 percent) as non-Hispanic white and non-Hispanic nonwhite adults in immigrant families (8.5 percent and 6.0 percent, respectively) to report chilling effects in their families.

About 1 in 5 Hispanic adults in immigrant families (20.6 percent) reported chilling effects within his or her family, compared with fewer than 1 in 10 non-Hispanic white adults in immigrant families (8.5 percent; figure 4). Hispanic adults also reported chilling effects at a higher rate than non-Hispanic nonwhite respondents, of whom only 6.0 percent reported that they or a family member experienced chilling effects on their use of noncash public benefits because of concern over future green card status.

However, we may underestimate reported chilling effects among non-Hispanic nonwhite adults because WBNS respondents do not include adults who do not speak Spanish or English well enough to

complete the survey. This means we cannot observe chilling effects that may have occurred within this group.

Share of Adults in Immigrant Families That Avoided Noncash Public Benefits in the Past Year Because of to Green Card Concerns, by Race and Ethnicity, December 2018
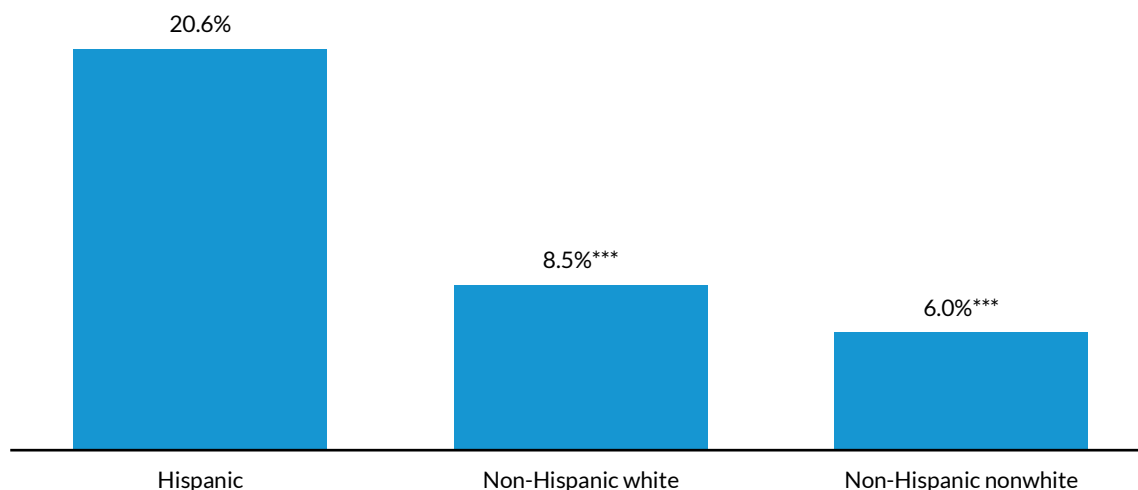
Source: Well-Being and Basic Needs Survey, December 2018.
Notes: Adults are ages 18 to 64. The non-Hispanic nonwhite category includes non-Hispanic respondents who either do not identify as white or identify as more than one race. Respondents reported that either they or someone in their family did not apply for *or* stopped participating in noncash public benefits because they worried it would disqualify them or a family member from obtaining a green card.
*** Estimate differs significantly from Hispanic adults at the 0.01 level, using two-tailed tests.

Though the proposed rule would only directly apply to adults, many households with children experienced chilling effects. Adults in immigrant families living with children under age 19 were more likely to report chilling effects than adults without children in the household.

As shown in figure 5, about one in six (17.4 percent) adults in immigrant families living with children under age 19 reported chilling effects within his or her family, a share about twice as high as that of adults without children in the household (8.9 percent).[14]

FIGURE 5

Share of Adults in Immigrant Families That Avoided Noncash Public Benefits in the Past Year Because of Green Card Concerns, by Presence of Children in the Household, December 2018
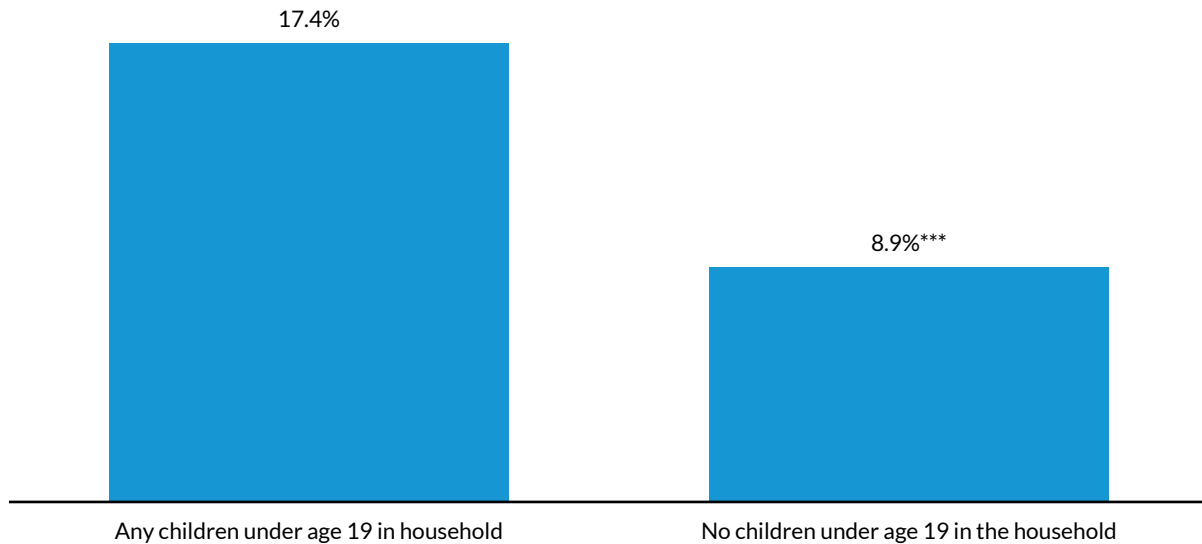
Any children under age 19 in household	No children under age 19 in the household
17.4%	8.9%***

Source: Well-Being and Basic Needs Survey, December 2018.
Notes: Adults are ages 18 to 64. Respondents reported that either they or someone in their family did not apply for *or* stopped participating in noncash public benefits because they worried it would disqualify them or a family member from obtaining a green card.
*** Estimate differs significantly from adults with any children under age 19 in the household at the 0.01 level, using two-tailed tests.

Most adults in immigrant families reported awareness of the public charge rule (62.9 percent). Adults who had heard "a lot" about the proposed rule were the most likely to report chilling effects in their families (31.1 percent).

Most adults in immigrant families reported awareness of the public charge rule, with 62.9 percent having heard at least "a little" about the rule (data not shown). Adults reporting greater awareness of the proposed rule were about five times more likely to report chilling effects on family members' use of public benefits than adults reporting no awareness. Among the adults in immigrant families who had heard a lot about the proposed rule, nearly one-third (31.1 percent) reported chilling, compared with only 6.2 percent among those who had heard nothing at all about the proposed policy. This suggests that more publicity about the rule when it becomes final could further increase chilling effects and avoidance of public benefits by immigrant families, including those not directly affected by the rule.

FIGURE 6

Share of Adults in Immigrant Families That Avoided Noncash Public Benefits in the Past Year Because of Green Card Concerns, by Awareness of the 2018 Proposed Public Charge Rule, December 2018
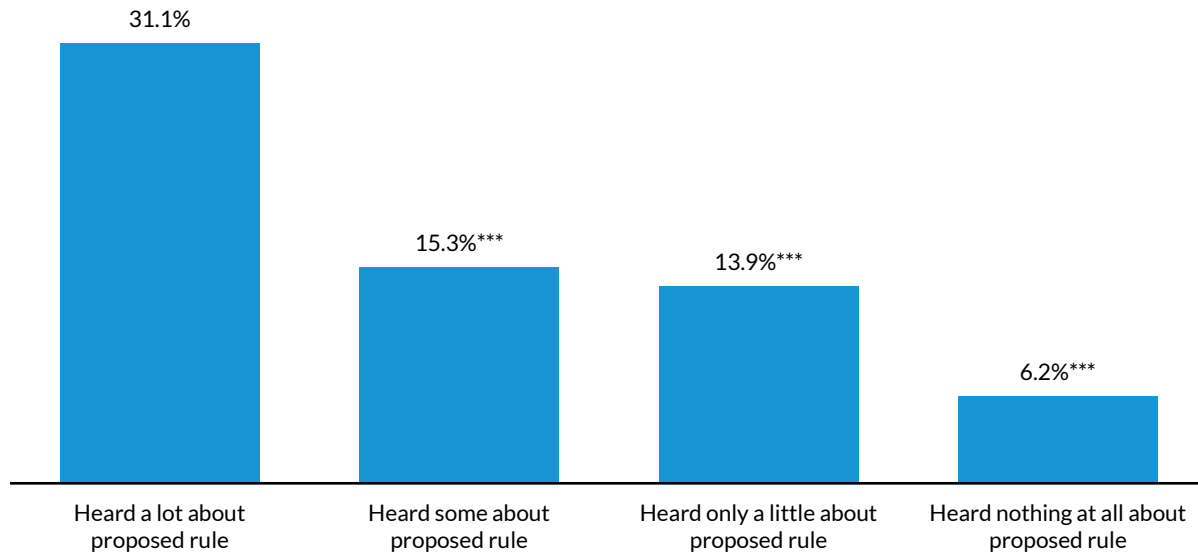
Source: Well-Being and Basic Needs Survey, December 2018.
Notes: Adults are ages 18 to 64. Respondents reported that either they or someone in their family did not apply for *or* stopped participating in noncash public benefits because they worried it would disqualify them or a family member from obtaining a green card.
*** Estimate differs significantly from adults who heard "a lot" about the proposed rule at the 0.01 level, using two-tailed tests.

Discussion

This report provides the first national data on the scope of chilling effects related to the public charge policy debate in 2018, as the proposed rule was being developed, published, and commented on. The data were collected before the rule was finalized, and it is reasonable to expect that chilling effects will likely expand further if the rule is implemented. It is notable that even these early results show strong evidence of chilling effects, aligning with the on-the-ground perspectives reported by organizations working with immigrant families across the country (Greenberg, Feierstine, and Voltolini 2019) and new state-level data documenting increased reluctance to engage safety net resources (O'Rourke 2019). We find that one in seven nonelderly adults in immigrant families reported "chilling effects," in which the respondent or a family member did not participate in one or more noncash government benefit programs in 2018 for fear of risking future green card status. These decisions were more common among families most in need of safety net support, with one in five adults with family incomes below 200 percent of the federal poverty level reporting chilling effects. Though most research projections of potential chilling have assumed several scenarios, with drops in program participation of 15, 25, or 35 percent, those estimates project chilling rates after implementation of a final rule (Artiga, Damico, and

Garfield 2018; Artiga, Garfield, and Damico 2018; Batalova, Fix, and Greenberg 2018; Fiscal Policy Institute 2018; Kenney, Haley, and Wang 2018; Laird et al. 2019; Zallman and Finnegan 2018).[15] The evidence we collected showing high chilling rates even before release of the final rule suggests that rates could be even larger following implementation.[16]

The confusion and fear around when and how the proposed public charge rule could be finalized and who it would affect appear to be leading to spillover, extending beyond people directly affected by the rule, who have not yet applied for green cards and will receive the revised public charge test when they do. Immigrant households often include people with a variety of immigration, residency, and citizenship statuses, and the survey results show chilling effects in families including US-born citizens, naturalized US citizens, green card holders, and people who lack permanent residence.[17] Though chilling effects were highest in families where one or more noncitizen family members were not permanent residents (20.4 percent), rates were also high in less vulnerable families: 14.7 percent in families where all noncitizen members had green cards and 9.3 percent where all foreign-born members were naturalized citizens. Many people live in households with complex combinations of status and belong to family networks extending across households. These family interconnections are critical for understanding the impacts of the revised public charge rule and other restrictive immigration policy measures on the well-being of families across the US.

In December 2018, most adults in immigrant families reported awareness of the public charge rule (62.9 percent). And the survey results show that people with greater awareness were more likely to report chilling effects, reflecting the fear and confusion around the rule that advocates and service providers have observed. Reports from the field suggest widespread confusion about actual details of the rule (Greenberg, Feierstine, and Voltolini 2019). Under the previous public charge regulations, service providers could convey a clear message, because all noncash benefits were excluded from consideration in public charge determinations. The proposed regulation poses new challenges of understanding and communication, both for the public and legal and other service providers.

Providing families accurate information and guidance as the debate on the proposed public charge rule continues could help mitigate further chilling effects. Investing in educating service providers who may interact with immigrant families could also combat misconceptions and ensure families receive the information they need to make informed choices on their and their children's behalves. This applies to government social services staff and practitioners in community-based organizations, as well as to staff at schools and early childhood education providers, faith leaders, employers, and other sites where families who are afraid of interacting with government authorities may be reached. Initiatives to support advocacy efforts and educate providers face the challenge of accessing vulnerable and hard-to-reach families on a national scale. Education through innovative channels, such as social media, faith-based institutions, and schools, may help reach scale.

Though these survey results provide new insight into the potential scope of chilling effects under the proposed public charge rule, a forthcoming brief drawing on interviews with adults in families that experienced chilling will provide additional qualitative information on the mechanisms and context in which these decisions were made. In addition, such self-reported evidence of chilling should be verified

in administrative data sources, if possible. Local and state government agencies could shed light on changing program participation numbers by examining their own data. Community-based organizations encountering immigrant families could also monitor family experiences. This real-time evidence on the impacts of anticipated and implemented policy changes on the ground is critical to inform policymakers and practitioners developing effective strategies to reduce harm.

Losing access to programs can affect not only adults but children in the household, many of whom are US citizens. Discouraging families from using benefits for which they are eligible will likely increase the risk of material hardship, which can have negative long-term effects on health and well-being, particularly among children.

Our evidence suggests that even without a final rule, chilling effects have already occurred, both in families who would be directly affected by the revised rule and in spillover to immigrant families more broadly. Potential consequences for health and well-being will be important to monitor. Educating service providers and immigrant families is one key strategy to combat misinformation and mitigate harm.

Notes

[1] Hamutal Bernstein and Archana Pyati, "Expanding the 'Public Charge' Rule Jeopardizes the Well-Being of Immigrants and Citizens," *Urban Wire* (blog), Urban Institute, October 3, 2018, https://www.urban.org/urban-wire/expanding-public-charge-rule-jeopardizes-well-being-immigrants-and-citizens.

[2] Emily Baumgaertner, "Spooked by Trump Proposals, Immigrants Abandon Public Nutrition Services," *New York Times*, March 6, 2018, https://www.nytimes.com/2018/03/06/us/politics/trump-immigrants-public-nutrition-services.html; Caitlin Dewey, "Immigrants Are Going Hungry So Trump Won't Deport Them," *Washington Post*, March 16, 2017, https://www.washingtonpost.com/news/wonk/wp/2017/03/16/immigrants-are-now-canceling-their-food-stamps-for-fear-that-trump-will-deport-them/?utm_term=.6cc2529d5e00; Helena Bottemiller Evich, "Immigrants, Fearing Trump Crackdown, Drop out of Nutrition Programs," *Politico*, September 3, 2018, https://www.politico.com/story/2018/09/03/immigrants-nutrition-food-trump-crackdown-806292. One exception is recent research by Children's Health Watch (Bovell-Ammon et al. 2018), which collects data in emergency rooms and primary care clinics in Baltimore, Boston, Little Rock, Minneapolis, and Philadelphia. Their data collection showed reported SNAP receipt declined in the first half of 2018 for immigrant families, especially among recent arrivals. They note limitations in sample size, however, and given the time frame of the drop, from 2017 to the first half of 2018, the connection to the public charge debate is unclear. Some state-level data have also suggested drops in participation or increased reluctance to engage in safety net resources (O'Rourke 2019).

[3] In forthcoming work, we will analyze results from complementary qualitative data collection through semistructured interviews with a portion of survey respondents who reported chilling effects.

[4] "Potential Effects of Public Charge Changes on California Children," The Children's Partnership and KidsData.org, accessed May 15, 2019, https://www.childrenspartnership.org/wp-content/uploads/2018/11/Potential-Effects-of-Public-Charge-Changes-on-California-Children-Brief.pdf; "Public Charge Proposed Rule: Potentially Chilled Population Data Dashboard," Manatt, October 11, 2018, https://www.manatt.com/Insights/Articles/2018/Public-Charge-Rule-Potentially-Chilled-Population.

[5] Inadmissibility on Public Charge Grounds, 83 Fed. Reg. 51114 (Oct. 10, 2018).

[6] Yeganeh Torbati and Kristina Cooke, "Denials of US Immigrant Visas Skyrocket after Little-Heralded Rule Change," *Reuters*, April 15, 2019, https://www.reuters.com/article/us-usa-immigration-visas-insight-idUSKCN1RR0UX.

[7] Yeganeh Torbati, "Exclusive: Trump Administration Proposal Would Make It Easier to Deport Immigrants Who Use Public Benefits," *Reuters*, May 3, 2019, https://www.reuters.com/article/us-usa-immigration-benefits-exclusive/exclusive-trump-administration-proposal-would-make-it-easier-to-deport-immigrants-who-use-public-benefits-idUSKCN1S91UR.

[8] Emily Baumgaertner, "Spooked by Trump Proposals, Immigrants Abandon Public Nutrition Services," *New York Times*; Caitlin Dewey, "Immigrants Are Going Hungry So Trump Won't Deport Them," *Washington Post*; Helena Bottemiller Evich, "Immigrants, Fearing Trump Crackdown, Drop out of Nutrition Programs," *Politico*; 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.

[9] For additional information on the survey design and weighting in the WBNS, see Karpman, Zuckerman, and Gonzalez (2018).

[10] 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 "other race" respondents by two categories: (1) other race born in Asia and (2) multiple races or other race not born in Asia.

[11] We draw on measures developed by researchers at the University of California, Los Angeles, for an immigrant follow-up survey to the California Health Interview Survey.

The exact wording of the two questions on chilling effects in the WBNS were as follows:

Question A: *Was there a time in the past 12 months when you or someone in your family **decided not to apply** for one or more non-cash government benefits, such as Medicaid or CHIP, SNAP (formerly known as food stamps), or housing subsidies, because you were worried it would disqualify you or a family member or relative from obtaining a green card*? [Response options: *yes/no*]

Question A1: *Which benefits did you or someone in your family decide not to apply for because you were worried it would disqualify you or a family member or relative from obtaining a green card? Check all that apply.* [Response options: *Medicaid or CHIP; SNAP (formerly known as food stamps); Housing subsidies; Other (please specify)*]

Question A2: *Did you decide not to apply for Medicaid or CHIP for **your children** because you were worried it would disqualify you or a family member or relative from obtaining a green card?* [Response options: *yes/no*]

Question B: *Was there a time in the past 12 months when you or someone in your family **stopped participating** in any non-cash government benefits, such as Medicaid or CHIP, SNAP (formerly known as food stamps), or housing subsidies, because you were worried it would disqualify you or a family member or relative from obtaining a green card*? [Response options: *yes/no*]

Question B1: *Which benefits did you or someone in your family stop participating in because you were worried it would disqualify you or a family member or relative from obtaining a green card? Check all that apply.* [Response options: *Medicaid or CHIP; SNAP (formerly known as food stamps); Housing subsidies; Other (please specify)*]

Question B2: *Did **your children** stop participating in Medicaid or CHIP because you were worried it would disqualify you or a family member or relative from obtaining a green card?* [Response options: *yes/no*]

[12] The exact wording for the question on awareness of the proposed public charge rule in the WBNS was as follows:

A proposed rule would make it harder for immigrants to enter the United States or become permanent residents of the United States if they have low income or use public benefits such as Medicaid, the Supplemental Nutrition Assistance Program (SNAP, formerly known as food stamps), or housing subsidies. How much have you heard about this proposed rule? [Response options: *a lot, some, only a little, nothing at all*]

This question was asked later in the survey than the questions on chilling effects.

[13] See endnote 10 for a definition of English proficiency.

[14] Though our analysis did not consider the eligibility of individuals or family members for different public programs, we know that in general, adults living in families with children are more likely to have a family member who is eligible for a public program, which increases their exposure to potential chilling effects relative to adults who do not live with children.

[15] "Potential Effects of Public Charge Changes on California Children," The Children's Partnership and KidsData.org; "Public Charge Proposed Rule: Potentially Chilled Population Data Dashboard," Manatt.

[16] Those estimates drew on lessons from the 1996 Personal Responsibility and Work Authorization Act, which eliminated access to federal assistance for most immigrants during their first five years of residence (Fix and Passel 2002).

[17] In fact, amongst survey respondents, one in five respondents lived in a household where one or more noncitizen family members were not permanent residents (22.9 percent), one in three (33.8 percent) lived in households where all noncitizen family members were permanent residents, and around 43 percent lived with all naturalized US citizen, foreign-born relatives.

References

Artiga, Samantha, Anthony Damico, and Rachel Garfield. 2018. "Potential Effects of Public Charge Changes on Health Coverage for Citizen Children." San Francisco: Henry J. Kaiser Family Foundation.

Artiga, Samantha, Rachel Garfield, and Anthony Damico. 2018. "Estimated Impacts of the Proposed Public Charge Rule on Immigrants and Medicaid." San Francisco: Henry J. Kaiser Family Foundation.

Batalova, Jeanne, Michael Fix, and Mark Greenberg. 2018. *Chilling Effects: The Expected Public Charge Rule and Its Impact on Legal Immigrant Families' Public Benefits Use*. Washington, DC: Migration Policy Institute.

Bovell-Ammon, Allison, Stephanie Ettinger de Cuba, Diana Cutts, and Sharon Coleman. 2018. "Trends in Food Insecurity and SNAP Participation among Immigrant Families of US-Born Young Children." Presentation given at American Public Health Association Annual Meeting and Expo, San Diego, November 10–14.

Capps, Randy, Mark Greenberg, Michael Fix, and Jie Zong. 2018. "Gauging the Impact of DHS' Proposed Public-Charge Rule on US Immigration." Washington, DC: Migration Policy Institute.

Cervantes, Wendy, Rebecca Ullrich, and Hannah Matthews. 2018. *Our Children's Fear: Immigration Policy's Effects on Young Children*. Washington, DC: Center on Law and Social Policy.

Fiscal Policy Institute. 2018. "'Only Wealthy Immigrants Need Apply': How a Trump Rule's Chilling Effect Will Harm the US." Latham, NY: Fiscal Policy Institute.

Fix, Michael, and Jeffrey Passel. 2002. "The Scope and Impact of Welfare Reform's Immigrant Provisions." Washington, DC: Urban Institute.

Garrett, J. Joe, Michael Dennis, and Charles A. DiSogra. 2010. "Non-Response Bias: Recent Findings from Address-Based Panel Recruitment." Presented at the Annual Conference of the American Association for Public Opinion Research, Chicago, May 13–16.

Greenberg, David M., Sara Feierstein, and Patricia Voltolini. 2019. "Supporting the Resilience of America's Immigrant Communities: How Community Organizations Are Responding to Federal Policy Changes." Washington, DC: Local Initiatives Support Corporation.

Heeren, Timothy, Erika M. Edwards, J. Michael Dennis, Sergei Rodkin, Ralph W. Hingson, and David L. Rosenbloom. 2008. "A Comparison of Results from an Alcohol Survey of a Prerecruited Internet Panel and the National Epidemiologic Survey on Alcohol and Related Conditions." *Alcoholism: Clinical and Experimental Research* 32 (2): 222–9.

Kenney, Genevieve M., Jennifer M. Haley, and Robin Wang. 2018. "Proposed Public Charge Rule Could Jeopardize Recent Coverage Gains among Citizen Children." Washington, DC: Urban Institute.

Karpman, Michael, Stephen Zuckerman, and Dulce Gonzalez. 2018. "The Well-Being and Basic Needs Survey: A New Data Source for Monitoring the Health and Well-Being of Individuals and Families." Washington, DC: Urban Institute.

Laird, Jennifer, Isaac Santelli, Jane Waldfogel, and Christopher Wimer. 2019. "Forgoing Food Assistance out of Fear: Simulating the Child Poverty Impact of Making SNAP a Legal Liability for Immigrants." *Socius: Sociological Research for a Dynamic World* 5: 1–8.

O'Rourke, Lena. 2019. "Trump's Public Charge Proposal Is Hurting Immigrant Families Now, Even Though DHS' Proposed Regulation Is Not Final." Washington, DC: Protecting Immigrant Families Campaign.

Roche, Kathleen M., Elizabeth Vaquera, Rebecca M. B. White, and Maria Ivonne Rivera. 2018. "Impacts of Immigration Actions and News and the Psychological Distress of US Latino Parents Raising Adolescents." *Journal of Adolescent Health* 62 (5): 525–31.

Van Hook, Jennifer, and James D. Bachmeier. 2013. "How Well Does the American Community Survey Count Naturalized Citizens?" *Demographic Research* 29 (1): 1–32.

Wilson, Jill H. 2014. *Investing in English Skills: The Limited-English Proficient Workforce in US Metropolitan Areas.* Washington, DC: Brookings Institution.

Zallman, Leah, and Karen Finnegan. 2018. "Changing Public Charge Immigration Rules: The Potential Impact on Children Who Need Care." Oakland, CA: California Health Care Foundation.

About the Authors

Hamutal Bernstein is a senior research associate in the Income and Benefits Policy Center at the Urban Institute, where her research focuses on immigration and integration, workforce development and education, and program evaluation. She has wide expertise in mixed-methods research, including original survey development, secondary data analysis, and qualitative data collection and analysis. She is a principal investigator on the Annual Survey of Refugees and Survey Redesign for the US Department of Health and Human Services. Her other areas of research focus on immigrant upskilling, immigrant inclusion at the local level, and other human services topics. Before joining Urban, Bernstein was a program officer at the German Marshall Fund of the United States and a research associate at the Institute for the Study of International Migration at Georgetown University. Bernstein received her BA in international relations from Brown University and her PhD in government from Georgetown University

Dulce Gonzalez is a research analyst in the Health Policy Center at the Urban Institute. Gonzalez has worked at Los Angeles-based organization Maternal and Child Health Access, where she evaluated health and well-being outcomes for its perinatal home visiting program. She currently supports quantitative analyses of the Urban Institute's Well-Being and Basic Needs Survey. Before joining Urban, she was a graduate intern at the Georgetown University Center for Children and Families. Gonzalez received her MPP from Georgetown University.

Michael Karpman is a senior research associate in the Health Policy Center. His work focuses primarily on the implications of the Affordable Care Act, including quantitative analysis related to health insurance coverage, access to and affordability of health care, use of health care services, and health status. His work includes efforts to help coordinate and analyze data from the Urban Institute's Health Reform Monitoring Survey and Well-Being and Basic Needs Survey. Before joining Urban in 2013, Karpman was a senior associate at the National League of Cities Institute for Youth, Education, and Families. He received his MPP from Georgetown University.

Stephen Zuckerman is a senior fellow and vice president of the Health Policy Center. He has studied health economics and health policy for 30 years and is a national expert on Medicare and Medicaid physician payment, including how payments affect enrollee access to care and the volume of services they receive. He is currently examining how payment and delivery system reforms can affect the availability of primary care services and studying the implementation and impact of the Affordable Care Act. Before joining Urban, Zuckerman worked at the American Medical Association's Center for Health Policy Research. He received his PhD in economics from Columbia University.

Acknowledgments

ABOUT THE URBAN INSTITUTE

The nonprofit Urban Institute is a leading research organization dedicated to developing evidence-based insights that improve people's lives and strengthen communities. For 50 years, Urban has been the trusted source for rigorous analysis of complex social and economic issues; strategic advice to policymakers, philanthropists, and practitioners; and new, promising ideas that expand opportunities for all. Our work inspires effective decisions that advance fairness and enhance the well-being of people and places.

500 L'Enfant Plaza SW
Washington, DC 20024

www.urban.org

May 22, 2019

Poverty Line Proposal Would Cut Medicaid, Medicare, and Premium Tax Credits, Causing Millions to Lose or See Reduced Benefits Over Time

By Aviva Aron-Dine and Matt Broaddus

A proposal the Trump Administration is considering to use a lower inflation measure to calculate annual adjustments to the federal poverty line[1] ultimately would cut billions of dollars from federal health programs and cause millions of people to lose their eligibility for, or receive less help from, these programs. Many such programs use the poverty line to determine eligibility and benefits, and the cuts to these programs — and the numbers of people losing assistance altogether or receiving less help — would increase with each passing year.[2] After ten years:

- More than 250,000 seniors and people with disabilities would lose their eligibility for, or receive less help from, Medicare's Part D Low-Income Subsidy Program, meaning that they would pay higher premiums for drug coverage and more out of pocket for their prescription drugs. Meanwhile, more than 150,000 seniors and people with disabilities would lose help paying for Medicare premiums, meaning that they would have to pay premiums of over $1,500 per year to maintain Medicare physician coverage.

- More than 300,000 children would lose comprehensive coverage through Medicaid and the Children's Health Insurance Program (CHIP), as would some pregnant women. In addition, more than 250,000 adults who gained Medicaid coverage from the Affordable Care Act's (ACA) expansion would lose it.

- More than 150,000 consumers who buy coverage through the ACA marketplaces would lose eligibility for or qualify for reduced cost-sharing assistance, increasing their deductibles by hundreds or even thousands of dollars. And tens of thousands would lose eligibility for premium tax credits altogether, driving their premiums up, in many cases by thousands of dollars. In addition, millions of consumers who buy coverage in the marketplace would still

---

[1] Office of Management and Budget, Request for Comment on the Consumer Inflation Measures Produced by the Federal Statistical Agencies, May 7, 2019, https://www.federalregister.gov/documents/2019/05/07/2019-09106/request-for-comment-on-the-consumer-inflation-measures-produced-by-federal-statistical-agencies.

[2] The proposal would also affect many basic assistance programs beyond health-related ones; for a partial list, see Department of Health and Human Services, "What Programs Use the Poverty Guidelines?" https://www.hhs.gov/answers/hhs-administrative/what-programs-use-the-poverty-guidelines/index.html.

get premium tax credits, but their credits would be smaller. They, too, would thus have to pay higher premiums; these increases would start small but would grow over time.

The Administration, through an Office of Management and Budget notice, has requested public comment on changing the measure used to adjust the poverty line each year for inflation using an alternative index, such as the chained Consumer Price Index (CPI) or the Personal Consumption Expenditures Price Index (PCEPI). Both measures rise more slowly than the current measure, the CPI for All Urban Consumers (CPI-U).[3] As a result, either alternative measure would result in a lower poverty line, and the gap between the poverty line under the current versus either of the proposed methodologies would widen each year. The Administration claims that it seeks to make the poverty line more accurate, but, as explained below, either change would likely make the poverty line less accurate overall while also increasing the number of people without health insurance and experiencing other forms of hardship.

This analysis focuses on the impact of updating the poverty line using the chained CPI; using the PCEPI would have a somewhat larger effect, meaning that even more people would lose eligibility for health coverage programs, and the cuts to these programs would be even larger.[4]

---

[3] The Office of Management and Budget notice requests comments on how the Census poverty thresholds are updated for inflation. The Department of Health and Human Services (HHS) calculates its poverty guidelines, which are the basis for program eligibility, based on the Census thresholds.

[4] After ten years, use of the chained CPI would reduce the poverty line by 2.0 percent, while use of the PCEPI would reduce the poverty line by 3.4 percent, according to CBO projections.

FIGURE 1

Administration's Proposal to Lower Federal Poverty Line Measure Would Cut Eligibility, Benefits for Many Health Programs

The Medicare Low-Income Subsidy Program, which helps low-income seniors and people with disabilities afford prescription drugs

Medicaid programs that help low-income seniors and people with disabilities afford Medicare premiums and cost sharing

Medicaid and CHIP coverage for children and pregnant women

Medicaid coverage for adults, including eligibility for ACA Medicaid expansion

Medicaid family planning coverage

Premium tax credits for ACA marketplace coverage

Cost-sharing assistance that lowers deductibles and other out-of-pocket costs for ACA marketplace coverage

ACA = Affordable Care Act. CHIP = Children's Health Insurance Program

Proposed Change Would Have Wide-Ranging Impacts on Health Programs

Over time, the change to the poverty line would cut a wide range of health programs. (See Figure 1.) By the tenth year, the annual cut across federal health coverage programs would total in the billions of dollars, Congressional Budget Office (CBO) estimates indicate.[5] That's because millions

---

[5] In 2013, CBO produced estimates for two chained CPI proposals, one that would apply the chained CPI government-wide and an Obama Administration budget proposal that excluded the poverty guidelines and means-tested programs

of people would either lose eligibility for these programs or receive less help. Based on the current income distribution of program enrollees relative to the poverty line, we estimate that updating the poverty line using the chained CPI would, after ten years, have the effects described below. These estimates are subject to significant uncertainty, but, taken as a whole, they provide a snapshot of the wide-ranging impact the Administration's proposal would have across health programs.[6] (For a detailed explanation of the methodology behind our estimates, see the Appendix.)

The impacts of the proposal would also continue to grow after the tenth year: impacts on program eligibility thresholds would roughly double between the tenth and twentieth year the policy was in effect (and continue growing after that).

Impact on Seniors and People With Disabilities Covered Through Medicare

While eligibility for Medicare does not depend on income, lower-income Medicare enrollees qualify for help paying premiums, deductibles, and other cost sharing through Medicaid or the Medicare Low-Income Subsidy (LIS) program. In many cases, eligibility for that assistance is based on the federal poverty line.

Medicare enrollees can qualify for extra help through Medicaid in one of two ways:

- They can qualify for full Medicaid benefits, including help with Medicare cost sharing and long-term care services and supports (which Medicare does not cover), generally either because they have incomes below certain thresholds (or high medical need relative to their incomes) or because they qualify for the Supplemental Security Income program.
- They can qualify just for Medicaid programs that help with Medicare cost sharing, generally based on whether they have income below 100 or 135 percent of the poverty line.

Medicare enrollees who qualify for extra help through Medicaid also qualify for the LIS program, which helps pay premiums and cost sharing for Medicare prescription drug coverage (Medicare Part D). In addition, Medicare enrollees not enrolled in Medicaid can qualify for either full or partial LIS benefits based on whether they have income below 135 or 150 percent of the poverty line.

After ten years of updating the poverty line using the chained CPI:

- **More than 250,000 low-income seniors and people with disabilities would lose eligibility for, or get less help from, the LIS Program, substantially increasing their prescription drug costs.**

---

more generally from the change. Comparing the two estimates shows that government-wide use of the chained CPI would cut about $4 billion from means-tested health programs by the tenth year (and over $15 billion over ten years); most of these cuts are from the change to the poverty guidelines. See https://www.cbo.gov/system/files?file=2018-09/44231_ChainedCPI_0.pdf and https://www.cbo.gov/sites/default/files/cbofiles/attachments/Government-wide_chained_CPI_estimate-2014_effective.pdf.

[6] All figures are estimates of the number of people who would otherwise enroll in these programs who would lose eligibility (that is, they take into account that program take-up is less than 100 percent).

Most of these people would no longer be eligible for the full LIS benefit. Based on 2019 program parameters, they would have to pay premiums of about $100 per year, instead of no premiums, to maintain prescription drug coverage through Medicare Part D; would have a standard deductible of $85, instead of no deductible, for their Part D coverage; and would pay 15 percent of the cost of drugs (instead of small copayments) once they meet the deductible (and until they hit the catastrophic limit, $5,100 in out-of-pocket spending).[7]

Others would lose eligibility for the partial LIS benefit. Based on 2019 program parameters, that means they would have to pay premiums averaging about $400 instead of about $300 per year to maintain prescription drug coverage through Medicare Part D; would have a standard deductible of $415, instead of $85, for prescription drug coverage; and would pay 25 percent or more, instead of 15 percent, of the cost of their drugs once they meet the deductible and until they reach the catastrophic limit.[8]

- **More than 150,000 low-income seniors and people with disabilities would lose eligibility for a Medicaid program that covers their Medicare Part B premium.** That means they would have to pay premiums out of pocket to maintain Medicare coverage for physician and other outpatient care. The 2019 Part B premium is $1,626 per year ($135.50 per month).

- **Many other low-income seniors and people with disabilities would lose eligibility for a Medicaid program that helps them afford their Medicare deductibles and other cost sharing.[9]** Since Medicaid would no longer cover their Medicare hospital or physician cost sharing, they could face a hospital deductible of $1,364, a physician services deductible of $185, and additional co-insurance and copays (based on 2019 program parameters), compared to generally no cost sharing currently.

Impact on Children and Adults Covered Through Medicaid and CHIP

Most child and adult enrollees qualify for Medicaid and CHIP based on their incomes, and the income cut-offs for these programs are generally based on the federal poverty line. After ten years of updating the poverty line using the chained CPI:

- **More than 300,000 children would lose Medicaid or CHIP coverage, and some pregnant women would lose Medicaid or CHIP coverage, as well.** In the median state, the policy change would be equivalent to lowering the eligibility threshold for children from

---

[7] For a more detailed description of LIS and Medicare Savings Program benefits, see https://www.ncoa.org/wp-content/uploads/part-d-lis-eligibility-and-benefits-chart.pdf and https://www.ncoa.org/wp-content/uploads/medicare-savings-programs-coverage-and-eligibility.pdf.

[8] These and other dollar figures for Medicare premiums and cost sharing correspond to 2019 program parameters. For a summary of the assistance available through the Medicare Low-Income Subsidy Program and the Medicaid Savings Programs, see the following resources from the National Council on Aging: https://www.ncoa.org/wp-content/uploads/part-d-lis-eligibility-and-benefits-chart.pdf and https://www.ncoa.org/wp-content/uploads/medicare-savings-programs-coverage-and-eligibility.pdf.

[9] The available data do not allow us to estimate the number of people falling into this group, but it would be at least tens of thousands and could be well over 100,000.

255 to 250 percent of the poverty line, calculated using the current methodology, and for pregnant women from 205 to 201 percent of the poverty line.[10]

- **More than 250,000 adults who gained coverage from states' expansion of Medicaid through the ACA would lose it,** because the policy change would effectively lower the income threshold for coverage from 138 percent to about 135 percent of the poverty line. **Some very low-income parents covered through Medicaid in non-expansion states also would lose coverage.**

Most of these enrollees would likely qualify for subsidized coverage through the ACA marketplaces. But not all would. Parents in non-expansion states would fall into the "coverage gap:" their incomes would be too high for Medicaid and too low to qualify for marketplace tax credits. And people whose employers offer them coverage usually can't qualify for premium tax credits through the marketplaces, even if the employee premium for their coverage is higher than they can realistically afford. This can be a particular barrier to coverage for children, because, due to the so-called "family glitch," the entire family is ineligible for premium tax credits if a parent is offered *self-only* coverage with an employee premium below 9.86 percent of income, even if the premium for family coverage is significantly higher.

Moreover, for near-poor adults losing Medicaid coverage, marketplace plans would generally come with higher premiums and cost sharing, leading to lower take-up of coverage and barriers to obtaining needed care.[11] Notably, the uninsured rate for adults with incomes just above the poverty line is about 34 percent in non-expansion states, where they have access to marketplace coverage, compared to 17 percent in expansion states, where they instead have access to Medicaid.[12] And for children losing Medicaid or CHIP, marketplace plans may offer less comprehensive coverage.[13] Overall, a significant number of those losing Medicaid or CHIP coverage as a result of the poverty line change would likely become uninsured, while many others would likely experience greater difficulty affording coverage or getting needed care.

In addition to people losing comprehensive coverage through Medicaid, **many thousands of people, mostly women, would lose Medicaid coverage for family planning services.** Twenty-five states provide Medicaid coverage for family planning services to people not otherwise eligible for Medicaid. In 22 of these states, eligibility is based on income relative to the poverty line, so the proposed change would cause people to lose coverage for these services, which are essential for

---

[10] This would occur unless states reset their eligibility thresholds to offset the federal change; it is unlikely that most states would do so.

[11] Jessica Schubel, "Partial Medicaid Expansions Fall Short of Full Medicaid Expansion With Respect to Coverage and Access to Care," Center on Budget and Policy Priorities, August 13, 2018, https://www.cbpp.org/research/health/partial-medicaid-expansions-fall-short-of-full-medicaid-expansion-with-respect-to.

[12] Center on Budget and Policy Priorities, "Frequently Asked Questions About Partial Medicaid Expansion," April 10, 2019, https://www.cbpp.org/research/health/frequently-asked-questions-about-partial-medicaid-expansion.

[13] Kelly Whitener and Tricia Brooks, "Marketplace Coverage Is Not an Adequate Substitute for CHIP," Georgetown Center for Children and Families, September 2017, https://ccf.georgetown.edu/wp-content/uploads/2017/09/Marketplace-v3.pdf.

women's health and family well-being.[14] (Many of these are states that have not taken up the ACA Medicaid expansion, and so even very low-income adults are not eligible for comprehensive Medicaid coverage.)

Impact on ACA Marketplace Consumers

Because premium tax credit eligibility and the credit amounts are calculated based on consumers' income relative to the poverty line, **about 6 million marketplace consumers would see reductions in their premium tax credits and consequently have to pay higher premiums.** These cuts would start small, but would grow over time.

Notably, almost all of these consumers also will see higher premiums due to another recent Administration action. Similar to the proposed poverty line change, the Administration's 2020 rule setting standards for the ACA marketplaces made a seemingly technical change to the formula for calculating premium tax credits, impacting tax credits and therefore premiums for millions of people.[15] After ten years, a family of four making $80,000 would pay over $300 more in annual premiums as a combined result of this change and the proposed change to the poverty line.

In addition, growing numbers of people would lose eligibly for premium tax credits or cost-sharing assistance altogether. After ten years of updating the poverty line using the chained CPI:

- **Tens of thousands of consumers no longer would qualify for premium tax credits at all,** since the policy change would effectively lower the income cut-off for the tax credits from 400 percent to 392 percent of the poverty line. Older people and families would see particularly large premium increases, since they would lose tax credits worth thousands of dollars.

- **More than 200,000 consumers would face reductions in the cost-sharing assistance they receive**, meaning that their deductibles, co-insurance, copays, and total limits on out-of-pocket costs would increase. That includes:
    - More than 50,000 people who would see their deductibles increase from about $250 to about $850, based on 2019 cost-sharing levels.[16]
    - More than 50,000 people who would see their deductibles increase from about $850 to about $3,200.

---

[14] Guttmacher Institute, "Medicaid Family Planning Eligibility Expansions," May 1, 2019, https://www.guttmacher.org/state-policy/explore/medicaid-family-planning-eligibility-expansions.

[15] Aviva Aron-Dine and Matt Broaddus, "Change to Insurance Payment Formulas Would Raise Costs for Millions With Marketplace or Employer Plans," Center on Budget and Policy Priorities, updated April 26, 2019, https://www.cbpp.org/research/health/change-to-insurance-payment-formulas-would-raise-costs-for-millions-with-marketplace.

[16] Dollar figures for typical deductibles and out-of-pocket limits for consumers qualifying for different tiers of marketplace cost sharing assistance are from Kaiser Family Foundation, "Cost-Sharing for Plans Offered in the Federal Marketplace for 2019," December 5, 2018, https://www.kff.org/health-reform/fact-sheet/cost-sharing-for-plans-offered-in-the-federal-marketplace-for-2019/.

o   Tens of thousands of people who would see their deductibles increase from about $3,200 to about $4,400.

Administration's Arguments for Change Are Flawed

The Administration's argument for the potential policy change is that the chained CPI is a more accurate measure of inflation. But it is not clear whether the chained CPI is a more accurate measure *for low-income households*. For example, low-income households spend more of their income on housing, for which costs have been increasing faster than the overall CPI in recent years. Two recent studies suggest that, at least in recent years, inflation for low-income households has been higher than for the population as a whole.[17]

Meanwhile, evidence indicates that the poverty line is already below what is needed to raise a family. Considerable research over the years — including a major report by the National Academy of Sciences[18] — has identified various ways in which the poverty line appears to be inadequate. For example, the poverty line doesn't fully include certain costs that many low-income families face, like child care. In accordance with the guidance of the National Academy of Sciences panel, federal analysts worked carefully with researchers over a number of years to develop the Supplemental Poverty Measure (SPM), which more fully measures the cost of current basic living expenses. With this more careful accounting, the SPM's poverty line is *higher* than the official poverty line for most types of households, and its poverty rate is slightly higher than the official poverty rate.

By focusing on just one of many questions about the current poverty measure (how it is updated for inflation), and proposing a change that would lower the poverty line, the Administration's proposal would likely make the poverty line less accurate overall in measuring what families need to get by.[19] Consistent with this, the data show that households just above the poverty line have high rates of material hardship: for example, high uninsured rates and difficulty affording health care, as well as high rates of food insecurity.[20]

---

[17] See, for example, Greg Kaplan and Sam Schulhofer-Wohl, "Inflation at the Household Level," *Journal of Monetary Economics*, 2017, https://gregkaplan.uchicago.edu/sites/gregkaplan.uchicago.edu/files/uploads/kaplan_schulhoferwohl_jme_2017.pdf, and David Argente and Munseob Lee, "Cost of Living Inequality during the Great Recession," Kilts Center for Marketing at Chicago Booth — Nielsen Dataset Paper Series 1-032, March 1, 2017, https://ssrn.com/abstraSchct=2567357.

[18] Constance Citro and Robert Michael, eds., "Measuring Poverty: A New Approach," Committee on National Statistics, National Research Council, 1995, http://www.nap.edu/openbook.php?isbn=0309051282.

[19] For additional discussion, see Sharon Parrott, "Trump Administration Floating Changes to Poverty Measure That Would Reduce or Eliminate Assistance to Millions of Lower-Income Americans," Center on Budget and Policy Priorities, May 7, 2019, https://www.cbpp.org/press/statements/trump-administration-floating-changes-to-poverty-measure-that-would-reduce-or.

[20] About half of non-elderly adults just above the official poverty line showed one or more forms of financial insecurity, according to a December 2017 Urban Institute survey, similar to the share for the poor. Steven Brown and Breno Braga, "Financial Distress among American Families: Evidence from the Well-Being and Basic Needs Survey," Urban Institute, February 14, 2019, https://www.urban.org/research/publication/financial-distress-among-american-families-evidence-well-being-and-basic-needs-survey/view/full_report.

Importantly, no statute or regulation requires the Administration to revisit the current methodology for updating the poverty line. Rather, the Administration is making an entirely discretionary choice to consider a change that would weaken health coverage programs and increase uninsured rates and other hardship — part of a broader policy agenda of undermining health coverage programs.[21]

---

[21] For a list of other Administration actions undermining coverage, see https://www.cbpp.org/sabotage-watch-tracking-efforts-to-undermine-the-aca.

Appendix: Methodology Behind Estimates

Our estimates reflect the impact of updating the Census poverty thresholds using the chained CPI rather than the CPI-U for ten years, starting with the 2018 thresholds (which will be finalized in 2019), based on CBO's economic projections.[22] We adjust for changes in program enrollment, again using CBO projections. However, all of our estimates are based on the current income distribution of program enrollees relative to the poverty line, without taking into account how the income distribution may shift over the coming decade. In some cases, this limitation likely leads us to modestly overstate the impact of eligibility changes, but it should not change the qualitative conclusions.

Medicare enrollees. Our general approach is to use 2017 American Community Survey (ACS) data to estimate the share of Medicare enrollees with incomes between the current eligibility thresholds for various assistance programs and the lower thresholds that would result from updating the thresholds with the chained CPI for ten years. We apply these percentages to administrative tallies of the number of people enrolled in the relevant program and scale those estimates by CBO's projection of Part D LIS enrollment growth through 2029.

Specifically, to estimate the number of people losing eligibility for the Qualifying Individual (QI) program (which pays Medicare Part B premiums), we estimate the share of Medicare enrollees with incomes between 120 and 135 percent of the poverty line who fall into the income range that would lose eligibility. We apply that percentage to 2013 QI enrollment (the most recent available data) and scale based on projected LIS enrollment growth.

People losing eligibility for the QI program would also lose eligibility for the full LIS benefit. To estimate the number of additional people losing full LIS eligibility, we first estimate the number of people receiving full LIS benefits who are not enrolled in Medicaid. Based on CMS data on the number of dual eligible beneficiaries versus the number of LIS full benefit enrollees, more than 1 million people fell into this group in 2018. We estimate the share of Medicare enrollees with incomes below 135 percent of the poverty line who fall into the income range that would lose eligibility for the full LIS benefit, and apply that percentage to the number of full LIS beneficiaries not enrolled in Medicaid, and scale based on projected LIS enrollment growth.

Finally, to estimate the number of people losing eligibility for the partial LIS benefit, we estimate the share of Medicare enrollees with incomes between 135 and 150 percent of the poverty line who fall into the income range that would lose eligibility. We apply that percentage to 2018 partial LIS enrollment and scale based on projected LIS enrollment growth.

Medicaid and CHIP enrollees. To estimate the share of Medicaid expansion and child Medicaid and CHIP enrollees who would lose coverage, we use 2017 ACS data to determine the share of Medicaid adult expansion enrollees and Medicaid and CHIP enrollees with income between the current eligibility threshold for those programs and the lower eligibility threshold if the poverty line were to rise by chained CPI growth rather than CPI-U growth for ten years. For children, we account for state-level differences in Medicaid/CHIP eligibility thresholds. We then apply these

---

[22] In Medicaid, including the Medicaid Savings Programs and the Medicare Low-Income Subsidy Program, the programmatic impact would be felt in 2029. For marketplace premium tax credits and cost-sharing assistance, the programmatic impact would be felt in 2030.

percentages to CBO projections of Medicaid expansion enrollment and Medicaid and CHIP child enrollment in 2029.

Marketplace enrollees. To estimate the number of people losing eligibility for cost-sharing assistance or premium tax credits (or receiving reduced cost-sharing assistance), we use 2019 Centers for Medicare & Medicaid Services (CMS) plan selections data, scaled (adjusted downward) based on CBO's projections for the number of subsidized marketplace enrollees in 2029.

Specifically, we use the data CMS releases on the number of marketplace plan selections by people in different income groups (e.g., 100-150 percent of the poverty line, 150-200 percent of the poverty line) to estimate the number of people with income between the current eligibility thresholds for various forms of assistance and the lower eligibly thresholds that would result from the proposed change after ten years.[23] For example, since the change would lower the income cut-off for cost-sharing assistance from 250 to 245 percent of the current poverty line, we estimate that the number of people in the income range losing eligibility would be one-twentieth of the total number of people with incomes between 200 and 300 percent of the poverty line.[24] We also adjust these estimates for the share of consumers in each income group purchasing silver plans, since only those purchasing silver plans are eligible for cost-sharing assistance.

To estimate the number of consumers who would see immediate reductions in premium tax credits, we use CMS data on 2018 effectuated enrollment. Starting with the 8.9 million consumers receiving premium tax credits, we subtract the share of consumers who already have zero net premium (and therefore might not be affected by a cut to their premium tax credits) and the share with incomes between 300 and 400 percent of the poverty line (since tax credits would not change for people in this income range).[25]

---

[23] These data are available from https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/2019_Open_Enrollment.html.

[24] Since CMS does not provide data on the number of people with incomes in the range just above 400 percent of the poverty line, we are not able to apply this same approach to estimate the number of people losing eligibility for premium tax credits. But based on the number of plan selections by people with incomes between 300 and 400 percent of the poverty line and the drop-off in the number of consumers at higher income levels across the income distribution, it would be in the tens of thousands.

[25] In the proposed Notice of Benefit and Payment Parameters for 2020, CMS reported that 17 percent of marketplace consumers have zero net premiums. We estimate the share with incomes between 300 and 400 percent of the poverty line based on the 2019 plan selections data.

CONGRESSIONAL BUDGET OFFICE

Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2019 to 2029
in 12 Slides

May 2019

Federal Health Insurance Subsidies for People Under Age 65, in Billions of Dollars
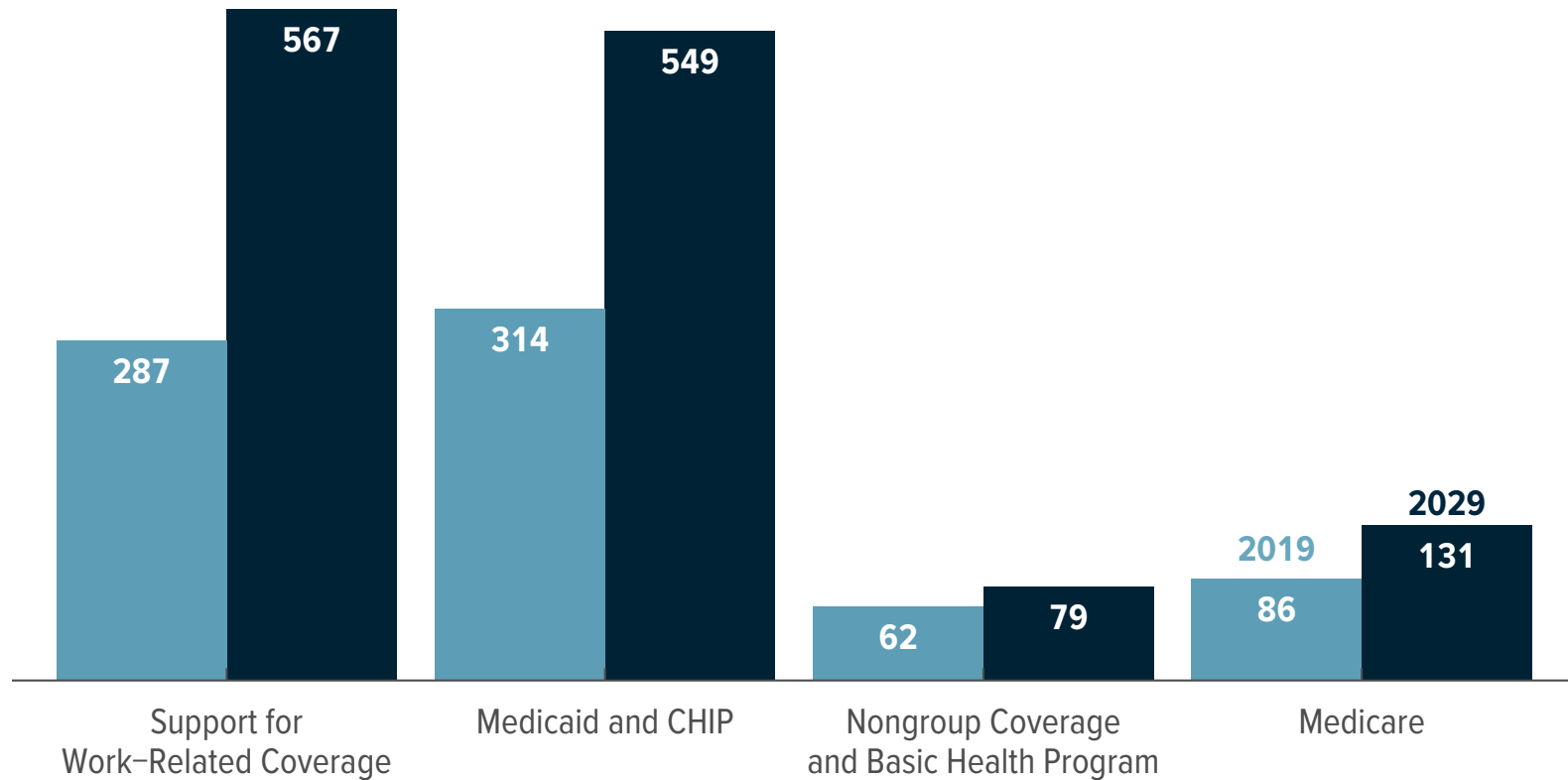
In 2019, the federal government is projected to spend $314 billion for Medicaid and the Children's Health Insurance Program (CHIP) and $287 billion on support for work-related coverage for people under age 65.

Federal Health Insurance Subsidies for People Under Age 65, as a Percentage of Gross Domestic Product
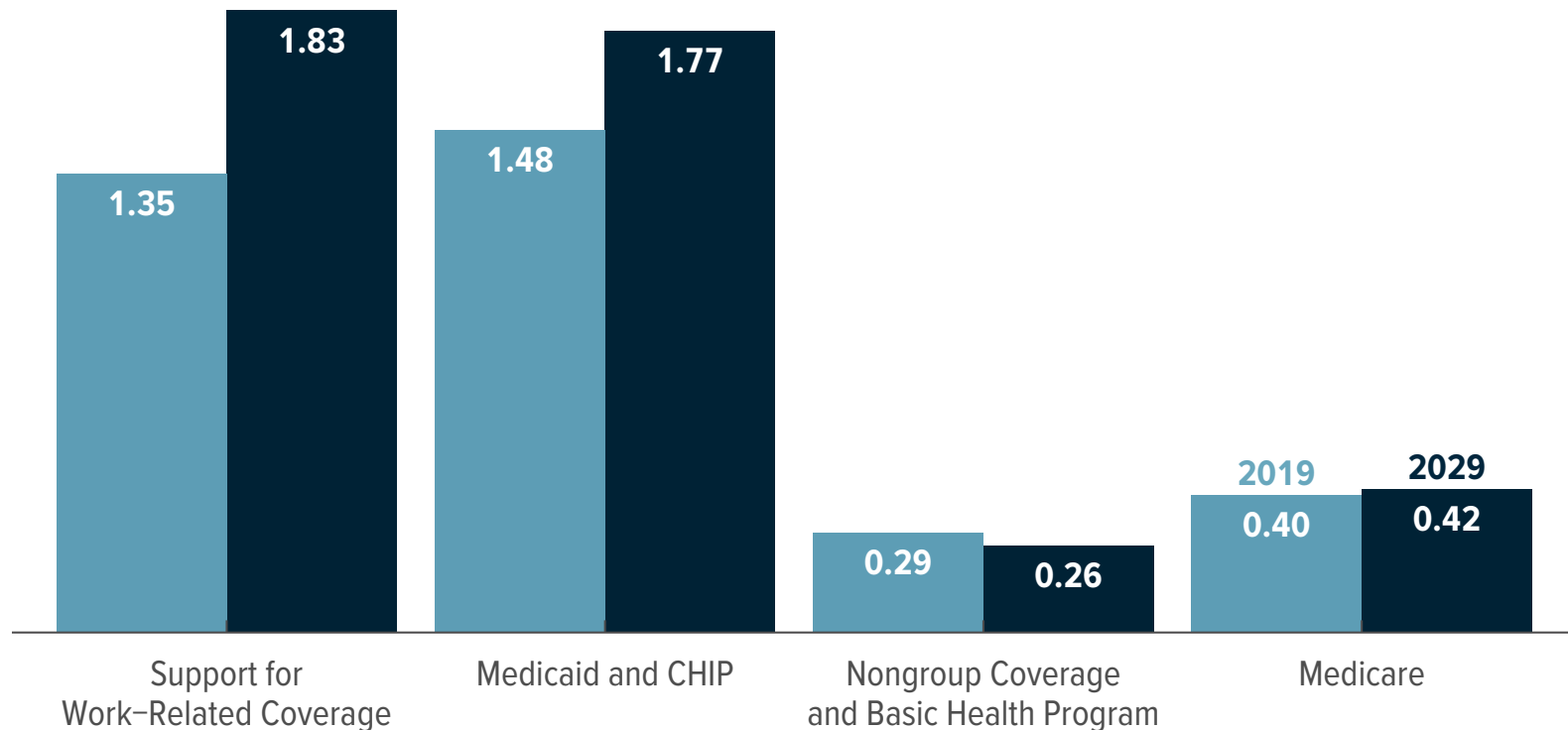
As a share of gross domestic product, total federal subsidies are projected to grow over the coming decade; subsidies for work-related coverage are projected to grow the fastest.

Employment-Based Coverage: Average Annual Percentage Change in Recipients and Federal Subsidies, 2020 to 2029
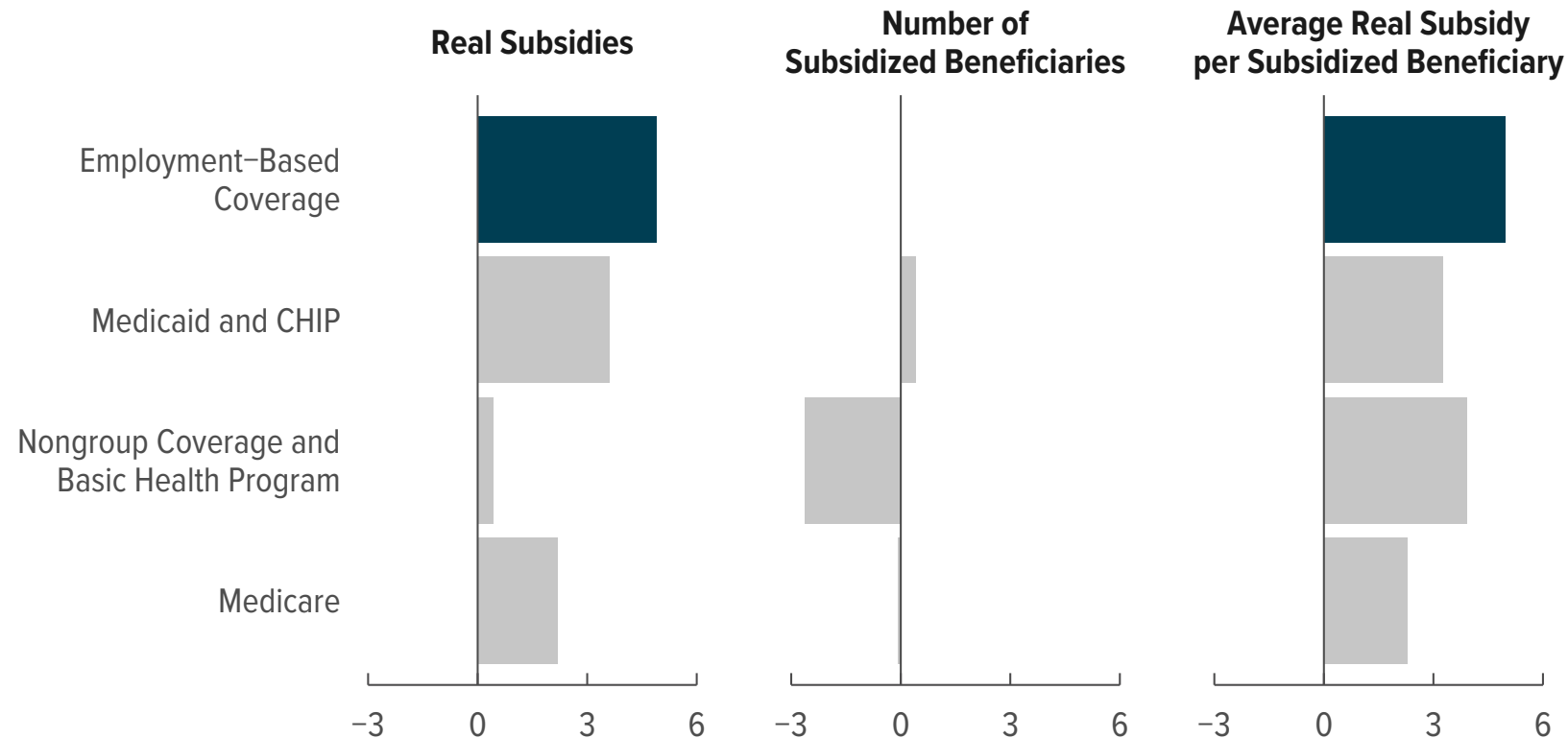
Percent

Enrollment in employment-based coverage is projected to be stable over the next decade, while the average real (inflation-adjusted) subsidy per recipient is projected to grow by an average of 5 percent per year.

Medicaid and CHIP: Average Annual Percentage Change in Beneficiaries and Federal Subsidies, 2020 to 2029
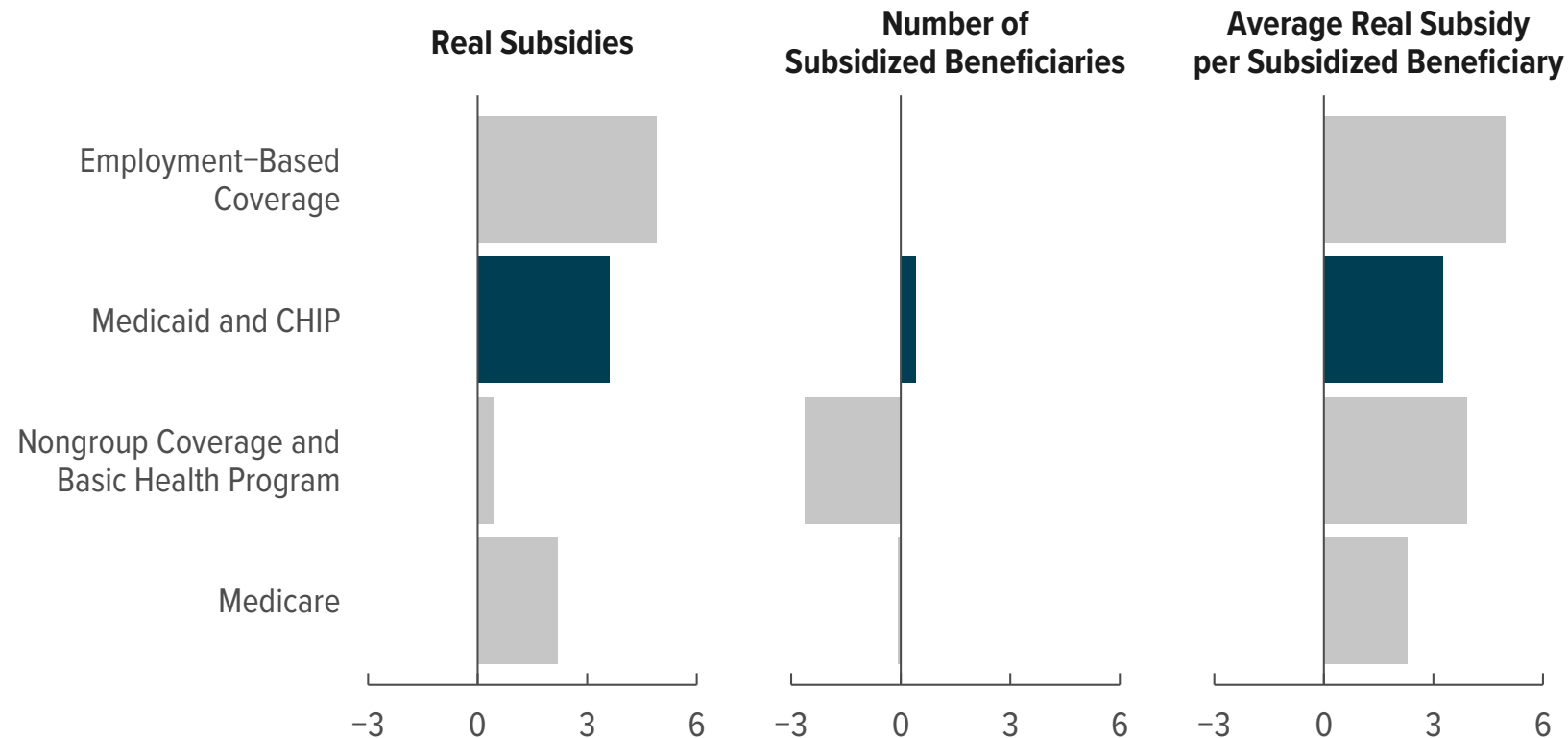
Percent

For Medicaid and CHIP, growth in the average real subsidy per beneficiary is projected to be slower than it is for private health insurance.

Nongroup Coverage and the Basic Health Program: Average Annual Percentage Change in Subsidized Beneficiaries and Federal Subsidies, 2020 to 2029

Percent

Real Subsidies

Number of Subsidized Beneficiaries

Average Real Subsidy per Subsidized Beneficiary

Employment−Based Coverage

Medicaid and CHIP

Nongroup Coverage and Basic Health Program

Medicare

−3 0 3 6 −3 0 3 6 −3 0 3 6
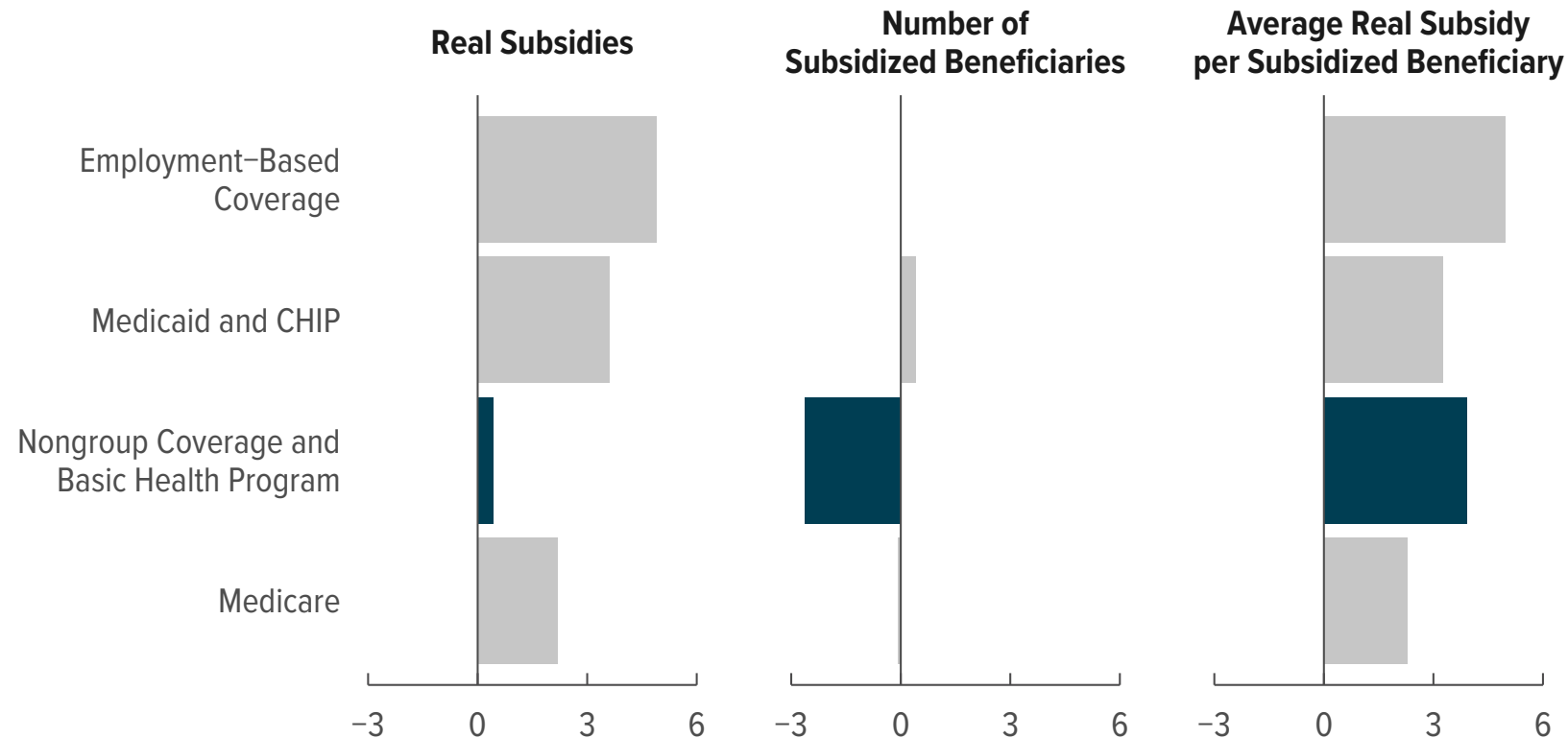
Subsidized nongroup coverage and coverage by the Basic Health Program are projected to decline by an average of 3 percent per year over the next decade, while the average real subsidy per subsidized beneficiary is projected to grow by 4 percent per year.

Medicare for People Under Age 65: Average Annual Percentage Change in Beneficiaries and Federal Subsidies, 2020 to 2029

Percent
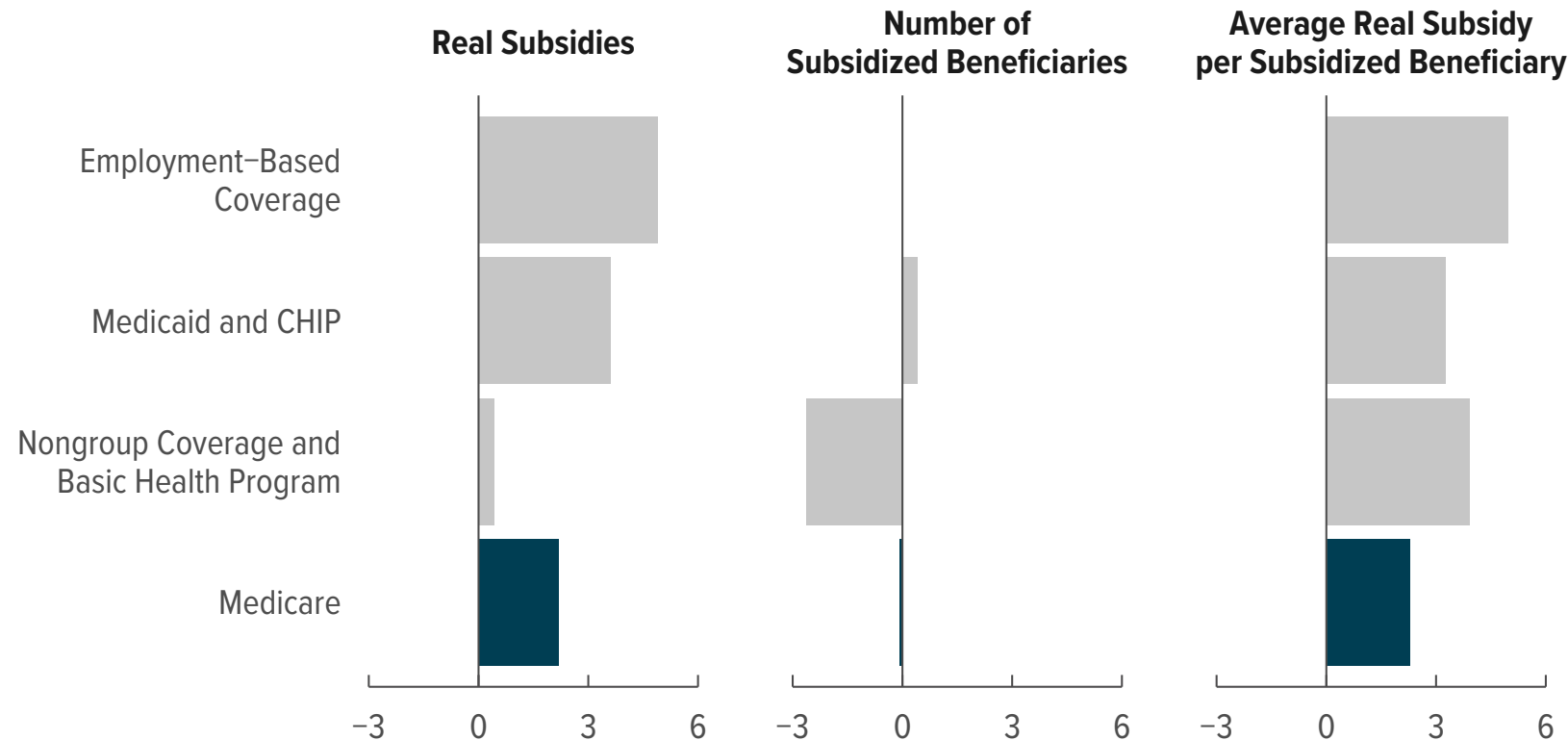
For Medicare, growth in the average real subsidy per beneficiary is projected to be slower than it is for private health insurance and for Medicaid and CHIP.

Health Insurance Coverage by Type
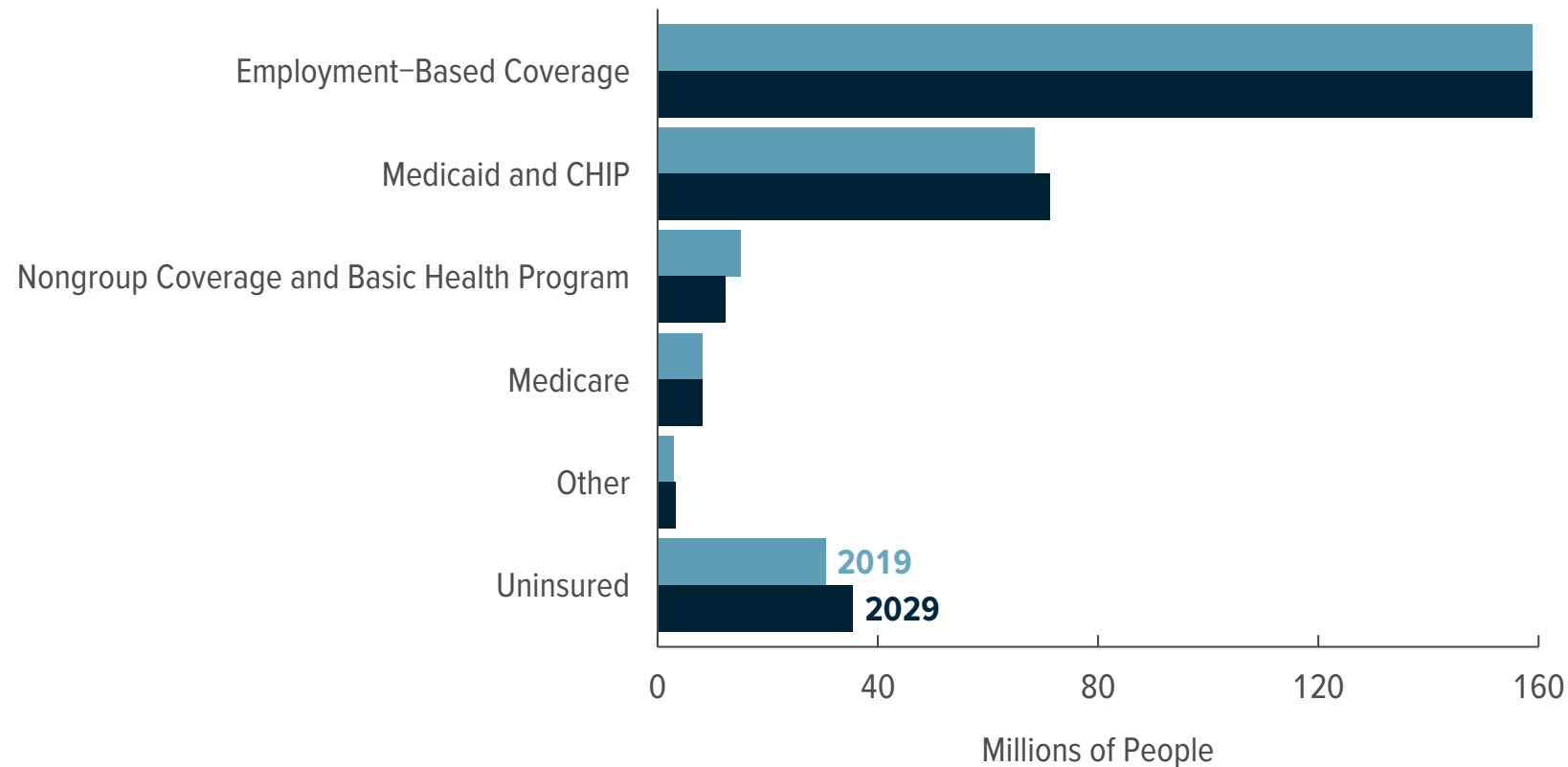
Of the 273 million people under age 65 in 2019, 159 million are projected to have coverage through an employer, and 30 million are projected to be uninsured.

Health Insurance Coverage for People With Income Less Than 150 Percent of the FPL, 2019
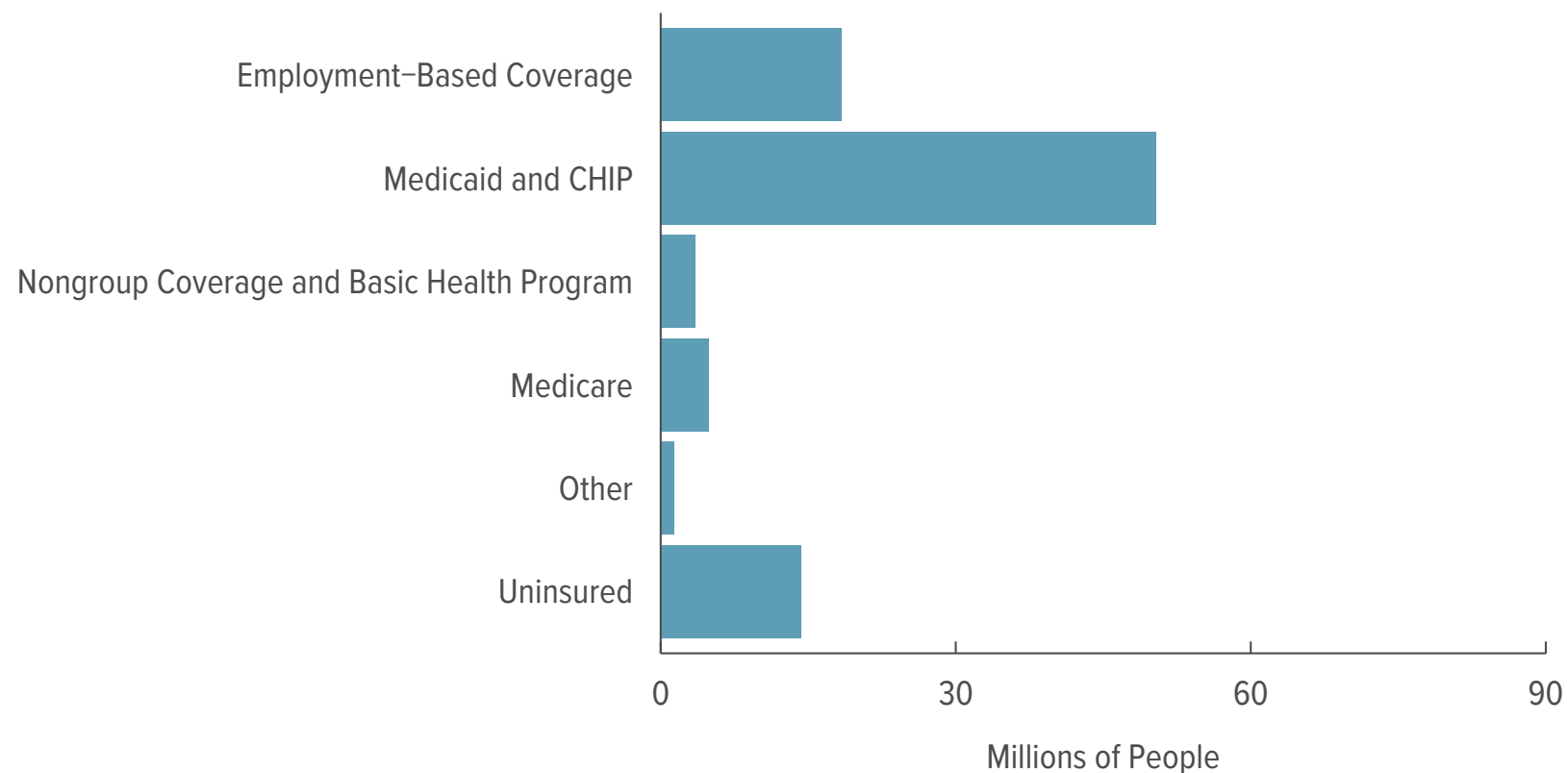
Of the 87 million people under age 65 with income below 150 percent of the federal poverty level (FPL) in 2019, 58 percent are estimated to be enrolled in Medicaid or CHIP.

Health Insurance Coverage for People With Income Between 150 Percent and 400 Percent of the FPL, 2019
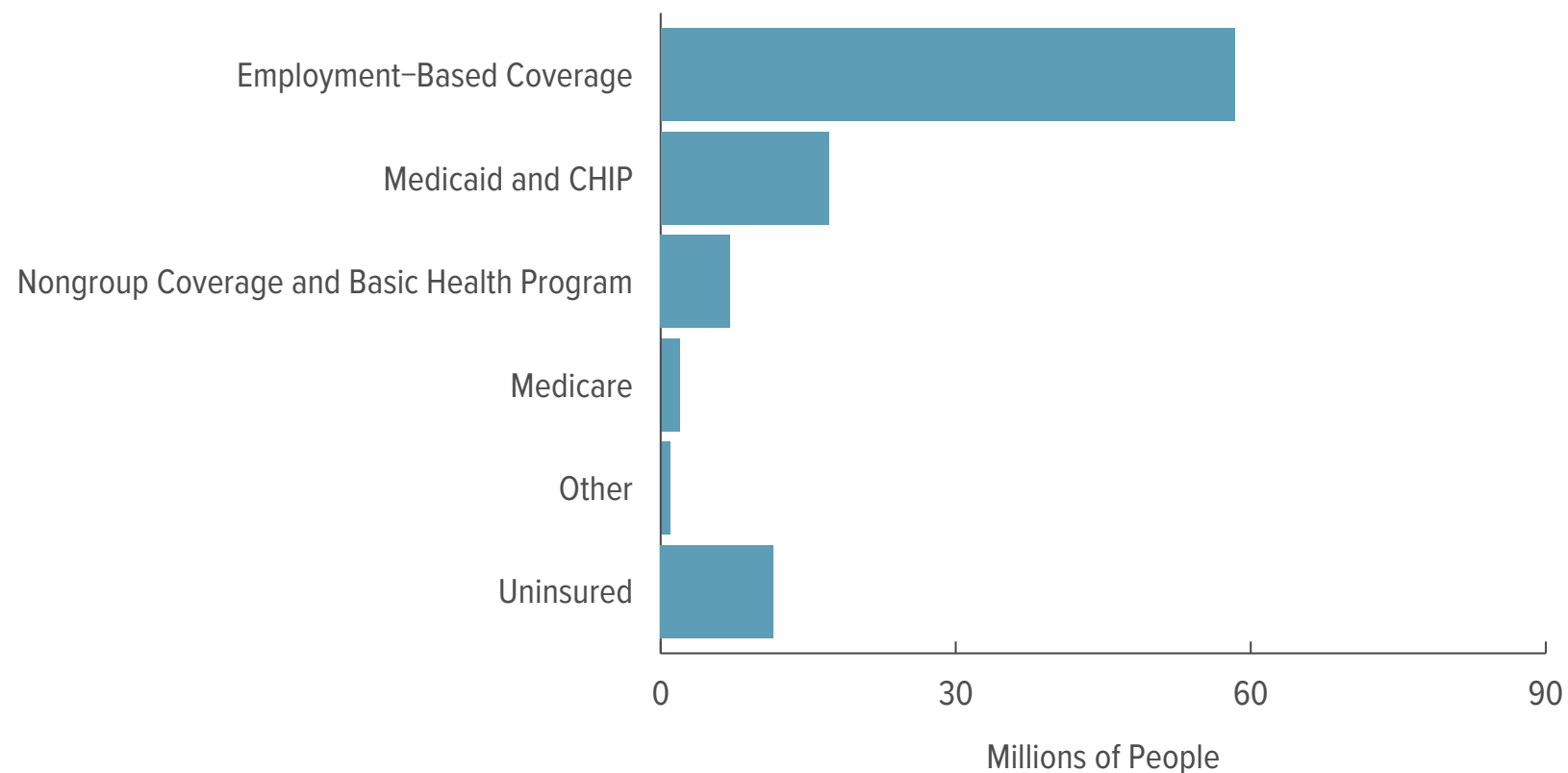
Of the 93 million people under age 65 with income between 150 percent and 400 percent of the FPL, 63 percent are estimated to be enrolled in employment-based insurance.

Health Insurance Coverage for People With Income Greater Than 400 Percent of the FPL, 2019
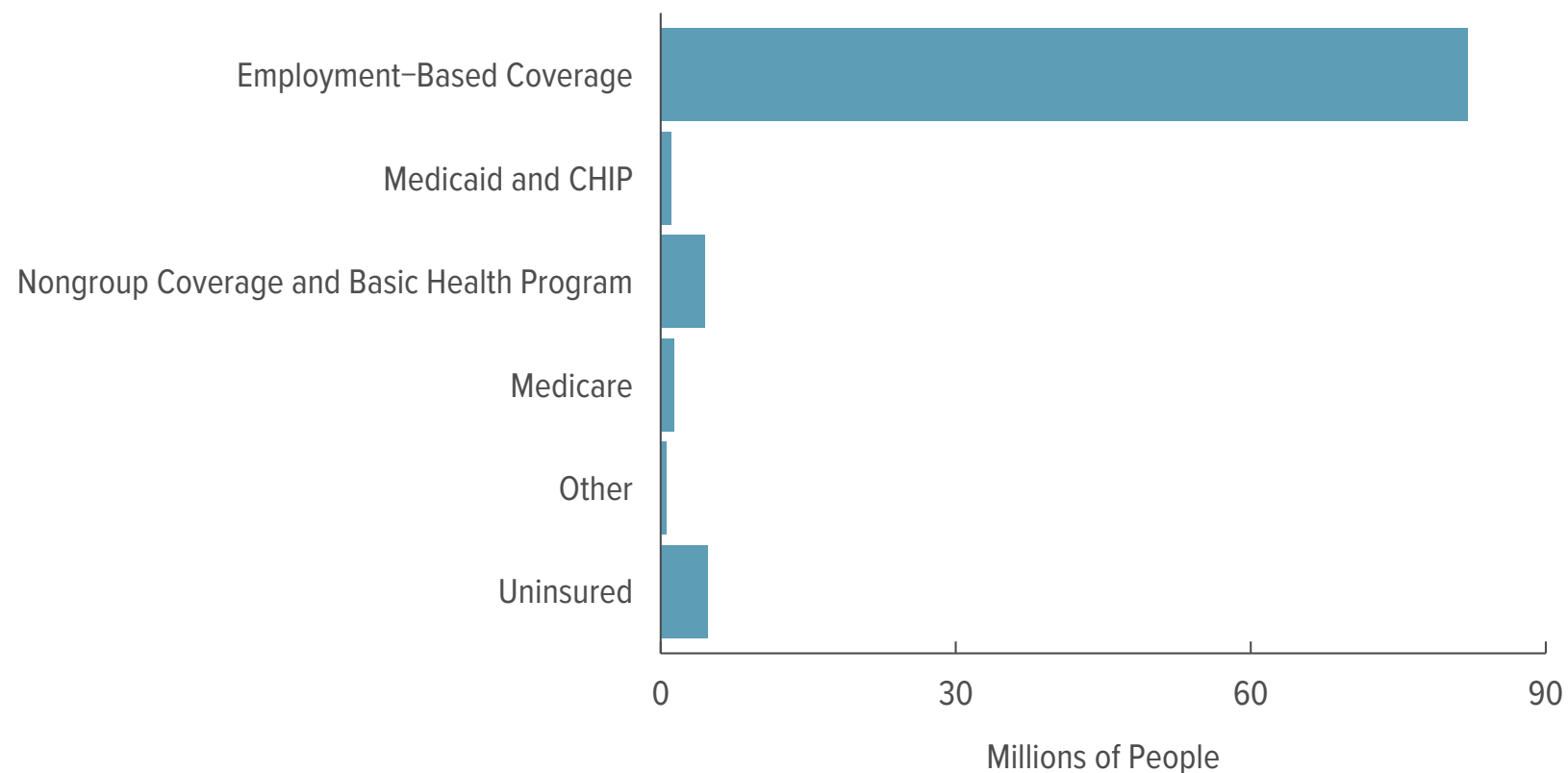
Of the 93 million people under age 65 with income above 400 percent of the FPL, the vast majority are estimated to be enrolled in employment-based insurance.

Average Federal Subsidies for Recipients by Type of Health Insurance, Calendar Year 2019

Dollars
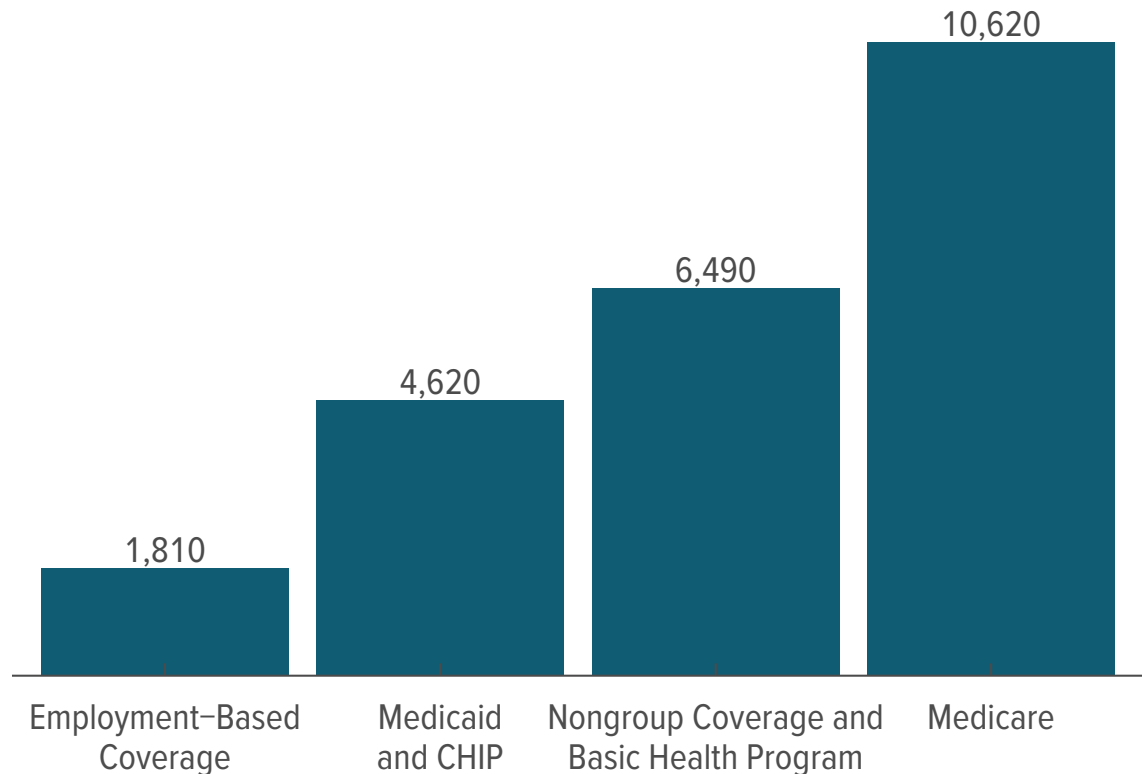
The average federal subsidy for health insurance costs per recipient varies substantially by type of health insurance. The variation occurs because the people who are eligible for each type of insurance differ by age, health status, income, and disability status; because the federal government subsidizes the coverage to different extents; and because the prices paid to providers differ for different types of coverage.

The amounts shown cannot be used to estimate the costs of shifting a group of people from one type of coverage to another because the average cost for each type of coverage depends on the characteristics of the people who are eligible for and enroll in it.

Share of Enrollment in and Spending for Medicaid and CHIP by Eligibility Category, 2019

Percentage of Total

Total enrollment: 69 million people

Total spending: $314 billion

Blind and Disabled People in Medicaid — Enrollment: 10, Spending: 35

Children in Medicaid — Enrollment: 44, Spending: 24

Made Eligible for Medicaid by the ACA — Enrollment: 17, Spending: 21

Otherwise Eligible for Medicaid — Enrollment: 18, Spending: 15

CHIP — Enrollment: 10, Spending: 6

Enrollment

Spending

Adults
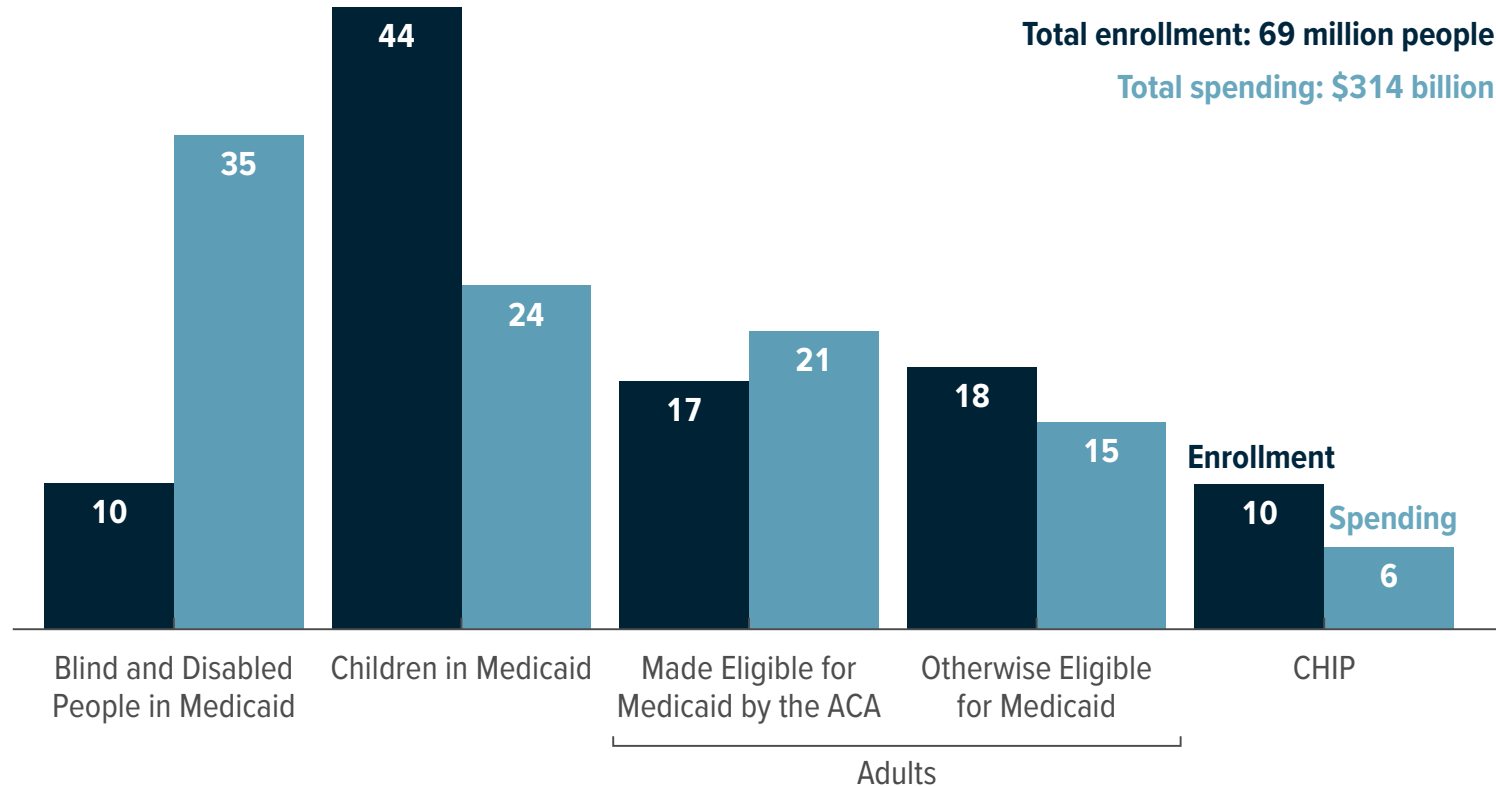
Different eligibility categories for Medicaid and CHIP account for very different shares of enrollment and spending. For example, children in Medicaid are projected to constitute 44 percent of enrollment but only 24 percent of spending in 2019, whereas people with disabilities account for 10 percent of enrollment and 35 percent of spending.

About This Document

This slide deck is posted on CBO's website, at
www.cbo.gov/publication/55268.

For more details on the topic, see CBO's report titled *Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2019 to 2029* (May 2019), www.cbo.gov/publication/55085.

Coverage for Abortion Services in Medicaid, Marketplace Plans, and Private Plans

Alina Salganicoff, Laurie Sobel and Amrutha Ramaswamy

State and federal efforts to address insurance and Medicaid coverage of abortion services began soon after the 1973 Supreme Court's _Roe v. Wade_ decision legalizing abortion and have continued to the present day. Starting in 1977, the Hyde Amendment banned the use of any federal funds for abortion, allowing only exceptions for pregnancies that endanger the life of the woman, or that result from rape or incest. The issue of abortion coverage was at the heart of many debates in the run up to the passage of the ACA, and subsequently led to renewed legislative efforts at the state level to limit coverage of abortions, this time in private insurance plans. As insurance and Medicaid coverage for abortion is increasingly limited by state and federal regulations as well as insurer coverage policies, in many states hundreds of thousands of women seeking abortion services annually are left without coverage options – even when they are victims of rape or incest or if the pregnancy is determined to be a threat to their health. This brief reviews current federal and state policies on Medicaid and insurance coverage of abortion services, and presents national and state estimates on the availability of abortion coverage for women enrolled in private plans, Marketplace plans and Medicaid.

FEDERAL AND STATE LAWS REGARDING COVERAGE OR PAYMENT FOR ABORTION

Almost one million women in the U.S. have an abortion every year.[1] Federal and state laws, as well as insurers' coverage policies, shape the extent to which women can have coverage for abortion services under both publicly funded programs and private plans. Women who seek an abortion, but do not have coverage for the service, shoulder the out-of-pocket costs of the services. The cost of an abortion varies depending on factors such as location, facility, timing and type of procedure. The median cost of an abortion at 10 weeks gestation is $500, whereas the median cost of an abortion at 20 weeks gestation is $1195.[2] Though the vast majority (~90%) of abortions are performed in the first trimester of pregnancy, the costs are challenging for many low-income women.[3,4] Approximately 5% of abortions are performed at 16 weeks or later in the pregnancy.[5] For women with medically complicated health situations or who need a second-trimester abortion, the costs could be prohibitive. In some cases, women find they have to delay their abortion while they take time to raise funds,[6] or women may first learn of a fetal anomaly in the second trimester when the costs are considerably higher.[7] According to the Federal Reserve Board, forty percent of U.S. adults do not have enough savings to pay for a $400 emergency expense.

Since 1977, federal law has banned the use of any federal funds for abortion unless the pregnancy is a result of rape, incest, or if it is determined to endanger the woman's life. This rule, also known as the Hyde Amendment, is not a permanent law; rather it has been attached annually to Congressional appropriations bills and has been approved every year by Congress.

The Hyde Amendment initially affected only funding for abortions under Medicaid, but over the years, its reach broadened to limit federal funds for abortion for federal employees and women in the Indian Health Service. From 1981 to 2013, the military health insurance program limited coverage for abortion to circumstances when the woman's life was endangered. In early 2013, an amendment to the National Defense Authorization Act expanded insurance coverage for servicewomen and military dependents to include abortions of pregnancies resulting from rape or incest, as permitted in other federal programs.[8] Federal funds cannot be used to pay for abortions in other circumstances, and abortions can only be performed at military medical facilities in cases of life endangerment, rape, or incest. State level policies also have a large impact on how insurance and Medicaid cover abortions, particularly since states are responsible for the operation of Medicaid programs and insurance regulation.

Medicaid

The Medicaid program serves millions of low-income women and is a major funder of reproductive health services nationally. Approximately two-thirds of adult women enrolled in Medicaid are in their reproductive years.[9] As discussed earlier, the federal Hyde Amendment restricts state Medicaid programs from using federal funds to

Figure 1

One Half of Reproductive Age Women on Medicaid Live in a State that Restricts Abortion Coverage, 2017

Residing in States Restricting Abortion Coverage 55% 7.9 million

Residing in States Providing Abortion Coverage with State-only Funds 45% 6.5 million

Total Number of Women Enrolled in Medicaid = 14.5 million

SOURCE: Kaiser Family Foundation analysis of 2017 American Community Survey, U.S. Census Bureau.

KFF

cover abortions beyond the cases of life endangerment, rape, or incest. However, if a state chooses to, it can use its own funds to cover abortions in other circumstances. Currently, 16 states use state-only funds to pay for abortions for women on Medicaid in circumstances different from those federal limitations set in the Hyde Amendment.[10] In 35 states and the District of Columbia, Medicaid programs do not pay for any abortions beyond the Hyde exceptions (**Appendix Table 1**).[11] Currently, half of women with Medicaid
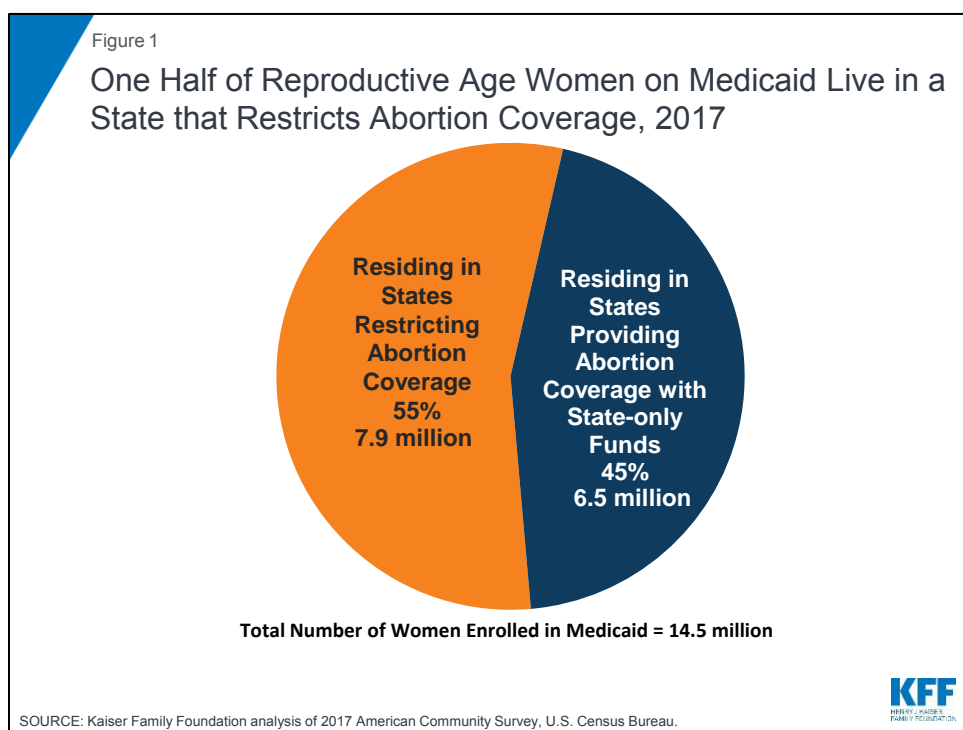
coverage live in states that use their own funds to pay for abortion services, beyond the federal Hyde limitations (**Figure 1 and Appendix Table 2**).

A 2019 GAO study of state policies regarding Medicaid coverage of abortion found that South Dakota's Medicaid program only covers abortions in the case of life endangerment and not in the cases of rape or incest, in violation of federal law. The same study also found that 14 state Medicaid programs do not cover Mifeprex, the prescription drug most commonly used for medication abortions.[12] All 14 of these states only pay for abortions in the circumstances permitted by the Hyde Amendment. So the only option for women enrolled in Medicaid in these states would be to obtain a surgical abortion in the cases of rape, incest, and life endangerment and they or their doctors would not be able to opt for a medication abortion. CMS has not taken any action against these 14 states for failing to comply with the outpatient drug requirements, or against South Dakota for not covering abortion in all of the circumstances required by Hyde. Furthermore, while 37 states reported that their Medicaid programs cover Mifeprex, only 13 of these states have actually requested a Medicaid rebate for this drug. In the other states, the program had not paid for this drug for a patient in the last three years, indicating that medication abortions may be very limited in these states.

The ACA includes a provision that applies the Hyde restrictions to Marketplace plans, ensuring that federal funds are only used to subsidize coverage for pregnancy terminations that endanger the life of the woman or that are a result of rape or incest. State Medicaid expansion programs can only fund abortions in other circumstances using only state funds and no federal funds. President Obama issued an executive order as part of health reform that restated the federal limits specifically for Medicaid coverage of abortion.[13] The law also explicitly does not preempt other current state policies regarding abortion, such as parental consent or notification, waiting period laws or any of the abortion limits or coverage requirements that states have enacted.

Private Insurance

States have the responsibility to regulate fully insured individual, small, and large group plans issued in their state, whereas the federal government regulates self-insured plans under the Employee Retirement Income Security Act (ERISA). States can choose to regulate whether abortion coverage is included or excluded in private plans that are not self-insured. In the private insurance sector, 11 states impose restrictions on the circumstances under which insurance will cover abortions (**Appendix Table 1**). Some states follow the same restrictions as the federal Hyde Amendment for their private plans, while some are more restrictive. Idaho has exceptions for cases of rape, incest, or to save the woman's life for plans sold on the Marketplace, but limits abortion coverage to cases of life endangerment to the woman for all other private plans issued in the state. Utah has exceptions to save the life of the mother or avert serious risk of loss of a major bodily function, if the fetus has a defect as documented by a physician that is uniformly diagnosable and lethal, and in cases of rape or incest. However, six states (Kansas, Kentucky, Missouri, Nebraska, North Dakota, and Oklahoma) have an exception only to save the woman's life for all fully insured private plans regulated by the state. Michigan allows abortion coverage in cases of life endangerment, in cases involving a pregnancy reduction for a multi-fetal pregnancy when the abortion

increases the probability of a live birth, or preserves the life or health of the child after live birth.[14] [Texas](#) allows abortion coverage only in the cases of severe health endangerment or life endangerment. Five states had these laws on the books prior to the ACA, and six more states have passed new laws restricting private plan coverage post-ACA. While ten of these states allow insurers to sell riders for abortion coverage on the private market, a Kaiser Family Foundation [study](#) found that in 2018, no insurers offered abortion riders to women insured through individually purchased plans, and only one insurance company in one state offered an abortion rider in the group market. The lack of abortion riders leaves women insured by private plans in these states with no option to secure coverage for abortion services. [Utah](#) does not allow riders to be sold for abortion coverage.

There is no recent data on the number of private plans that include abortion coverage. Only four states (California, New York, Oregon, and Washington) require all state-regulated private health plans, including Marketplace plans, to include coverage for abortion.[15] California and Washington require all plans including individual and employer plans to treat abortion coverage and maternity coverage neutrally. As all plans are required to include maternity coverage, all plans must also include abortion coverage.[16,17]

ACA Marketplace Plans

All plans offered on the ACA Marketplaces must provide coverage for 10 Essential Health Benefits (EHB), including maternity care and prescription drugs. Abortion services, however, are explicitly excluded from the list of EHBs that all plans are required to offer. Under federal law, no plan is required to cover abortion. States can enact laws that bar all

Figure 2

In 34 States, ACA Exchange Plans Do Not Offer Benefits that Include Abortion Coverage

Availability of Abortion Coverage through Marketplace Plans, 2019

- State ban* on abortion coverage on Marketplace (26 states)
- No state ban on abortion coverage on Marketplace, but no plans offer coverage (8 states)
- No state ban on abortion coverage on Marketplace, and at least 1 plan with coverage (12 states + DC)
- Require inclusion of abortion coverage on Marketplace (4 states)

NOTE: *Some states have exclusions that mirror the Hyde Amendment restrictions (only permitting coverage for abortions from pregnancies that result from rape or incest, or that are a threat to the life of the pregnant woman). Other states have narrower requirements, limiting abortion coverage only to life threatening circumstances, and in two states it is banned altogether regardless of the circumstance (Louisiana and Tennessee).
SOURCE: Kaiser Family Foundation, 2019.

KFF
HENRY J. KAISER FAMILY FOUNDATION

plans participating in the state Marketplace from covering abortions, which 26 states have done since the ACA was signed into law in 2010 **(Figure 2).** Most state laws include narrow exceptions for women whose pregnancies endanger their life or are the result of rape or incest, but two states (Louisiana and Tennessee) do not provide for any exceptions.[18] The ACA prohibits plans in the state Marketplaces from discriminating against any provider because of "unwillingness" to provide abortions.
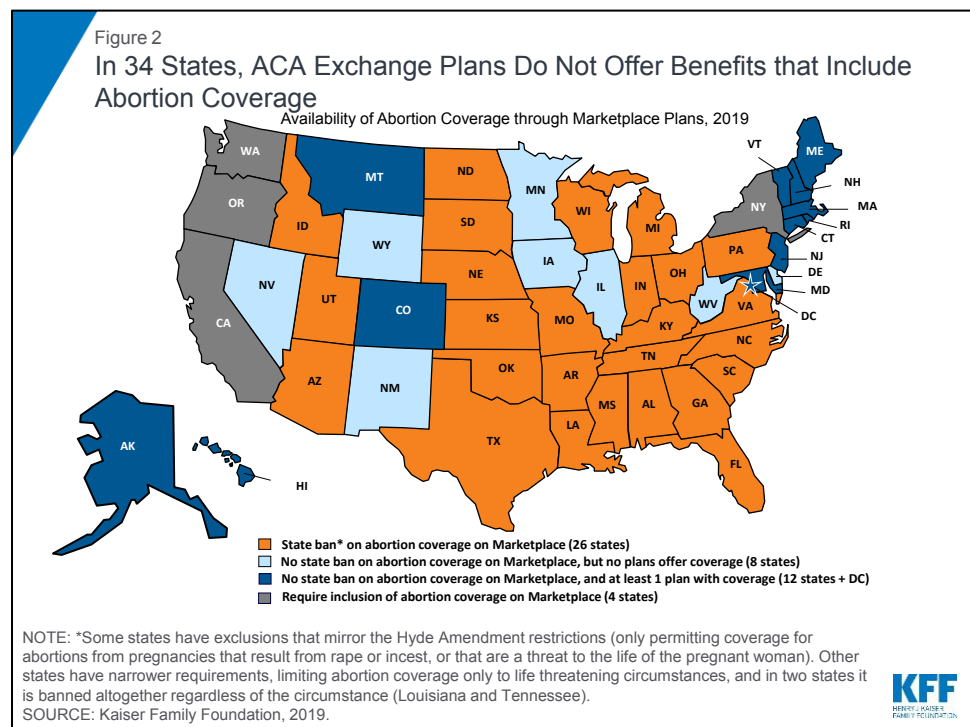
In a review of the 2019 Marketplace plans, eight additional states (Delaware, Iowa, Illinois, Minnesota, New Mexico, Nevada, West Virginia, and Wyoming) were found that do not have laws restricting abortion coverage, yet have no Marketplace plans that include abortion coverage. (**Figure 2**) In five states that have no laws banning or requiring abortion coverage (Connecticut, Hawaii, Maryland, New Hampshire, and Vermont) all of the 2019 Marketplace plans include abortion coverage. This means that consumers in these states, and the four states (California, New York, Oregon, and Washington) that require abortion coverage, who want to secure a plan without abortion coverage do not have that option. As a combined result of the state laws and insurance company choices, women in 34 states currently do not have access to insurance coverage for abortions through a Marketplace plan – the only place where consumers can receive tax subsidies to help pay for the cost of health insurance premiums.

Women in the remaining 16 states and DC without limiting state laws and with at least one Marketplace plan that includes abortion coverage, may be able to choose a Marketplace plan that includes abortion coverage. The actual availability of coverage, however, will depend on whether there is a plan offered in their area that includes abortion services.

Special Rules for Billing and Payment for Marketplace Plans that Include Abortion Coverage

In states that do not restrict coverage of abortions on plans available through the Marketplace, insurers may offer a plan that covers abortions beyond the federal limitations but this coverage must be paid for using private, not federal, dollars. Plans must notify consumers of the abortion coverage as part of the Summary of Benefits and Coverage explanation at the time of enrollment. The ACA outlines a methodology for states to follow to ensure that no federal funds are used towards coverage for abortions beyond the Hyde limitations. Any plan that covers abortions beyond Hyde limitations must estimate the actuarial value of such coverage by taking into account the cost of the abortion benefit (valued at least $1 per enrollee per month). This estimate cannot take into account any savings that might be achieved as a result of the abortions (such as prenatal care or delivery).[19]

Furthermore, the federal rules stipulate that plans that offer abortion coverage and receive federal subsidies (it is believed that all plans in the state Marketplace receive at least some federal subsidies) need to collect two premium payments so that the funds go into separate accounts. One payment is for the value of the abortion benefit, and the other payment is for the value of all other services covered by the plan. The plan issuer must deposit the funds in separate allocation accounts overseen for compliance by state health insurance commissioners.[20]

Both sides of the abortion debate have been unsatisfied with these rules. While it is clear that there is no abortion coverage available to women eligible for subsidies in the [states](#) that have barred it in the Marketplace, there has been a lot of attention about how difficult it is for consumers in the remaining states to determine whether plans include abortion coverage and any limitations placed on the coverage. While Marketplace plans are required to include whether abortion is covered in their Summary of Benefits and Coverage (SBC), the limitations on abortion coverage may not be specified in the SBC or individual policies. Members may need to call their insurance claims department to determine under which

conditions abortion is covered. The phrase "limitations may apply" can mean a variety of things. Some plans include a range of limitations, including time limits (only covering abortion up until 18 weeks of pregnancy), lifetime limits (only two abortions covered per lifetime), or limitations on what kind of abortion is covered (medication vs. surgical). Several plans that list that abortion is covered with limitations outline in their individual plan documents that abortion is only covered under Hyde conditions – rape, incest, or life endagerment.

While the reasons why issuers in states that permit abortion coverage have opted to exclude abortion coverage are not known, it is possible that the complexity of the requirements specific only to abortion coverage could be a deterrent to the plans. This was raised as a possible outcome during the pre-ACA abortion coverage debate. The Nelson Amendment included in the final law requires plans to segregate funds used for abortion coverage, effectively collecting an additional fee for this coverage, and adding a layer of administrative complexity.[21] Plans that choose to include abortion coverage are also subject to additional reporting standards and audit requirements. For example, this might be the case in West Virginia, where the same insurance carrier that does not offer abortion coverage for individual policies is, however, including abortion coverage in the group policies sold to small firms through the small group marketplace plans, where the abortion-related accounting rules and reporting requirements do not apply.

The Trump Administration has recently proposed two rules that would further complicate the requirements for both consumers and issuers that offer Marketplace plans that include abortion coverage. HHS takes the position that the current abortion coverage regulations finalized by the Obama Administration do "not adequately reflect…Congressional intent that the QHP issuer bill separately for two distinct (that is "separate") payments as required by Section 1303 of the PPACA." To address this, on November 7, 2018, the Trump Administration issued a proposed regulation, which would require significant changes to how issuers must bill, and consumers must pay, for non-Hyde abortion coverage in Marketplace plans that include abortion coverage. Under this proposed rule:

- Issuers would be required to send two separate monthly bills either by mail or electronically to each policyholder: one bill would be for the non-Hyde abortion coverage (at least $1 per member per month) and one bill would be the premium for everything else excluding the non-Hyde abortion coverage.
- Consumers would be instructed by the issuer to pay in two separate transactions. If the consumer is paying by mail, the consumer must be told to send two checks in separate envelopes or make two electronic payments in the cases where the policyholder pays through electronic funds transfer.

CMS received over 70,000 comments on this provision, and has not finalized this rule.

On January 24, 2019, the Trump Administration issued the proposed Notice of Benefit and Payment Parameters (NBPP) regulation, mostly aimed at technical changes to the ACA Marketplaces. However, this proposed rule also included a provision requiring Marketplace plans offering abortion coverage beyond the Hyde circumstances to offer "mirror plans" that would only provide coverage of abortion in the circumstances permitted by the Hyde Amendment (rape, incest, or life endangerment). The proposal

would effectively require a Marketplace issuer that provides abortion coverage to offer two plans, one with abortion coverage and a second "mirror plan" with very limited or no abortion coverage.

CMS is continuing to review the over 25,000 comments on this provision and did not finalize this proposed requirement when it issued the final 2020 Notice of Benefit and Payment Parameters rule. If CMS finalizes either this provision or the special billing and payment regulations, the availability of coverage for abortion will likely be further eroded.

CONCLUSION

The combination of longstanding federal and state policies along with the new wave of state laws that restrict abortion coverage has made coverage options constrained in many states. In 11 states, women enrolled in Medicaid, Private, and Marketplace Plans, have essentially no abortion coverage options. **(Figure 3).** In 15 additional states, women who qualify for Medicaid or who seek to get coverage through their state Marketplace also lack abortion coverage; in 9 other states and DC women enrolled in Medicaid have abortion coverage limited to the circumstances

Figure 3

State Policies on Abortion Coverage in Medicaid and Private Insurance, 2019

Medicaid, Private and Marketplace Limits (11 states) Medicaid Limits Only (9 states plus D.C.)
Medicaid and Marketplace Limits (15 states) No Restrictions (15 states)

SOURCE: Kaiser Family Foundation, State Policies on Abortion Coverage in Medicaid and Private Insurance: 2019. Guttmacher Institute, State Policies in Brief: Restricting Insurance Coverage of Abortion, February 2019.

permitted in the Hyde Amendment. Furthermore, while there are 24 states and DC that do not have policies that limit abortion coverage in the ACA Marketplace, 8 of these states do not offer any 2019 Marketplace plans that include abortion coverage.

The impact of the abortion coverage restrictions disproportionately affects poor and low-income women, who have limited ability to pay for abortion services with out-of-pocket funds. Today, half of women on Medicaid have abortion coverage that is limited to pregnancies resulting from rape, incest, or life endangerment. While millions of women have gained health insurance coverage as a result of the ACA insurance expansions, many are enrolled in plans that restrict the circumstances in which abortion services will be covered. In the coming years, laws enacted at the federal and state levels, as well as the

choices made by insurers, employers, and policyholders will ultimately determine the extent of abortion coverage that will be available to women across the nation.

Appendix Table 1: Scope of Abortion Coverage in Medicaid and Private Plans, by State as of May 2019				
State	States with No Medicaid Expansion and Not Using State Funds to Pay for Abortions	States with Medicaid Expansion and Not Using State Funds to Pay for Abortions	State Law Restricting Abortion Coverage to Limited Circumstances in Marketplace Plans	State Law Limiting Abortion in Private Insurance Issued in the State
United States	14	22	26	11
Alabama	X		X	
Alaska				
Arizona*		X	X	
Arkansas		X	X	
California				
Colorado		X		
Connecticut				
Delaware		X		
DC		X		
Florida	X		X	
Georgia	X		X	
Hawaii				
Idaho		X	X	X
Illinois				
Indiana		X	X	X
Iowa		X		
Kansas	X		X	X
Kentucky		X	X	X
Louisiana		X	X	
Maine		X		
Maryland				
Massachusetts				
Michigan		X	X	X
Minnesota				
Mississippi	X		X	
Missouri	X		X	X
Montana				
Nebraska		X	X	X
Nevada		X		
New Hampshire		X		
New Jersey				
New Mexico				
New York				
North Carolina	X		X	
North Dakota		X	X	X
Ohio		X	X	
Oklahoma	X		X	X
Oregon				
Pennsylvania		X	X	
Rhode Island		X		
South Carolina	X		X	
South Dakota**	X		X	
Tennessee	X		X	
Texas	X		X	X
Utah		X	X	X
Vermont				
Virginia		X	X	
Washington				
West Virginia		X		
Wisconsin	X		X	
Wyoming	X			

NOTES: *Arizona's state Medicaid program does not pay for medically necessary abortions, despite court order. **South Dakota pays for abortion only in cases of life endangerment.
SOURCE: Kaiser Family Foundation State Health Facts; Guttmacher Institute, State Policies in Brief, Overview of Abortion Laws, March 2019.

Appendix Table 2: Health Insurance Coverage of Women Ages 15 49					
State	**Total**	**Employer**	**Medicaid**	**Other**	**Direct Purchase**	**Uninsured**
U.S. Total	72,811,478	42,778,519	14,490,605	1,569,461	5,528,416	8,443,630
Alabama	1,083,980	624,045	187,236	34,753	87,069	150,877
Alaska	165,031	83,193	36,749	12,489	7,096	25,504
Arizona*	1,533,095	841,013	361,079	30,014	102,432	198,557
Arkansas	648,833	343,901	172,400	15,726	47,823	68,983
California	9,255,238	5,063,680	2,434,123	152,049	790,389	814,997
Colorado	1,297,912	772,508	255,827	39,981	107,609	121,987
Connecticut	770,052	482,155	171,271	11,622	52,204	52,800
Delaware	205,504	132,396	36,688	6,245	15,052	15,123
DC	190,247	124,471	43,468	3,040	13,493	5,775
Florida	4,433,626	2,285,358	712,826	112,536	537,114	785,792
Georgia	2,453,499	1,417,987	301,206	79,980	198,659	455,667
Hawaii	298,401	191,654	54,199	22,172	14,173	16,203
Idaho	372,380	208,777	51,797	7,436	43,756	60,614
Illinois	2,898,140	1,803,691	605,796	34,618	195,971	258,064
Indiana	1,469,052	920,513	267,537	20,645	97,576	162,781
Iowa	660,809	444,699	124,506	7,849	46,111	37,644
Kansas	624,810	406,069	72,121	23,539	50,638	72,443
Kentucky	963,443	547,500	279,907	22,490	47,594	65,952
Louisiana	1,060,358	546,659	312,524	23,598	72,917	104,660
Maine	267,211	165,978	47,628	4,175	20,445	28,985
Maryland	1,371,743	899,380	249,573	37,317	86,307	99,166
Massachusetts	1,533,232	984,287	390,819	13,448	97,273	47,405
Michigan	2,155,734	1,329,323	543,535	22,404	130,712	129,760
Minnesota	1,215,704	820,978	231,886	15,657	78,586	68,597
Mississippi	663,521	349,244	130,634	20,541	49,050	114,052
Missouri	1,320,510	834,358	178,798	30,005	107,416	169,933
Montana	217,557	118,588	46,141	4,414	23,024	25,390
Nebraska	406,614	262,143	43,241	11,295	40,009	49,926
Nevada	686,486	403,515	124,289	17,166	40,442	101,074
New Hampshire	275,094	194,338	37,952	5,750	17,765	19,289
New Jersey	2,004,561	1,295,179	335,819	26,752	133,129	213,682
New Mexico	448,293	193,055	163,787	14,322	22,129	55,000
New York	4,524,937	2,645,195	1,215,128	43,212	307,394	314,008
North Carolina	2,321,229	1,321,710	370,953	85,714	195,033	347,819
North Dakota	157,832	105,946	14,697	5,266	15,922	16,001
Ohio	2,515,633	1,538,192	615,117	41,803	141,078	179,443
Oklahoma	861,106	482,518	119,278	27,079	61,800	170,431
Oregon	922,510	527,426	224,041	11,504	78,010	81,529
Pennsylvania	2,681,877	1,700,565	570,345	45,478	181,075	184,414
Rhode Island	230,392	139,320	59,883	3,353	14,837	12,999
South Carolina	1,094,681	614,719	191,702	33,444	85,397	169,419
South Dakota**	174,117	110,457	20,542	3,202	19,415	20,501
Tennessee	1,499,939	860,104	319,042	44,155	105,578	171,060
Texas	6,707,147	3,717,353	766,624	140,650	477,420	1,605,100
Utah	749,681	515,905	65,698	10,241	74,128	83,709
Vermont	125,190	69,659	39,560		8,709	6,415
Virginia	1,905,914	1,208,329	194,750	117,232	159,384	226,219
Washington	1,668,709	1,027,071	344,964	49,656	117,740	129,278
West Virginia	372,596	197,957	123,024	7,965	15,134	28,516
Wisconsin	1,228,349	833,447	215,205	11,723	88,155	79,819
Wyoming	118,969	72,011	14,690	3,756	8,244	20,268

NOTES: **Orange shading** indicates states restricting Medicaid abortion coverage to Hyde Amendment rules.
Blue shading indicates states with limitations on abortion coverage in private plans or the Marketplace.
*Arizona's state Medicaid program does not pay for medically necessary abortions, despite court order.
**South Dakota pays for abortion only in cases of life endangerment.
SOURCES: Kaiser Family Foundation estimates based on 2017 Census Bureau's American Community Survey; Guttmacher Institute State Policies in Brief Overview of Abortion Laws, March, 2019

Endnotes

[1] Guttmacher Institute Facts on Induced Abortion in the United States January 2018.

[2] Guttmacher Institute, Medicaid Funding of Abortion February 2018.

[3] Guttmacher Institute. State Policies in Brief Overview of Abortion Laws April 1, 2019.

[4] Guttmacher Institute Facts on Induced Abortion in the United States January 2018.

[5] Ibid.

[6] Heather D. Boonstra Guttmacher Institute Abortion in the Lives of Women Struggling Financially: Why Insurance Coverage Matters July 2016.

[7] National Journal "Should Mothers Be Forced to Bear Disabled Children Against Their Will?" October 2013.

[8] Senator Shaheen "Shaheen Amendment Signed into Law" January 3 2013.

[9] Kaiser Family Foundation Medicaid's Role for Women March 2019.

[10] Guttmacher Institute. State Policies in Brief Overview of Abortion Laws April 2019.

[11] South Dakota does not have a rape or incest exception limiting coverage to cases of life endangerment for the woman.

[12] The 14 states that reported not covering Mifeprex were Alabama, Arkansas, Colorado, District of Columbia, Florida, Idaho, Kentucky, Missouri, North Carolina, Oklahoma, Rhode Island, South Carolina, Texas, and Utah.

[13] The White House Office of the Press Secretary Executive Order 13535– Patient Protection and Affordable Care Act's Consistency with Longstanding Restrictions of the Use of Federal Funds for Abortion March 24 2010.

[14] Michigan Act 182: Abortion Insurance Opt Out Act.

[15] Kaiser Family Foundation Abortion Coverage in the Premium Relief Act of 2017 (HR 4666) March 2018.

[16] Michelle Rouillard Director of Department of Managed Health Care letter to Mark Morgan California President of Anthem Blue Cross RE: Limitations or Exclusions of Abortion Services. August 22 2014. Available: https://www.dmhc.ca.gov/Portals/0/082214letters/abc082214.pdf.

[17] Washington State Legislature. SB 6219 2017 -18. Concerning health plan coverage of reproductive care.

[18] Guttmacher Institute. Restricting Insurance Coverage of Abortion, April 2019.

[19] The Patient Protection and Affordable Care Act Section 1303 Special Rules.

[20] Kaiser Family Foundation, Abortion Coverage in the ACA Marketplace Plans: The Impact of Proposed Rules for Consumers, Insurers, and Regulators, December 2018.

[21] The Patient Protection and Affordable Care Act Section 1303 Special Rules.
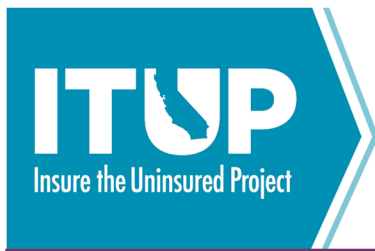
2019-20 Governor's Budget
May Revision Highlights

May 14, 2019

On Thursday, May 9, 2019, Governor Newsom announced the "May Revision" [1] to his 2019-20 proposed budget, maintaining proposals to expand health care coverage and improve the affordability of individual coverage originally proposed in January. This ITUP Legislative Update provides an overview of the May Revision and health and health-related proposals.

The May Revision also includes and augments investment in other health programs, including workforce development and mental health services. In addition, this overview considers budget items that address social and community indicators of health, typically referred to as the social determinants of health.

Budget Overview

The May Revision forecasts revenues that are $3.2 billion higher than the January estimate over three fiscal years, from 2017-18 to 2019-20, primarily because of ongoing economic growth.

The May Revision proposes $162.3 billion ($41.4 billion General Fund and $120.9 billion federal/other funds) for health and human services in 2019-20, a 2.6 percent increase from January. As illustrated in Figure 1, health and human services is the largest area of state spending, but only 26 percent is state general fund, with federal funds and other revenues as the remaining funding sources.

Health Care Coverage and Affordability

- *Medi-Cal Expansion to Young Adults.* The May Revision maintains the January proposal to cover undocumented young adults between the ages of 19 and 25 in Medi-Cal but delays the start date for six months until January 1, 2020. The January proposal included $260 million for 138,000 individuals, while the May Revision proposes $98 million for coverage of 90,000 young adults.

---

[1] The annual May Revision to the Governor's proposed January budget includes updated estimates of revenues, caseloads and expenditures. The Legislature considers the Governor's Revisiond budget proposals as it works to finalize the state budget by the June 15 constitutional deadline, in advance of the new state fiscal year beginning July 1.

Figure 1
Proposed Funding by Program Area
2019-20 May Revision
(in billions)
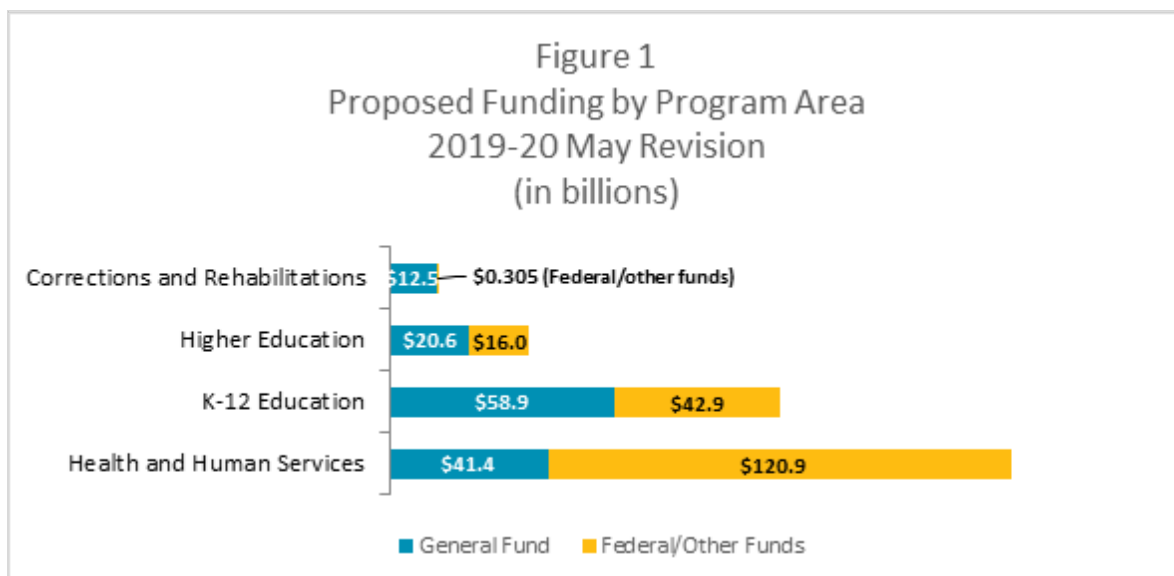
- *State Financial Assistance for Individuals Enrolled in Covered California.* The May Revision continues and proposes to expand state-funded financial assistance for individuals covered through Covered California. Under current law, federal premium tax credits reduce premiums for enrolled individuals between 250 and 400 percent of the federal poverty level (FPL); (400 percent FPL is $48,560 for an individual, $100,400 for a family of four in 2019).

  In January, the Governor proposed state assistance, in addition to federal subsidies, for individuals with incomes 250-600 percent FPL (up to $72,840 for individuals and $150,600 for a family of four). The May Revision proposes to extend the assistance to individuals with incomes between 200 and 250 FPL ($24,280 - $30,350 in household income for an individual).

  In 2018, the average premium payment for unsubsidized Covered California enrollees, including enrollees over 400 percent FPL, was approximately $446 per month. Under the Governor's proposal, assistance for individuals between 400 and 600 percent FPL could reduce premiums on average $100 per month (over 20 percent) depending on income, family size, age and other factors.

  The May Revision proposes to end state-based assistance in three years. According to Governor Newsom, the proposed timeline would allow for consideration of anticipated recommendations from the proposed Healthy California for All Commission (Commission) discussed in more detail below.

- *State Individual Coverage Requirement.* The May Revision maintains the January proposal for a state individual coverage requirement, with a financial penalty, that will fund the increased financial assistance in Covered California. The May Revision reduces expected state penalty revenues from the January estimate of $500 million to $295.3 million in 2019-20 and $330.4 million in 2020-21. The proposed state coverage requirement would replace the federal individual mandate penalty which Congress decreased to $0 starting in January

2019. Because of the elimination of the federal individual mandate tax penalty, new enrollment in Covered California dropped significantly in 2019. For more information on the impact of the elimination of the individual mandate tax penalty on Covered California, read the ITUP blog, *Covered California Announces 2019 Enrollment*.

Healthy California for All Commission

The May Revision includes the Governor's proposal to establish the Commission as a replacement for the Council on Health Care Delivery Systems (Council) included in the 2018-19 budget. Last year, the Legislature provided $5 million for the Council to develop "options for advancing progress toward achieving a health care delivery system in California that provides coverage and access through a unified financing system."

In March, the Newsom Administration proposed amendments to the Council, including renaming it and expanding the membership from 5 to 13 members. The Administration's amendments require the Commission to submit a report to the Legislature and the Governor by July 1, 2020 on "options for additional steps California can take to prepare for transition to a single-payer financing system" and "options for coverage expansions, including potential funding sources." The Legislature is currently evaluating the changes proposed by the Governor.

Health Care Workforce Initiatives

The May Revision adds $120 million in Proposition 56 funds for the Medi-Cal loan repayment program (see below) and $100 million for mental health workforce development. The January budget included $122 million for health care workforce programs.

- *Loan Repayment Program.* CalHealthCares is a loan repayment program for physicians and dentists whose patient caseload is at least 30 percent Medi-Cal beneficiaries. The program is funded with Proposition 56 cigarette and tobacco tax revenues (see below for more on Proposition 56). The state Department of Health Care Services (DHCS) awarded a grant to Physicians for a Healthy California to administer CalHealthCares.

  The 2018-19 state budget appropriated $220 million in Proposition 56 funding for CalHealthCares. Under the May Revision, CalHealthCares revenues would increase to $340 million ($290 million for physicians and $50 million for dentists) to be awarded over multiple years. To be eligible, providers must commit to five years of Medi-Cal participation for a loan repayment up to $300,000 or ten years of Medi-Cal participation for a practice support grant of the same amount.

- *Workforce Education and Training.* The May Revision also proposes to allocate $100 million from the Mental Health Services Fund (Fund) to implement the 2020-25 Workforce Education and Training (WET) Five-Year Plan. Proposition 63, passed by voters on November 2, 2004, established the Mental Health Services Act (MHSA), funded by a 1 percent tax on incomes over $1 million, to support public mental health services, including workforce

improvement efforts. The new WET plan will use regional partnerships and provide support to individuals and providers through pipeline development, undergraduate scholarships, education stipends, and loan repayment.

Including other health workforce investments, the May Revision brings the Governor's proposed investment in workforce development to $600 million.

Medi-Cal

The May Revision projects that enrollment in the Medi-Cal Program will remain relatively stable, with a 2.4 percent projected decrease in the current budget year and a slight increase in 2019-20.

Medi-Cal expenditures in 2019-20 are expected to increase by $3.3 billion compared with 2018-19 expenditures. One-third of the increase is attributable to a higher average cost per eligible and other factors. Another third is due to a shift in the timing of payments from the current year to the budget year. Finally, one-third of this increase is due to the expiration of the managed care organization (MCO) tax which the state used in prior years to draw down $1.5-1.9 billion in federal Medicaid matching funds, subject to the terms of a federal Medicaid waiver. The MCO tax is scheduled to expire at the end of the 2018-19 budget year. According to the Governor, seeking federal approval for continuation of the MCO tax must be considered along with other state priorities, and is, for the moment, too risky given California's other expiring and pending federal waiver requests.

Other Medi-Cal highlights:

- ***Pharmacy Services Transition.*** The May Revision maintains the Governor's proposal to transition pharmacy services from Medi-Cal managed care to fee-for-service by 2021. The Administration estimates the plan will save $393 million General Fund by 2022-23. Safety-net providers participating in the 340B Drug Discount Program have raised concerns that under the proposal losing 340B funding could jeopardize their ability to provide affordable drugs to low-income patients. The federal 340B Drug Discount Program requires drug manufacturers to provide outpatient drugs to eligible health organizations at significantly reduced prices.

- ***Whole Person Care Pilots.*** In addition to the one-time augmentation of $100 million for Whole Person Care Pilots in the January budget, the May Revision adds $20 million for counties not currently operating such pilot projects to develop care coordination services. The proposal prioritizes the increase for individuals experiencing mental illness and homelessness or who are at risk for homelessness.

- ***County Health Realignment Funds.*** The May Revision modifies the January budget proposal to redirect additional Health Realignment funds from counties to the state. Following the ACA expansion of Medi-Cal to low-income uninsured adults, previously served in county indigent care programs, the state and counties agreed on formulas to redirect local health

4

realignment funds to the state. The day after release of the May Revision, the Governor notified the Legislature of his intent to reinstate $5 million in realignment funds he proposed to redirect from four counties (Placer, Sacramento, Santa Barbara, and Stanislaus). For more information on county indigent care programs, see ITUP publication entitled, *2019 County Medically Indigent Programs*.

▪ ***Medi-Cal County Administration***. The May Revision increases funding for county eligibility administration by $15.3 million above the January budget, for a total of $2.1 billion for this purpose.

Medi-Cal: Proposition 56 Tobacco Tax Revenues

Proposition 56, passed by voters in 2016, increases the state tax on tobacco products. The initiative earmarks the additional revenues to backfill existing tobacco tax funded programs and to support new health care and tobacco-use prevention programs, including Medi-Cal, physician training, and research on tobacco-related diseases. The Governor's January budget included $3.2 billion in Proposition 56 revenues (including federal matching funds) and proposed the following distribution of Proposition 56 funding in Medi-Cal:

▪ Continue Proposition 56 supplemental payments and rate increases for certain Medi-Cal providers ($2.2 billion, $748 million from Proposition 56).

▪ Create a Value-Based Payment Program with incentives for providers, through Medi-Cal managed care plans, to meet specific metrics in management of chronic diseases, prenatal/postpartum care, and behavioral health integration, with the stated goal of improving care for certain high-need, high-cost populations ($360 million, $180 million from Proposition 56).

▪ Increase early developmental screenings for children ($60 million, including an additional $30 million in state General Fund) and trauma screening for all children ages 0-21, and for adults enrolled in comprehensive Medi-Cal, excluding adults only eligible for emergency and pregnancy-related Medi-Cal services ($45 million, including $22.5 million from Proposition 56).

▪ Additional $50 million in funding for Medi-Cal family planning services. The budget estimates that the new state funding could yield as much as $500 million in total funds as a result of enhanced federal Medicaid match for family planning services.

The May Revision includes an additional $263 million Proposition 56 for Medi-Cal above the January proposal, including:

▪ $120 million for the CalHealthCares program.

▪ $70 million for the Value-Based Payment Program, specifically for behavioral health integration.

- $25 million to train providers conducting the trauma screenings proposed in the Governor's January budget.

- Restoration of optician and optical lab services for Medi-Cal adult beneficiaries, effective no sooner than January 1, 2020.

The Governor proposes to sunset Proposition 56 allocations on December 31, 2021, consistent with his stated intent to be responsive to the Commission recommendations in 2020. Tobacco tax revenues tend to decrease over time as tobacco use declines. Accordingly, DHCS points out that, starting January 1, 2022, the Governor proposes to use the remaining Proposition 56 revenue primarily for growth in the Medi-Cal program.

Expenditures on Social Determinants of Health

The Governor's Budget and May Revision propose investments in programs and initiatives that can be viewed as addressing diverse factors affecting individual and community health, often referred to as the "social determinants of health." This section highlights several examples of budget items related to the social determinants.

Social determinants of health include the conditions and factors that influence a person's health and well-being. The United States Office of Disease Prevention and Health Promotion Healthy People 2020 lists five broad determinants of health:

- Economic stability
- Education
- Social and community context
- Health and health care, and
- Neighborhood and built environment.

The budget proposals addressing these determinants include investment in early childhood learning and care systems, K-12 and higher education, housing affordability and access, and homelessness mitigation and prevention. A few examples of these investments:

- ***Investments in Children and Families.*** Priorities in early childhood learning and care systems include supporting pre-school and kindergarten programs, expanding paid family leave, and a $10 million investment to develop a long-term strategic plan for an early learning and care system. The proposed budget also builds on investments in children and families through expanding the Earned Income Tax Credit (EITC), a cost-of-living tax refund that helps families with financial burdens.

- ***Investments in Education***. The budget proposes investments to improve quality and access to K-12 and higher education. Priorities include special education and supporting educators through training, professional development and loan repayment programs. Additionally, the Governor proposes investments to the University of California and California State University systems to avoid any resident student tuition increases in fiscal year 2019-20.

- ***Targeting the Housing and Homelessness Crisis.*** The budget proposes to address the housing crisis through investments in affordable housing and market rate housing development, including $500 million to support affordable housing development and assistance for California renters. The May Revision adds $1 billion in funding to address homelessness, including $650 million to local governments for emergency shelters and Navigator Centers.

  Related proposals for increased investment in workforce development ($150 million in the May Revision) focus on the acute shortage of professionals in mental health services and will also increase capacity to serve homeless individuals with mental health conditions.

Individual Insurance Market Performance in 2018

Cynthia Cox ,**Rachel Fehr**, and**Larry Levitt**

Published: **May 07, 2019**

(Fac) (Twit) (Link) (Ema) (Prin)

ISSUE BRIEF

The early years of the Affordable Care Act (ACA) exchanges and broader ACA-compliant individual market were marked by volatility. Markets in some parts of the country have remained fragile, with little competition, an insufficient number of healthy enrollees to balance those who are sick, and high premiums as a result. By 2017, however, the individual market generally had begun to stabilize. Absent any policy changes, it is likely insurers would have required only modest premium increases to regain or maintain profitability in 2018.

However, by mid-2017 when insurers were considering 2018 premiums and participation, it was unclear whether the individual mandate would be enforced, cost-sharing subsidies would be paid, or the ACA as a whole would remain law. In October 2017, the Trump Administration ceased payments for cost-sharing subsidies, which led some insurers to exit the market or request larger premium increases than they would have otherwise. The Administration also reduced funding for advertising and outreach. And, Congress ultimately repealed the individual mandate penalty, effective for 2019. Amid these policy changes and legislative uncertainty, insurers raised benchmark premiums by an average of 34% going into 2018.

In this analysis, we find individual market insurers saw better financial performance in 2018 than in all the earlier years of the ACA and returned to, or even exceeded, pre-ACA levels of profitability. Premiums fell slightly on average for 2019, as it became clear that some insurers had raised 2018 rates more than was necessary. It is likely premiums would have fallen even more if the individual mandate penalty were still in effect.

In this brief, we use financial data reported by insurance companies to the National Association of Insurance Commissioners and compiled by Mark Farrah Associates to look at the average premiums, claims, medical loss ratios, gross margins, and enrollee utilization from 2011 through 2018 in the individual insurance market, as well as the amount of medical loss ratio rebates insurers expect to issue to 2018 enrollees. These figures include coverage purchased through the ACA's exchange marketplaces and ACA-compliant plans purchased directly from insurers outside the marketplaces (which are part of the same risk pool), as well as individual plans originally purchased before the ACA went into effect.

Our analysis also finds that insurers are expecting to pay a record total of about $800 million in rebates to individual market consumers for not meeting the ACA medical loss ratio threshold, which requires them to spend at least 80% of premium revenues on health care claims or quality

improvement activities. This comes from initial estimates reported by insurers; actual rebates could end up being either higher or lower. In total, across the individual, small group, and large group markets, insurers expect to issue about $1.4 billion in rebates this year based on their 2018 performance. If insurer expectations hold true, these will be the largest consumer rebates issued since the MLR program began.

These new data from 2018 offer further evidence that insurers in the individual market are regaining profitability, though more recent policy and legislative changes taking effect in 2019 – the repeal of the individual mandate penalty as part of tax reform legislation and the proliferation of loosely-regulated short-term insuranceplans – continue to cloud expectations somewhat for the future.

Medical Loss Ratios

As we found in our previous analysis, insurer financial performance as measured by loss ratios (the share of health premiums paid out as claims) worsened in the earliest years of the ACA Marketplaces, but began to improve more recently. This is to be expected, as the market had just undergone significant regulatory changes in 2014 and insurers had very little information to work with in setting their premiums.

The chart below shows simple loss ratios, which differ from the formula used in the ACA's MLR provision.[1] Loss ratios began to decline in 2016, suggesting improved financial performance. In 2017, following relatively large premium increases, individual market insurers saw significant improvement in loss ratios, a sign that individual market insurers on average were beginning to better match premium revenues to claims costs. Loss ratios have continued to decline, averaging 70% in 2018. This suggests insurers were able to build in the loss of cost-sharing subsidy payments when setting premiums and some insurers likely over-corrected.

Figure 1: Average Individual Market Medical Loss Ratios, 2011 – 2018
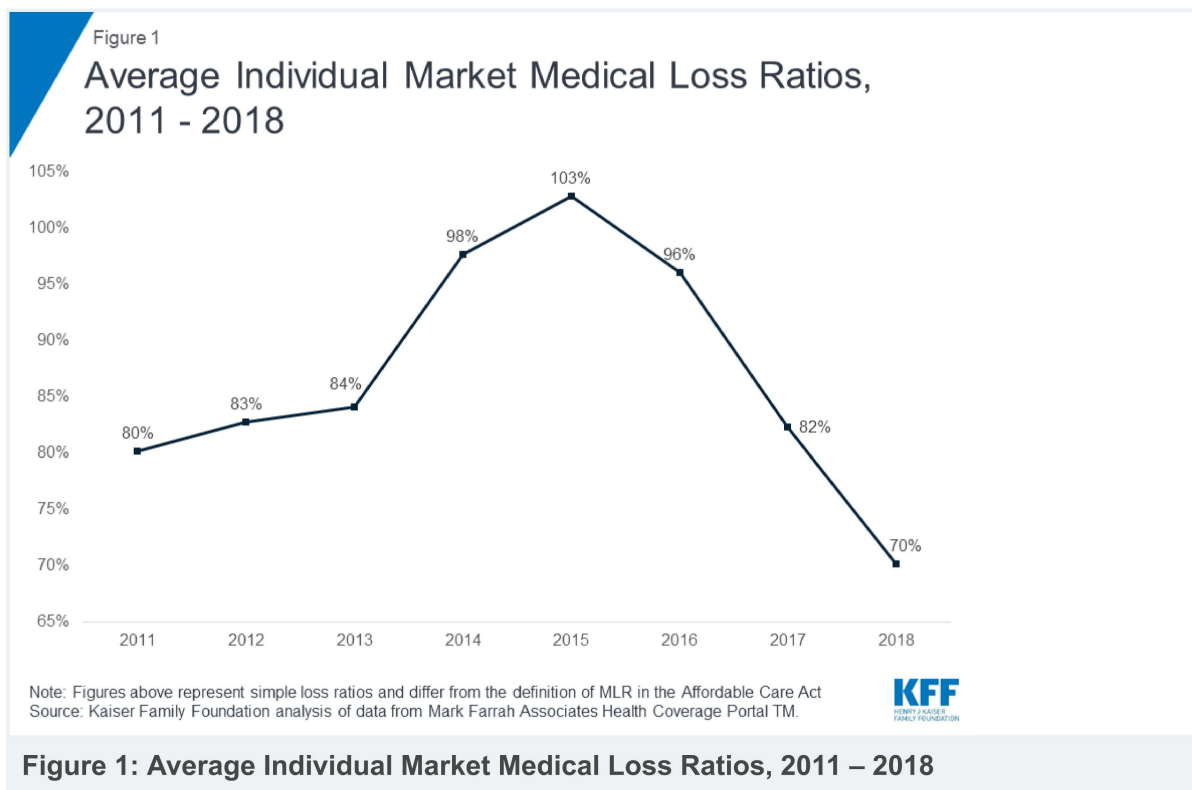
Margins

Another way to look at individual market financial performance is to examine average gross margins per member per month, or the average amount by which premium income exceeds claims costs per enrollee in a given month. Gross margins are an indicator of performance, but positive margins do not necessarily translate into profitability since they do not account for administrative expenses.

Figure 2: Average Individual Market Gross Margins Per Member Per Month, 2011 – 2018

Gross margins show a similar pattern to loss ratios. Insurer financial performance improved dramatically through 2018 (increasing to $167 per enrollee, from a recent annual low of -$9 in 2015). These data suggest that insurers in this market are now financially healthy, on average.

Underlying Trends

Driving recent improvements in individual market insurer financial performance are the premium increases in 2018 combined with more modest growth in claims for medical expenses. On average, premiums per enrollee grew 26% from 2017 to 2018, while per person claims grew only 7%. This growth in premiums is in part due to the loss of cost-sharing subsidy payments; insurers are required by law to provide cost-sharing subsidies to eligible enrollees, but are no longer being reimbursed by the federal government. Rate hikes to offset the termination of federal cost-sharing subsidy payments were a major factor in 2018 premium increases.

Figure 3

Average Individual Market Monthly Premiums and Claims Per Person, 2011 - 2018

Source: Kaiser Family Foundation analysis of data from Mark Farrah Associates Health Coverage Portal TM

Figure 3: Average Individual Market Monthly Premiums and Claims Per Person, 2011 – 2018
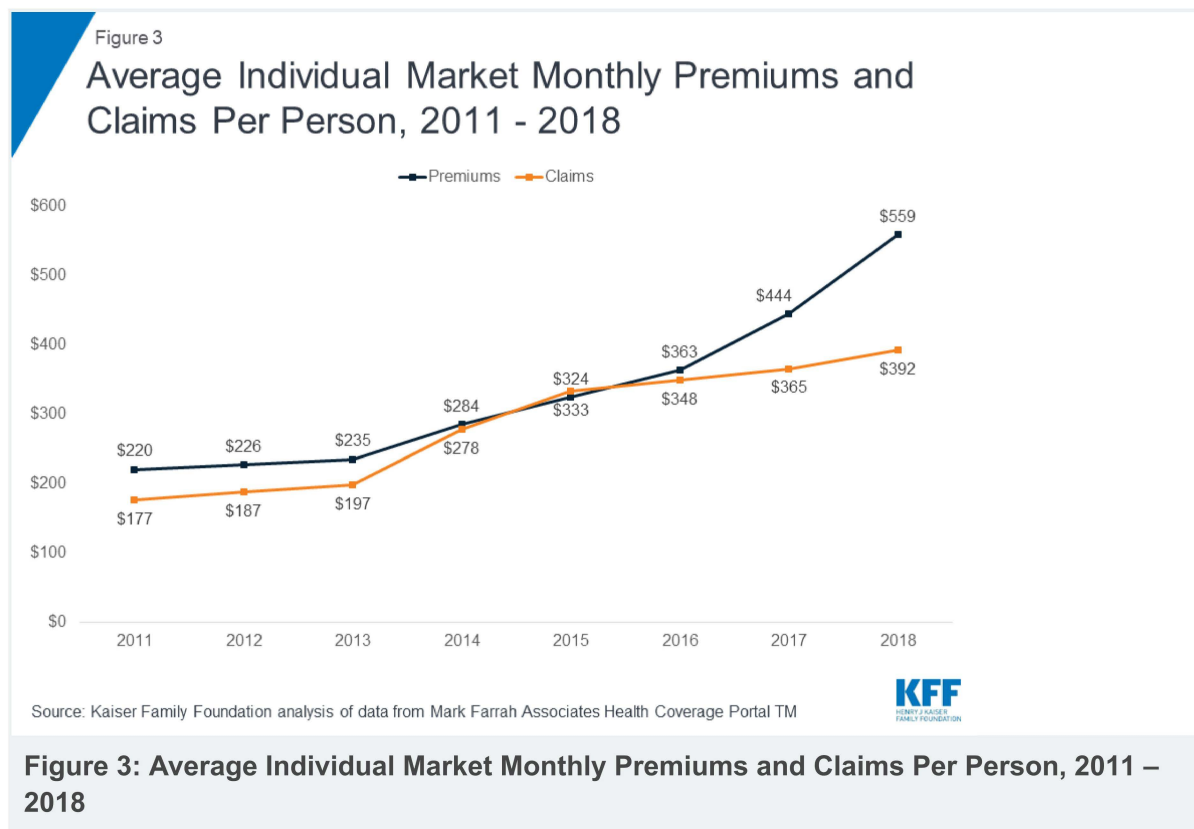
One concern about rising premiums in the individual market was whether healthy enrollees would drop out of the market in large numbers rather than pay higher rates. While the vast majority of exchange enrollees are subsidized and sheltered from paying premium increases, those enrolling off-exchange would have to pay the full increase. Despite this dynamic, the average number of days individual market enrollees spent in a hospital in 2018 was slightly lower than inpatient days in the previous three years.[2]

Federal Subsidies for Health Insurance Coverage for People Under Age 65: Tables From CBO's May 2019 Projections

These projections update the projections of subsidies, and related revenues, for health insurance coverage for people under age 65, as published by CBO in May 2018 and January 2019. The same tables also appear in Congressional Budget Office, *Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2019 to 2029* (May 2019), www.cbo.gov/publication/55085.

Components may not sum to totals because of rounding.

Table 1.

Health Insurance Coverage, 2019 to 2029

Millions of People, by Calendar Year

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Total Population Under Age 65	273	273	273	274	274	275	275	276	276	276	277
Employment-Based Coverage	159	159	159	159	158	158	158	158	158	159	159
Medicaid and CHIP[a]											
Blind and disabled	7	7	7	7	7	7	7	7	7	7	7
Children	30	30	30	30	30	30	30	30	30	30	30
Adults made eligible for Medicaid by the ACA	12	12	12	13	13	13	14	14	14	14	14
Adults otherwise eligible for Medicaid	13	12	12	12	13	13	13	13	13	13	13
CHIP	7	7	7	7	7	7	7	7	7	7	7
Subtotal	69	68	68	69	70	70	70	71	71	71	71
Nongroup Coverage and the Basic Health Program											
Nongroup coverage purchased through marketplaces[b]											
Subsidized	8	8	7	7	7	7	7	6	6	6	6
Unsubsidized	1	1	1	1	1	1	1	1	1	1	1
Subtotal	9	9	8	8	8	8	8	7	7	7	7
Nongroup coverage purchased outside marketplaces	5	5	4	4	4	4	4	4	4	4	4
Total, nongroup coverage	14	13	13	12	12	12	12	12	12	11	11
Coverage through the Basic Health Program[c]	1	1	1	1	1	1	1	1	1	1	1
Medicare[d]	8	8	8	8	8	8	8	8	8	8	8
Other Coverage[e]	3	3	3	3	3	3	3	3	3	3	3
Uninsured[f]	30	32	33	33	34	34	34	34	35	35	35
Memorandum:											
Number of Insured People	242	241	240	240	241	241	241	241	241	241	242
Insured as a Percentage of the Population											
Including all U.S. residents	89	88	88	88	88	88	88	88	87	87	87
Excluding noncitizens not lawfully present	91	90	90	90	90	89	89	89	89	89	89

Sources: Congressional Budget Office; staff of the Joint Committee on Taxation.

The table shows coverage for the noninstitutionalized civilian population under age 65. The components do not sum to the total population because some people report multiple sources of coverage. CBO and JCT estimate that in every year of the projection period, between 11 million and 12 million people (or about 5 percent of insured people) have multiple sources of coverage, such as employment-based coverage and Medicaid.

Estimates reflect average monthly enrollment over the course of a year and include spouses and dependents covered under family policies.

ACA = Affordable Care Act; CHIP = Children's Health Insurance Program; JCT = Joint Committee on Taxation.

a. Includes only noninstitutionalized enrollees with full Medicaid benefits. Estimates are adjusted to account for people enrolled in more than one state.

b. Many people can purchase subsidized health insurance coverage through marketplaces established under the ACA, which are operated by the federal government, state governments, or partnerships between the federal and state governments.

c. The Basic Health Program, created under the ACA, allows states to establish a coverage program primarily for people with income between 138 percent and 200 percent of the federal poverty guidelines. To subsidize that coverage, the federal government provides states with funding equal to 95 percent of the subsidies for which those people would otherwise have been eligible through a marketplace.

d. Includes noninstitutionalized Medicare enrollees under age 65. Most Medicare-eligible people under age 65 qualify for Medicare because they participate in the Social Security Disability Insurance program.

e. Includes people with other kinds of insurance, such as student health plans, coverage provided by the Indian Health Service, or coverage from foreign sources.

f. Includes noncitizens not lawfully present in this country, who are ineligible either for marketplace subsidies or for most Medicaid benefits; people ineligible for Medicaid because they live in a state that has not expanded coverage; people eligible for Medicaid or CHIP who do not enroll; people who purchase nongroup insurance policies that do not meet the agencies' definition of comprehensive health insurance; and people who do not purchase insurance available through an employer, through the marketplaces, or directly from an insurer.

Table 2.

Net Federal Subsidies Associated With Health Insurance Coverage, 2019 to 2029

Billions of Dollars, by Fiscal Year

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total, 2020–2029
Work-Related Coverage												
Tax exclusion for employment-based coverage[a,b]	283	301	320	341	363	387	410	466	502	530	562	4,182
Income tax deduction for self-employment health insurance[c]	4	4	3	3	3	4	4	4	5	5	5	39
Small-employer tax credits[b]	*	*	*	*	*	*	*	*	*	*	*	*
Subtotal	287	304	324	344	367	390	414	470	507	534	567	4,222
Medicaid and CHIP[d]												
Blind and disabled	109	115	121	127	135	143	152	161	172	182	194	1,502
Children	76	80	85	91	96	102	108	114	120	126	133	1,055
Adults made eligible for Medicaid by the ACA	66	66	70	76	83	89	95	102	108	115	121	925
Adults otherwise eligible for Medicaid	46	48	51	54	58	61	65	68	72	76	81	635
CHIP	18	16	14	14	15	16	16	17	18	18	19	164
Subtotal	314	325	341	363	387	411	436	462	490	518	549	4,282
Marketplace-Related Coverage and the Basic Health Program												
Premium tax credit outlays	43	44	43	45	47	49	52	54	55	56	57	503
Premium tax credit revenue reductions	9	10	9	10	10	11	11	12	12	12	12	109
Subtotal	53	53	53	55	58	60	64	66	67	68	70	612
Outlays for the Basic Health Program	6	6	6	7	7	7	8	8	9	9	10	77
Collections for risk adjustment and reinsurance	-6	-5	-6	-6	-6	-6	-7	-7	-7	-8	-8	-66
Payments for risk adjustment and reinsurance	9	5	6	6	6	6	7	7	7	8	8	65
Subtotal	62	59	59	61	65	68	72	74	75	77	79	689
Medicare[e]	86	88	92	96	100	104	109	114	120	127	131	1,082
Taxes and Penalties Related to Coverage												
Gross collections of excise tax on high-premium insurance plans[f]	0	0	0	-2	-7	-9	-10	-12	-16	-19	-22	-96
Penalty payments by uninsured people	-3	0	0	0	0	0	0	0	0	0	0	0
Net receipts from tax on health insurance providers[g]	0	-13	-14	-15	-15	-16	-17	-17	-18	-19	-20	-164
Gross collections of employer penalties[f]	-8	-9	-9	-6	-6	-7	-7	-7	-8	-8	-7	-74
Subtotal	-11	-22	-22	-23	-29	-32	-34	-36	-42	-45	-49	-334
Net Subsidies	**737**	**755**	**794**	**842**	**889**	**941**	**997**	**1,085**	**1,149**	**1,211**	**1,277**	**9,940**

Continued

Table 2.   Continued

Net Federal Subsidies Associated With Health Insurance Coverage, 2019 to 2029

Billions of Dollars, by Fiscal Year

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total, 2020–2029
Memorandum:												
Collections of Excise Tax on High-Premium Insurance Plans, Including the Associated Effects on Revenues of Changes in Taxable Compensation	0	0	0	-6	-14	-18	-22	-25	-31	-35	-42	-193

Sources: Congressional Budget Office; staff of the Joint Committee on Taxation.

The table shows subsidies for the noninstitutionalized civilian population under age 65.

Positive numbers indicate an increase in the deficit, and negative numbers indicate a decrease in the deficit.

The table excludes outlays made by the federal government in its capacity as an employer.

ACA = Affordable Care Act; CHIP = Children's Health Insurance Program; JCT = Joint Committee on Taxation; * = between zero and $500 million.

a. Includes the effect on tax revenues of the exclusion of premiums for people under age 65 with employment-based insurance from federal income and payroll taxes and includes the effects on taxable wages of the excise tax on high-cost plans and penalty payments by employers. The estimates shown, which JCT produced, differ from the agency's estimates of the tax expenditure for the exclusion of employer-paid health insurance because effects stemming from the exclusion for people over age 65 are not included here and because the Federal Insurance Contributions Act tax exclusion for employer-paid health insurance is included here.

b. Includes increases in outlays and reductions in revenues.

c. The estimates shown, which JCT produced, do not include effects stemming from the deduction for people over age 65.

d. For Medicaid, the outlays reflect only medical services for noninstitutionalized enrollees under age 65 who have full Medicaid benefits.

e. For Medicare, the outlays are for benefits net of offsetting receipts for noninstitutionalized Medicare beneficiaries under age 65.

f. Excludes the associated effects on revenues of changes in taxable compensation, which are included in the estimate of the tax exclusion for employment-based insurance. If those effects were included, net revenues stemming from the excise tax would total $193 billion over the 2020–2029 period, and revenues from penalty payments by employers would total $58 billion over that 10-year period.

g. Net receipts include effects on individual and corporate tax receipts. The tax is suspended in 2019.

Table 3.

Comparison of Current and Previous Projections of Health Insurance Coverage and Net Federal Subsidies

	2019			2019–2028		
	May 2018 Projection	May 2019 Projection	Difference	May 2018 Projection	May 2019 Projection	Difference
	Insurance Coverage for the Year[a] (Millions of people)			Average Insurance Coverage Over the Period[a] (Millions of people)		
Total Population	273	273	-1	276	274	-1
Employment-Based Coverage	159	159	-1	156	159	3
Medicaid and CHIP[b]						
Adults made eligible for Medicaid by the ACA	12	12	*	13	13	*
People otherwise eligible for Medicaid	48	50	1	49	50	*
CHIP	6	7	1	6	7	1
Total	66	69	2	69	70	1
Nongroup Coverage and the Basic Health Program						
Subsidized nongroup	7	8	1	7	7	*
Unsubsidized nongroup	5	6	1	6	5	*
Total, nongroup coverage	12	14	2	12	12	*
Coverage through the Basic Health Program[c]	1	1	*	1	1	*
Medicare[d]	8	8	*	8	8	*
Other Coverage[e]	5	3	-2	5	3	-2
Uninsured[f]	32	30	-2	35	34	-1
	Effects on the Federal Deficit[g] (Billions of dollars)			Effects on the Cumulative Federal Deficit Over the Period[g] (Billions of dollars)		
Work-Related Coverage						
Tax exclusion for employment-based coverage[h]	276	283	7	3,653	3,903	250
Income tax deduction for self-employment health insurance[i]	5	4	-2	64	38	-26
Small-employer tax credits	1	**	-1	8	**	-7
Subtotal	282	287	4	3,725	3,942	217
Medicaid and CHIP[j]						
Adults made eligible for Medicaid by the ACA	62	66	4	842	870	28
People otherwise eligible for Medicaid	233	230	-3	3,049	3,015	-34
CHIP	16	18	2	143	163	21
Subtotal	310	314	3	4,034	4,047	14
Marketplace-Related Coverage and the Basic Health Program						
Premium tax credits	53	53	**	703	595	-108
Outlays for the Basic Health Program	4	6	2	57	73	16
Net collections and payments for risk adjustment and reinsurance	**	3	3	-1	3	4
Subtotal	57	62	5	760	672	-88
Medicare[k]	84	86	2	1,049	1,037	-13
Taxes and Penalties Related to Coverage						
Gross collections of excise tax on high-premium insurance plans[l]	0	0	0	-47	-75	-27
Penalty payments by uninsured people	-3	-3	**	-3	-3	**
Net receipts from tax on health insurance providers[m]	0	0	0	-161	-144	17
Gross collections of employer penalties[l]	-8	-8	**	-101	-75	26
Subtotal	-11	-11	**	-313	-297	16
Net Subsidies	**723**	**737**	**14**	**9,255**	**9,401**	**146**

CBO

Table 3.   Continued

Sources: Congressional Budget Office; staff of the Joint Committee on Taxation.

Estimates of insurance coverage apply to calendar years, and estimates of the effect on the federal deficit apply to fiscal years.

The table applies to the noninstitutionalized civilian population under age 65.

ACA = Affordable Care Act; CHIP = Children's Health Insurance Program; JCT = Joint Committee on Taxation; * = between −500,000 and 500,000; ** = between −$500 million and $500 million.

a.   The components do not sum to the total population because some people report multiple sources of coverage. CBO and JCT estimate that in every year of the projection period, between 11 million and 12 million people (or about 5 percent of insured people) have multiple sources of coverage, such as employment-based coverage and Medicaid. Estimates reflect average monthly enrollment over the course of a year and include spouses and dependents covered under family policies.

b.   Includes only noninstitutionalized enrollees with full Medicaid benefits. Estimates are adjusted to account for people enrolled in more than one state.

c.   The Basic Health Program, created under the ACA, allows states to establish a coverage program primarily for people with income between 138 percent and 200 percent of the federal poverty guidelines. To subsidize that coverage, the federal government provides states with funding equal to 95 percent of the subsidies for which those people would otherwise have been eligible through a marketplace.

d.   Includes noninstitutionalized Medicare enrollees under age 65. Most Medicare-eligible people under age 65 qualify for Medicare because they participate in the Social Security Disability Insurance program.

e.   Includes people with other kinds of insurance, such as student health plans, coverage provided by the Indian Health Service, and coverage from foreign sources.

f.   Includes noncitizens not lawfully present in this country, who are ineligible either for marketplace subsidies or for most Medicaid benefits; people ineligible for Medicaid because they live in a state that has not expanded coverage; people eligible for Medicaid or CHIP who do not enroll; people who purchase nongroup insurance policies that do not meet the agencies' definition of comprehensive health insurance; and people who do not purchase insurance available through an employer, through the marketplaces, or directly from an insurer.

g.   Positive numbers indicate an increase in the deficit, and negative numbers indicate a decrease in the deficit.

h.   Includes the effect on tax revenues of the exclusion of premiums for people under age 65 with employment-based insurance from federal income and payroll taxes and includes the effects on taxable wages of the excise tax on high-cost plans and penalty payments by employers. The estimates shown, which JCT produced, differ from the agency's estimate of the tax expenditure for the exclusion of employer-paid health insurance because effects stemming from the exclusion for people over age 65 are not included here and because the Federal Insurance Contributions Act tax exclusion for employer-paid health insurance is included here.

i.   The estimates shown, which JCT produced, do not include effects stemming from the deduction for people over age 65.

j.   For Medicaid, the outlays reflect only medical services for noninstitutionalized enrollees under age 65 who have full Medicaid benefits.

k.   For Medicare, the outlays are for benefits net of offsetting receipts for noninstitutionalized beneficiaries under age 65.

l.   Excludes the associated effects on revenues of changes in taxable compensation, which are included in the estimate of the tax exclusion for employment-based insurance.

m.   Net receipts include the effects on individual and corporate tax receipts. The tax is suspended in 2019.

Table 4.

Selected Estimates of Health Insurance Coverage and Net Federal Subsidies in CBO's September 2017 and May 2018 Projections Compared With Actual Coverage and Subsidies in 2018

	September 2017 Projection	May 2018 Projection	Actual Amounts	Difference, September 2017	Difference, May 2018
	Selected Categories of Health Insurance Coverage for People Under Age 65 (Millions of people, calendar year 2018)				
Employment-Based Coverage	157	158	160	-3	-1
Medicaid and CHIP					
Adults made eligible for Medicaid by the ACA	13	12	12	1	*
People otherwise eligible for Medicaid	51	49	50	1	-2
CHIP	5	6	7	-3	-1
Total	68	67	69	-1	-2
Nongroup Coverage and the Basic Health Program					
Nongroup coverage purchased through marketplaces					
Subsidized	9	8	8	1	-1
Unsubsidized	2	2	1	*	*
Subtotal	11	9	10	1	*
Nongroup coverage purchased outside marketplaces	5	5	5	*	1
Total, nongroup coverage	16	15	15	1	*
Coverage through the Basic Health Program	1	1	1	*	*
Medicare	8	8	8	*	*
Other Coverage	5	5	3	2	2
Uninsured	30	29	29	1	*

Continued

Table 4.   Continued

Selected Estimates of Health Insurance Coverage and Net Federal Subsidies in CBO's September 2017 and May 2018 Projections Compared With Actual Coverage and Subsidies in 2018

	September 2017 Projection	May 2018 Projection	Actual Amounts	Difference, September 2017	Difference, May 2018
	Selected Categories of Net Federal Subsidies Associated With Health Insurance Coverage for People Under Age 65 (Billions of dollars, fiscal year 2018)				
Medicaid and CHIP[a]					
Medicaid[b]	302	280	287	15	-7
CHIP	13	16	17	-4	-2
Total	315	296	304	10	-8
Nongroup Coverage and the Basic Health Program					
Premium tax credits[c]	47	49	49	-2	**
Payments for cost-sharing reductions[d]	9	0	0	9	0
Outlays for the Basic Health Program[c]	5	4	5	1	-1
Collections for risk adjustment and reinsurance[e]	-5	-5	-5	**	**
Payments for risk adjustment and reinsurance[e]	5	7	3	2	4
Total	62	55	52	10	3
Medicare[a,f]	81	82	83	-2	-1
Penalty Payments by Uninsured People[g]	-4	-4	-3	-1	**

Sources: Congressional Budget Office; staff of the Joint Committee on Taxation; and additional sources listed below.

Comparisons are shown only for categories of net federal subsidies associated with health insurance coverage for people under age 65 for which sufficient preliminary data were available to estimate the actual 2018 amounts. Estimates of actual enrollment reflect data from different sources that CBO then adjusts slightly to develop integrated estimates that are consistent with one another and that sum accurately to depict the total population. For more information on the individual data sources and how CBO develops its integrated estimates, see Congressional Budget Office, *Health Insurance Coverage for People Under Age 65: Definitions and Estimates for 2015 to 2018* (April 2019), www.cbo.gov/publication/55094.

CHIP = Children's Health Insurance Program; * = between −500,000 and 500,000; ** = between −$500 million and $500 million.

a. See Department of the Treasury, "Final Monthly Treasury Statement of Receipts and Outlays of the United States Government for Fiscal Year 2018 Through September 30, 2018, and Other Periods" (October 2018), https://go.usa.gov/xmKQk (PDF, 1.8 MB).

b. Actual value reported by the Department of the Treasury adjusted to reflect only medical services for noninstitutionalized enrollees under age 65 who have full Medicaid benefits.

c. Office of Management and Budget, *Budget of the U.S. Government: Appendix*, "Detailed Budget Estimates by Agency: Department of the Treasury" (March 2019), pp. 958–959, https://go.usa.gov/xmKQf (PDF, 13.9 MB).

d. On October 12, 2017, the Administration announced that, without an appropriation, it would no longer make payments to insurers for cost-sharing reductions.

e. Office of Management and Budget, *Budget of the U.S. Government: Appendix*, "Detailed Budget Estimates by Agency: Department of Health and Human Services" (March 2019), pp. 451–452, https://go.usa.gov/xmKQf (PDF, 13.9 MB).

f. Actual value reported by the Department of the Treasury, adjusted to reflect benefits net of offsetting receipts for noninstitutionalized Medicare beneficiaries under age 65.

g. Actual value based on preliminary data from the Internal Revenue Service. See Internal Revenue Service, "SOI Tax Stats–Individual Income Tax Returns" (accessed April 11, 2019), https://go.usa.gov/xm5ju.
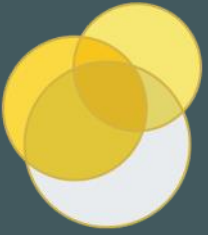
Erasing the Affordable Care Act:
Using Government Web Censorship to Undermine the Law

**Web Integrity
Project**

The **Web Integrity Project** is a project of the Sunlight Foundation.

Our mission is to monitor changes to government websites, holding our government accountable by revealing shifts in public information and access to web resources, as well as changes in stated policies and priorities. We work with journalists to make our findings public, and we produce policy analyses to evaluate and recommend changes to web governance practices and help ensure access to valuable web resources.

The Web Integrity Project. 2019. *Erasing the Affordable Care Act: Using Government Web Censorship to Undermine the Law* (Sunlight Foundation's Web Integrity Project Trend Report)

This report is available online at http://sunlightfoundation.com/wp-content/uploads/2019/05/Erasing-the-ACA-Using-Web-Censorship.pdf.

For more information go to https://sunlightfoundation.com/web-integrity-project/

May 2019

The Web Integrity Project would like to thank our former director, Toly Rinberg, and our team of volunteers:

- Anne Barraza
- Steven Gentry
- Guanwei Hu
- Mark Judson
- Connor Roth
- Emily Ward
- Sonja Williams

They are the frontline of our web monitoring research and this report would not have been possible without their thorough and patient work.

We would also like to thank our partners at the Internet Archive's Wayback Machine — their tool and assistance made this analysis possible.

Erasing the Affordable Care Act:
Using Government Web Censorship to Undermine the Law

Rachel Bergman
Sarah John
Aaron Lemelin
Andrew Bergman

Edited by: Jon Campbell

May 2019

Rachel Bergman is the Director of the Web Integrity Project (WIP). Sarah John is WIP's Director of Research. Aaron Lemelin is Web Monitoring Analyst at WIP. Andrew Bergman is WIP's Senior Advisor.

Erasing the Affordable Care Act:

Using Government Web Censorship to Undermine the Law

Contents

Web Integrity
Project

Introduction: Erasing the Affordable Care Act

Federal government agencies have censored their websites to reduce public access to information about the Affordable Care Act (ACA), actions that may undercut the aim of the law to increase rates of healthcare coverage among Americans.

President Donald Trump has made no secret of his desire to see the ACA fail, signing an executive order on his first day in office to scale back some of its key provisions, and overseeing rulemaking and defunding processes within the Department of Health and Human Services (HHS) that weaken the law.

In addition to formal policy change by executive order, rulemaking, and reallocation of funds, the Trump administration has employed an emergent tool — censorship of official government websites — to undermine the ACA and informally effect policy change.

Websites operated by the federal government are intended to be an authoritative source for public information. The executive branch of the United States recognizes that its agencies' websites are the "primary means" through which the public "interacts with the Federal Government."[1] If agencies poorly maintain or actively censor content on official federal government websites, they can influence public behavior and opinion, and cut off an essential source of public information about federal rules, benefits, and services, such as those relating to the ACA.

This report explores the current administration's censorship of ACA-related web content, showing that loose regulation of federal government websites allows the administration to use them to weaken laws it opposes. The Web Integrity Project has documented 26 instances of ACA censorship — including excised words, removed links, altered paragraphs, and removed pages — on HHS websites (Table 1; Appendix 1). These examples of censorship are unlikely to be all of the instances of ACA-related censorship on federal websites, and may represent only a small sample of the censorship that has occurred since President Trump took office.

Chapter 1: Censorship of ACA Web Content for Multiple Audiences

The administration has censored a wide array of content aimed at a variety of audiences, including the general public, beneficiaries, and those who serve beneficiaries. HHS has surgically removed

the term "Affordable Care Act" from many webpages; taken down information on rights guaranteed under the ACA; eliminated statistics and data on the ACA's impact; and removed links to the federal government's main platform for enrolling in ACA coverage, HealthCare.gov.

If repeated on a wide scale, censorship of ACA information on federal websites has the potential to affect public support and awareness of the law. Ultimately, censorship that affects public opinion and awareness of the ACA may jeopardize Americans' access to coverage and health services, and down the line, the ACA's long-term viability.

Chapter 2: How Online ACA Censorship Amplifies Executive Actions to Undermine the Law

Censorship of ACA-related content has amplified and foreshadowed other executive actions taken by the administration to undermine enrollment and other provisions of the law. Through censorship of ACA-related content on its websites, HHS has been able to further undercut public awareness of the law and coverage it provides.

This chapter demonstrates how HHS has changed websites of agencies and offices within it to:

- Reduce outreach capacity of Marketplace navigators and assisters, by removing training materials for assisters;
- Reduce promotion of the ACA and the Marketplace, by removing online promotional and informational material about the ACA;
- Reduce access to ACA enrollment, including the HealthCare.gov website, by removing web content about applying for coverage and links to HealthCare.gov;
- Push short-term plans that do not comply with the ACA, by emphasizing access to third-party enrollment assistance;
- Create uncertainty about access to contraceptive coverage, by obscuring online information about contraceptive coverage;
- Foreshadow the effect of rules that would undo prohibitions on sex discrimination, by removing language about discrimination from the HHS website.

Chapter 3: Undermining of ACA Resources Directed Toward Underserved Populations

Censoring online information about rights, benefits, and services under the ACA may have an outsized negative impact on the most vulnerable in our society. Web censorship has centered on information and resources for underserved populations like women, the LGBTQ community, minority groups, and people with a mental health condition. These communities are already more likely to be uninsured or have less access to ACA health services than the rest of the population. In some cases, web censorship may deepen the negative effects of policy changes that de-emphasize and de-prioritize their rights to affordable coverage.

Conclusion: Using Government Web Censorship to Undermine the Law

Minimal regulation of the use and misuse of official federal government websites has made censorship of online content a feasible and prominent tool for informal policy change. The Trump administration has made changes to large chunks of content on multiple websites with little scrutiny or recourse for citizens.

Even when website changes are made in good faith, any resultant loss of information has consequences, especially in the realm of healthcare. Given the negative impact on the public that can result from agencies altering their websites, we recommend steps HHS should take to avoid the loss of ACA- and healthcare-related information and the harms that can stem from those losses.

Recommendations for how to avoid harms from loss of access to information during healthcare-related website overhauls:

- Issue formal press releases or public statements announcing web changes or removals, linking to archived versions of altered or removed pages;
- Establish redirects for the URLs of removed webpages when the removed content is out of date and related, updated content is available and integrated on a new page;
- Maintain archives of removed content.

Recommendations for preventing web censorship and reduction in access to healthcare information:

- Adopt a formal process of writing memos that review whether content should be moved to archives;
- Create and maintain a regularly updated and dedicated repository of informational content and training resources for navigators and other third parties;
- Provide notice when revising or publishing new information on the HealthCare.gov website during Open Enrollment;
- Create an inter-office portal for healthcare-related information on HHS.gov.

More broadly, WIP suggests that the power of federal government agencies to censor content on official websites be subject to rules, ideally introduced by congressional intervention or the issuance of guidance from agencies like the Government Accountability Office or the Office of Management and Budget.

In an era of cynicism and "fake news," citizens should be able to turn to official government websites for reliable non-partisan information about programs and services they use. With the presumption of quality and respectability afforded to content located on a *.gov* page, agencies should be required to follow formal processes to change their websites and adhere to standards of web content that ensure its quality.

While this report analyzes the harms that can stem from widespread censorship of ACA-related information specifically, this approach could be used by agencies to affect public opinion and reduce access to public information about any law the executive branch might oppose and seek to undermine.

Introduction: Erasing the Affordable Care Act

> *"Federal Agency public websites and digital services are the primary means by which the public receives information from and interacts with the Federal Government. These websites and services help the public apply for benefits, search for jobs, comply with Federal rules, obtain authoritative information, and much more. Federal websites and digital services should always meet and maintain high standards of effectiveness and usability and provide quality information that is readily accessible to all."*
>
> — The Office of Management and Budget's <u>memorandum</u> on how federal agencies should manage digital content[1]

The federal government considers public federal agency websites to be the primary way the public learns about government functions, benefits, and rules. Agencies are thus expected to maintain their websites to provide the public with accurate, objective, and non-partisan information about their programs, such as the Affordable Care Act (ACA). But when the administration that leads those agencies vocally opposes the existence of a program, agency websites can be used as a tool to undermine that program. By analyzing examples of the Trump administration's censorship of online public information about the ACA, we can begin to understand the different ways the federal government can more widely use agency websites as a tool to undercut public access to quality information about laws, and in turn broadly undermine the aims and implementation of those laws.

The Affordable Care Act and initial opposition to the law

In March 2010, President Obama signed into law the Patient Protection and Affordable Care Act, also referred to as the Affordable Care Act (ACA), which was intended to provide more affordable health insurance options to people. The <u>main ways</u> it aims to accomplish this goal are by (1) expanding Medicaid; (2) creating health insurance exchanges (individual insurance marketplaces) through which people can buy insurance; and (3) providing premium subsidies and cost sharing credits to lower-income individuals.[2] The ACA also prevents insurers from denying coverage or charging higher premiums based on pre-

existing conditions and gender. To encourage people to obtain coverage, the ACA initially required most people to have health insurance beginning in 2014 (referred to as the "individual mandate"), or else pay a penalty.

From the start, the politics of the law were highly polarized, and passed without any Republican support in the Senate or the House of Representatives.[3] When Republicans took control of the House in 2011, they immediately began attempts to repeal or amend the law. In the four years after the ACA's passage, the House voted 54 times on bills related to the law, including attempts to completely repeal it, undo specific provisions, and defund pro-

grams created by the ACA.[4] During these years, public opinion about the ACA was divided, with many Americans feeling uncertain about how the law would affect them.[5] Despite attacks from House Republicans and mixed feelings from the public, the ACA remained mostly intact throughout Obama's presidency. During the 2016 presidential election, all Republican candidates articulated their intention to bring to fruition repeal efforts and replace the ACA with different health reform measures.

The methods the Trump administration has used to unravel the ACA

Like the other Republican presidential candidates, Donald Trump was very clear about his opposition to the ACA during his campaign. Once elected, he began using common tools at the disposal of the executive branch to undermine legislation or court rulings that it would rather not enforce or administer.[6]

These tools include lobbying the legislative branch for repeal or amendment of a law, signing executive orders, non-enforcement, reallocation of funds, and rulemaking.

Even before he took office, Trump demanded that Congress repeal and replace the ACA as quickly as possible.[7] Soon after President Trump's inauguration, House Republicans — responding to Trump's demand and eager themselves to undo the ACA — released their first repeal-and-replace bill,[8] which would have restricted the ACA-mandated Medicaid expansion and repealed various taxes introduced by the ACA.[9] The Congressional Budget Office estimated that the bill — which passed in the House but not the Senate — would have ultimately resulted in 23 million more uninsured Americans by 2026.[10] Two more repeal-and-replace bills, which similarly would have resulted in millions of more Americans without insurance, were released by the Senate. Neither passed.

After failing to repeal the entirety of the ACA, Congress passed a tax bill in December 2017 that effectively eliminated the provision of the law most unpopular among Republicans — the individual mandate. The individual mandate requires most people to enroll in health insurance.[11] While the mandate still remains part of the law, the tax bill eliminates the monetary penalty imposed on individuals who do not enroll,[12] thereby removing any incentive for healthy people to use the ACA marketplaces to get coverage.

Though congressional efforts to get rid of the ACA failed, President Trump has used several tools of executive power to weaken the ACA. The day he took office, Trump signed his first executive order, which directs federal agencies to scale back the ACA to the "maximum extent permitted by the law."[13] In October 2017, he signed another executive order[14] intended to give people access to insurance plans that have fewer requirements for the benefits they offer compared to ACA coverage,[15] such as short-term plans. The same evening, the White House announced it would end subsidies to health insurance companies[16] that allow them to give discounts on out-of-pocket costs for lower-income people with ACA coverage (a move experts feared would cause an increase in premiums, but ultimately state regulators and in-

surers [adjusted](#) so that most consumers were not impacted).[17]

In line with the executive order Trump signed on his first day in office, federal agencies have used other common tools to minimize their enforcement of the ACA — non-enforcement of key provisions of the legislation, re-allocation of appropriated funds from existing initiatives, and re-writing existing regulations to weaken or reduce the scope of the legislation. The Department of Justice (DOJ) has said it [will not defend](#) the constitutionality of the ACA.[18] It has indicated it will [not appeal](#) the decision of a federal judge in Texas that in the absence of the monetary penalty for uninsured individuals, the individual mandate and,

in turn, the rest of the ACA, is unconstitutional.[19] The Department of Health and Human Services (HHS) has also used its authority to reduce the federal government's role in supporting the ACA. It dramatically reduced funding for [advertising and outreach](#) used to encourage and assist new customers to enroll in coverage[20] and [shortened](#) the Open Enrollment period for buying insurance on the federal ACA Marketplace.[21] It also created a direct enhanced enrollment process, which [transfers responsibility](#) for enrollment from the federally-operated Marketplace to third-party, private brokers.[22]

A new method to undermine the ACA: web censorship

An emerging method to weaken existing laws that the executive branch has at its disposal is the use of information, and reductions in access to, information about laws to affect the public's understanding of those laws, use of services, and broad opinion. As OMB explained, the public primarily receives information from the federal government through federal agency websites and digital services. As the internet has become a fixture of modern society, eliminating government information (a.k.a. censoring) online has an outsized impact on the public, and constitutes a new tool the executive branch can use to undermine laws it does not want to enforce, like the ACA.

The Trump administration has been especially active in censoring information about the ACA from websites of offices within HHS. The New York Times [reported](#) that, on the evening Trump took office, a link to information about the ACA was removed from the homepage for the HHS website.[23] Since then, HHS has surgically removed the term "Affordable Care Act" from many webpages; taken down information on rights guaranteed under the ACA; eliminated statistics and data on the ACA's impact; and removed links to the federal government's main platform for enrolling in ACA coverage,

HealthCare.gov.

At a minimum, censoring online information about the ACA warps or diminishes the public's knowledge about the law. Government websites are viewed as objective and authoritative sources of information, and the majority of internet users [turn to them](#) for information about a public policy or services that agencies provide.[24] HHS websites are thus primary resources for Americans to learn about and understand components of the ACA.

With the cloak of objectivity that comes from *.gov* websites, censorship of online gov-

> *Censoring online has an outsized impact on the public, and constitutes a new tool the executive branch can use to undermine laws it does not want to enforce, like the ACA.*

ernment resources may also have a large impact on public opinion. It is common for someone to go to a *.gov* website to seek reliable information on the law, on healthy practices, on consumer safety, or on environmental protection. But citizens are less likely to carefully filter the information on *.gov* websites for partisan language or political agendas the way they might when consuming overtly political media, such as press releases or a presidential speech on TV. Information on agency websites is much more likely to be taken at face value, which is exactly the reason why the executive branch would seek to edit it.

In the context of a fierce partisan political fight over the ACA, individuals should be aware of the law and know where their — and their neighbors' — interests in the debate lie. With less reliable information about the ACA, the rights and benefits it accords, and its impact on healthcare and coverage, the political and policy views of citizens may be less well-informed. In a less informed political environment, the public may be more easily swayed in its opinion by the vocal advocacy of the administration.

The ability of the federal government to sway public opinion using their websites may reflect a potent and dangerous extension of executive power, and one that is largely unregulated. The 2001 *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Fed-*

eral Agencies provides instructions for agencies on ensuring the accuracy and objectivity of information they disseminate,[25] and the *Paperwork Reduction Act* (PRA) of 1980 outlines guidelines for managing, modifying, or terminating information.[26] The Guidelines and PRA, however, apply to all government information and were developed before the internet became well-established as the chief means through which people interact with the government. The minimal guidance that has been developed to instruct agencies specifically about how they should be using their websites simply defers to these broader rules and does not provide clear standards for how agencies document, maintain, and archive online information or avenues for enforcing the extent and quality of information of federal websites.[1]

The absence of regulation and guidance about how federal agencies can use their websites for political purposes stands in stark contrast to the other tools the executive can use to weaken or avoid enforcing existing legislation like the ACA. Other tools — like rule-making and reallocation of funds — each have clear, formal procedures, with safeguards against arbitrary and inappropriate use. But federal agencies could censor information on their websites for political purposes with little consequence.

How HHS has used web censorship to undermine the ACA

In this report, we home in on a prominent example of censorship on federal government websites: censorship of information pertaining to the Affordable Care Act. We have documented censorship of a range of resources and topics, from training materials for asylum officers on the U.S. Citizenship and Immigration Services website to policy guidance on the Office of Juvenile Justice and Delinquency Prevention's website.[27] Through our monitoring of select HHS websites, however, we

have seen a trend of ACA-related censorship and have found 26 separate instances in which information about the ACA was censored on a webpage or collection of webpages (Table 1). There are hundreds of HHS websites, and we only monitor parts of about two dozen. These 26 findings are unlikely to be the only instances of ACA-related censorship, and may represent the tip of the censorship iceberg.

The 26 findings documented in this report are:

- **#ACF**: Removal of link to HealthCare.gov from the footer of HHS.gov's ACF website;

- **#ASPE**: Changes in language and removals of descriptive text that emphasized the positive impact of the Affordable Care Act on the ASPE website;

- **#CDC**: Removal of references to the Affordable Care Act from CDC.gov's "National Center for Health Statistics" webpages;

- **#CMS-1**: Removed link to HealthCare.gov from header of CMS.gov;

- **#CMS-2**: Removal of references to the Affordable Care Act from a CMS.gov webpage about the National Health Expenditure;

- **#CMS-3**: Removal of reference to the Affordable Care Act from CMS.gov's "Hospital-Acquired Condition Reduction Program (HACRP)" webpage;

- **#CMS-marketplace-1**: Removal of the "Marketplace Outreach: Best Practices for Outreach to Latino Communities" PDF from CMS's Health Insurance Marketplace website;

- **#CMS-marketplace-2**: Removal of slides from "Tips for FFM Assisters on Working with Outside Organizations" presentation on CMS's Health Insurance Marketplace website;

- **#HealthCare.gov**: Overhaul of HealthCare.gov's "Apply for Health Insurance" webpage;

- **#HHS.gov/answers-1**: Removal of "Affordable Care Act" as an FAQ category on HHS.gov;

- **#HHS.gov/answers-2**: Removal of reference to the Affordable Care Act on HHS.gov's "Who is eligible for Medicaid?" webpage;

- **#HHS.gov/healthcare-NYT**: Alterations to "About the ACA" webpages on HHS.gov's "Healthcare" website;

- **#HHS.gov/healthcare-WIP**: Removal of "Facts and Features" website from HHS.gov;

- **#HRSA-1**: Removal of references to the Affordable Care Act from HRSA's "About the Office of Women's Health" webpage;

- **#HRSA-2**: Removal of reference to Medicaid, CHIP, and the Health Insurance Marketplace from HRSA's strategic goals;

- **#Medicaid-1**: Removal of the Affordable Care Act website from within Medicaid.gov;

- **#Medicaid-2**: Removal of reference to the Affordable Care Act from Medicaid.gov's "Medicaid and CHIP Eligibility Levels" webpage;

- **#Medicare**: Removal of the "Affordable Care Act & Medicare" webpage and corresponding links from the Medicare website;

- **#MentalHealth.gov**: Removal of questions and infographic about the Affordable Care Act on MentalHealth.gov;

- **#OCR**: Language removals pertaining to sex discrimination from HHS's Office for Civil Rights webpages about Section 1557 of the Affordable Care Act;

- **#OMH-1**: Removal of pages, references, and links pertaining to the Affordable Care Act from the Office of Minority Health website;

- **#OMH-2**: Removal of reference to the Affordable Care Act from the Office of Minority Health "History of the Office of Minority Health" webpage;

- **#OPA**: Removal of a collection of webpage related to the Affordable Care Act from the Office of Population Affairs website;

- **#OWH-1**: Removal of Breast Cancer website and related webpages from within the Office on Women's Health website;

- **#OWH-2**: Removal of "Affordable Care Act" from "Vision, mission, goals, and history" webpage on the Office on Women's Health website;

- **#OWH-3**: Removal of references to the Affordable Care Act from Office on the Women's Health "Heart-healthy eating" webpage.

In **Chapter 1**, we show that offices within HHS have used numerous types of censorship on their websites, targeting a broad range of audiences. Offices within HHS have removed, altered, or obscured content aimed at the gen-

eral public; beneficiaries; and at healthcare providers, policymakers, researchers, and assisters. We assess the impact that each type of censorship could have if used widely. In **Chapter 2**, we put this censorship in the context of announced policy changes and other more traditional tools of executive discretion, to show that agencies have used web censorship to not only complement and extend the effectiveness of traditional tools, but also to foreshadow the rulemaking changes and circumvent formalized, regulated, processes. Throughout the chapter we discuss the potential impact website censorship may have on the public and on the future of the law. In **Chapter 3**, we turn to documenting how the changes have targeted already vulnerable groups, such as the LGBTQ community and racial minorities. In the **Conclusion**, we outline recommendations that will help prevent both unintended loss of information during website overhauls and reductions in access that result from web censorship.

Throughout these chapters, we refer to the findings of censorship detailed in **Table 1**. Table 1 includes the following information, organized by column:

- *Tag:* Lists a "tag" that includes the acronym or a shorthand for the website from which the changed content was found and, if multiple, unrelated changes occurred on the same website, a number. Throughout this report, findings are referred to by the tags listed in Table 1, preceded by a "#." For example, #CMS-1 can be read as "the CMS-1 finding."

- *Finding:* Describes censored ACA-related information or collection of content.

- *Sources for finding:* Links to documentation that details the website change described by the finding. These sources are either website monitoring reports[28] WIP has published or documentation that can be found in the appendix of this report.

- *ACA-related change classification:* The type of removal or alteration of ACA-related information in each finding based on our classification system.[29] This column helps convey the extent of the removal of content: if a finding includes classification #1-2 under our system (yellow cells) a part of a single webpage has changed; if a finding includes #3-5 (orange cells) a single entire webpage has moved or been removed; if a

finding includes #6 (red cell), an entire website with ACA-related information has been overhauled or removed.

- *Agency/office website:* The agency or office that controls the altered website described in the finding.

- *Changed after:* The earliest date the changes could have occurred.

- *Changed before:* The latest date the changes could have occurred.

- *Intended audiences:* The audience for whom the altered or removed content was likely intended. Possible audiences we group findings under are: general audience; beneficiaries; healthcare providers; policymakers and researchers; healthcare assisters.

- *Table 2 reference:* Lists the categories from Table 2 into which the finding falls.

Many of the findings detailed in Table 1 consist of multiple pages or sections aimed at different audiences. In Table 2, we have grouped removed content detailed in the findings according to the intended audiences of the censored content (and different sub-portions of an individual finding may be included in multiple categories). Without using website analytics or interviews to do an analysis of who used the content described in each finding, we can only speculate about the *intended* users or audience. We have determined the intended audience by assessing: how public-facing the content was; the programs the content mentions or describes and the users of those programs; the complexity of the language (and whether a reader would need to be a policy or medical expert to understand the content); and the format of the content (as certain types of formatting are often used to communicate information to particular audiences).

Web Censorship: The new frontier

This report shows how website censorship has been and can be used by the federal government as part of an attempt to change public knowledge and opinion. By examining instances of ACA-related censorship on HHS websites, we demonstrate how censorship, if repeated on a wide scale, has the potential to affect public support and awareness of a law.

The findings aggregated in this report are likely only a fraction of the removals of information and content about the ACA that have occurred on the hundreds of HHS websites that exist. Yet, even with this small sample, we show numerous instances in which censorship has been used to amplify the impacts of existing policies to weaken the law. The administration used censorship to weaken, for example, the ACA's nondiscrimination provision by removing language explaining the definition of sex discrimination.

We also show how web censorship can target ACA-related information specifically for or about vulnerable populations, such as the LGBTQ community, and how the removal of information can heighten obstacles that already make it difficult for these populations to access health insurance.

Ultimately, censorship that affects public opinion and awareness of the ACA can affect all Americans' access to health services and uninsured rates, and down the line, the ACA's long-term viability.

Table 1: ACA Censorship Summarized

#	Tag	Finding	Sources for finding	ACA-related change classification *	Agency/office website	Changed after:	Changed before:	Intended audiences	Table 2 reference
1	#ACF	Removal of link to HealthCare.gov from the footer of HHS.gov's ACF website	WIP research (#ACF)	2. Link alteration/removal	Administration for Children and Families (ACF)	2/18/17	2/21/17	Beneficiaries	8.a
2	#ASPE	Changes in language and removals of descriptive text that emphasized the positive impact of the Affordable Care Act on the ASPE website	WIP report (7/28/18)	1. Text alteration/removal 2. Link alteration/removal 3. Moving webpages	Assistant Secretary for Planning and Evaluation (ASPE)	05/26/17	10/5/17	General Audience, Policymakers	5.a 10.a
3	#CDC	Removal of references to the Affordable Care Act from CDC.gov's "National Center for Health Statistics" webpages	WIP research (#CDC)	1. Text alteration/removal	Centers for Disease Control and Prevention (CDC)	01/25/18	6/8/18	General audience	2.a 4.a 5.b
4	#CMS-1	Removal of a link to HealthCare.gov from header of CMS.gov	WIP report (12/14/18)	2. Link alteration/removal	Centers for Medicare and Medicaid Services (CMS)	10/11/18	10/11/18	Beneficiaries	8.b
5	#CMS-2	Removal of references to the Affordable Care Act from a CMS.gov webpage about the National Health Expenditure	WIP research (#CMS-2)	1. Text alteration/removal	Centers for Medicare and Medicaid Services (CMS)	12/21/17	2/21/18	General audience, Policymakers and researchers	2.b 5.c 10.b
6	#CMS-3	Removal of reference to the Affordable Care Act from CMS.gov's "Hospital-Acquired Condition Reduction Program (HACRP)" webpage	WIP research (#CMS-3)	1. Text alteration/removal	Centers for Medicare and Medicaid Services (CMS)	7/23/18	7/30/18	General audience	3.a 5.d
7	#CMS-market-place-1	Removal of the "Marketplace Outreach: Best Practices for Outreach to Latino Communities" PDF from CMS's Health Insurance Marketplace website	WIP report (12/3/18)	5. Removing webpage	Centers for Medicare and Medicaid Services (CMS)	9/19/18	9/28/18	Navigators	12.a
8	#CMS-market-place-2	Removal of slides from "Tips for FFM Assisters on Working with Outside Organizations" presentation on CMS's Health Insurance Marketplace website	WIP research (#CMS-marketplace-2)	1. Text alteration/removal	Centers for Medicare and Medicaid Services (CMS)	6/13/18	6/20/18	Navigators and assisters	12.b
9	#HealthCare.gov	Overhaul of HealthCare.gov's "Apply for Health Insurance" webpage	WIP report (12/10/18)	1. Text alteration/removal 2. Link alteration/removal 4. Removing section of page	Centers for Medicare and Medicaid Services (CMS)	11/14/18	11/21/18	Beneficiaries	8.c
10	#HHS.gov/answers-1	Removal of "Affordable Care Act" as an FAQ category on HHS.gov	WIP research (#HHS.gov/answers-1)	1. Text alteration/removal 3. Moving webpage	Health and Human Services (HHS)	07/29/17	8/6/17	General audience	5.e

* See: Classification of Non-Maintenance Web Content Alterations and Access Reductions to Web Resources for details.

Table 1: ACA Censorship Summarized (continued)

#	Tag	Finding	Sources for finding	ACA-related change classification *	Agency/office website	Changed after:	Changed before:	Intended audiences	Table 2 reference
11	#HHS.gov/answers-2	Removal of reference to the Affordable Care Act on HHS.gov's "Who is eligible for Medicaid?" webpage	WIP research (#HHS.gov/answers-2)	1. Text alteration/removal	Health and Human Services (HHS)	7/11/17	3/30/18	General audience	1.a 5.f
12	#HHS.gov/healthcare-NYT	Alterations to "About the ACA" webpages on HHS.gov's "Healthcare" website	WIP research (#HHS.gov/healthcare-NYT)	1. Text alteration/removal 2. Link alteration/removal 3. Moving webpages 4. Removing section of page	Health and Human Services (HHS)	1/20/17	1/20/17	General audience, Beneficiaries	1.b 2.c 5.g 6.a 7.a
13	#HHS.gov/healthcare-WIP	Removal of "Facts and Features" website from HHS.gov	WIP report (5/14/19)	6. Removing website	Health and Human Services (HHS)	1/30/17	2/9/17	General audience, Beneficiaries, Policymakers and researchers, State/Local actors	1.c 2.d 7.b 10.c 11.a 12.c
14	#HRSA-1	Removal of references to the Affordable Care Act from HRSA's "About the Office of Women's Health" webpage	WIP research (#HRSA-1)	1. Text alteration/removal 2. Link alteration/removal 4. Removing section of page	Health Resources and Services Administration (HRSA)	06/14/16	4/27/17	General audience, Beneficiaries	2.e 4.b 5.h 7.c
15	#HRSA-2	Removal of reference to Medicaid, CHIP, and the Health Insurance Marketplace from HRSA's strategic goals	WIP research (#HRSA-2)	1. Text alteration/removal	Health Resources and Services Administration (HRSA)	5/13/17	4/1/19	General audience	4.c
16	#Medicaid-1	Removal of the Affordable Care Act website from within Medicaid.gov	WIP report (7/10/18)	6. Removing website	Center for Medicaid and CHIP Services (CMCS)	6/2/18	6/11/18	General audience, Beneficiaries, State/Local actors	1.d 5.i 6.b 11.b
17	#Medicaid-2	Removal of reference to the Affordable Care Act from Medicaid.gov's "Medicaid and CHIP Eligibility Levels" webpage	WIP research (#Medicaid-2)	1. Text alteration/removal 2. Link alteration/removal	Center for Medicaid and CHIP Services (CMCS)	6/16/18	7/27/18	General audience	3.b 5.j
18	#Medicare	Removal of the "Affordable Care Act & Medicare" webpage and corresponding links from the Medicare website	WIP report (5/15/18)	1. Text alteration/removal 2. Link alteration/removal 3. Moving webpages 4. Removing section of page 5. Removing webpage	Centers for Medicare and Medicaid Services (CMS)	12/11/17	12/25/17	General audience, Beneficiaries	1.e 5.k 6.c 8.d

* See: Classification of Non-Maintenance Web Content Alterations and Access Reductions to Web Resources for details.

Table 1: ACA Censorship Summarized (continued)

#	Tag	Finding	Sources for finding	ACA-related change classification *	Agency/office website	Changed after:	Changed d before:	Intended audiences	Table 2 reference
19	#MentalHealth.gov	Removal of questions and infographic about the Affordable Care Act on MentalHealth.gov	WIP research (#MentalHealth.gov)	1. Text alteration/removal 2. Link alteration/removal	Health and Human Services (HHS)	9/4/17	10/21/18	General audience, Beneficiaries	1.f 6.d 7.d
20	#OCR	Removal of language pertaining to sex discrimination from HHS's Office for Civil Rights webpages about Section 1557 of the Affordable Care Act	WIP report (7/17/18)	1. Text alteration/removal 2. Link alteration/removal 4. Removing section of page 5. Removing webpage	Office for Civil Rights (OCR)	3/15/17	8/18/17	General audience, Beneficiaries, Physicians/Providers	1.g 3.c 7.e 9.a
21	#OMH-1	Removal of pages, references, and links pertaining to the Affordable Care Act from the Office of Minority Health website	WIP report (2/26/19)	1. Text alteration/removal 2. Link alteration/removal 4. Removing section of page 5. Removing webpage	Office of Minority Health (OMH)	1/6/17	2/28/19	General audience, Beneficiaries, Navigators	1.h 4.d 5.l 7.f 8.e 12.c
22	#OMH-2	Removal of reference to the Affordable Care Act from the Office of Minority Health "History" of the Office of Minority Health" webpage	WIP research (#OMH-2)	1. Text alteration/removal	Office of Minority Health (OMH)	8/29/18	10/2/18	General audience	5.m
23	#OPA	Removal of a collection of webpages related to the Affordable Care Act from the Office of Population Affairs website	WIP report (2/7/19)	1. Text alteration/removal 2. Link alteration/removal 4. Removing section of page 5. Removing webpage	Office of Population Affairs (OPA)	4/27/17	6/18/18	Physicians/Providers, Policy Makers and researchers	9.b 10.d
24	#OWH-1	Removal of Breast Cancer website and related webpages from within the Office on Women's Health website	WIP report (3/29/18)	6. Removing website	Office on Women's Health (OWH)	6/27/17	3/8/18	Beneficiaries	7.g
25	#OWH-2	Removal of "Affordable Care Act" from "Vision, mission, goals, and history" webpage on the Office on Women's Health website	WIP research (#OWH-2)	1. Text alteration/removal	Office on Women's Health (OWH)	1/19/18	2/2/18	General audience	4.e 5.n
26	#OWH-3	Removal of references to the Affordable Care Act from the Office on Women's Health "Heart-healthy eating" webpage	WIP research (#OWH-3)	1. Text alteration/removal	Office on Women's Health (OWH)	11/17/18	1/6/19	General audience, Beneficiaries	5.o 6.e

* See: Classification of Non-Maintenance Web Content Alterations and Access Reductions to Web Resources for details.

Table 2: ACA Censorship by Intended Audience

Intended Audience	Category	Description of Censorship
General audience	1. General information about the ACA for the public	a) #HHS.gov/answers-2: Text explaining that the ACA has allowed some states to expand Medicaid to cover more people was removed from a page about Medicaid eligibility.
		b) #HHS.gov/healthcare-NYT: i) Summaries of healthcare benefits established by the ACA were removed; ii) Personal stories about individuals' experiences with the ACA were removed.
		c) #HHS.gov/healthcare-WIP: Section of website was removed that included pages explaining how the ACA is making healthcare more affordable, accessible, and of higher quality for all people.
		d) #Medicaid-2: Pages that explained the background of the ACA and topics pertaining to Medicaid- and CHIP-related provisions of the ACA were removed.
		e) #Medicare: Page was removed about the top 5 things to know about the ACA if you have Medicare. This page functioned as a way to inform the public about how the ACA affected Medicare and as a promotional page.
		f) #MentalHealth.gov: Section of the "Health Insurance and Mental Health Services" page about how the ACA helps people with mental health issues was removed.
		g) #OCR: Language describing the specific types of prohibited sex discrimination defined by the rule implementing Section 1557, the nondiscrimination provision of the ACA, was removed.
		h) #OMH-1: Page that provided plain language and promotional information about what the ACA does was removed. Links to additional information about the ACA were also removed.
	2. Healthcare statistics and references to "affordability"	a) #CDC: i) Statistics on "health insurance coverage" were removed from a page about the National Center for Health Statistics (NCHS) and statistics on "access to healthcare" were added in their place; ii) Language was removed stating that the NCHS collects data on affordability of care.
		b) #CMS-2: i) Language about the impacts of the ACA on coverage is no longer included on a page about the National Health Expenditure's (NHE) projections; ii) Mention of the ACA's initial impact on national health spending growth is no longer included on the updated NHE page; iii) Language added to the updated NHE page stating that the elimination of the individual mandate in the 2017 tax legislation will likely lead to reduced insured rates.
		c) #HHS.gov/healthcare-NYT: Text was removed from a page titled "Young Adult Coverage" noting that the ACA makes it "easier and more affordable" for young adults to get health insurance by allowing children to stay on their parents' health insurance plans until they're 26.
		d) #HHS.gov/healthcare-WIP: i) Pages about the impact of the ACA in specific states were removed. These pages included statistics and information about the number of people in each state receiving certain benefits and how much money people are saving because of the ACA. ii) Pages were removed about how the ACA is working for certain vulnerable populations, like Latino communities, including statistics and information about reductions in the number uninsured people from these populations.
		e) #HRSA-1: Language about how the rate of uninsured women has dropped since the ACA's implementation was removed from the "Priorities" section on HRSA's Office of Women's Health "About" page.
	3. Information about special duties of HHS offices defined in the ACA	a) #CMS-3: Text explaining that Section 3008 of the ACA established the Hospital-Acquired Condition Reduction Program was removed . In its place, the new version of the page states that Section 1886(p)(6)(B) of the Social Security Act established the statutory requirements for the program.
		b) #Medicaid-2: Language explaining that because it is required by the ACA CMS helps states calculated Medicaid and CHIP eligibility using modified adjusted gross income (MAGI) was removed .
		c) #OCR: Language describing the specific types of prohibited sex discrimination that OCR can enforce and take legal action against was removed.
	4. Priorities of HHS offices or programs	a) #CDC: Text referring to "the Affordable Care Act" as an example of a major policy initiative that the National Center for Health Statistics tracks was removed.
		b) #HRSA-1: Text stating that the ACA is a priority of HRSA's Office of Women's Health was removed . The "Priorities" section of the "About" page previously included a section with the header "Affordable Care Act."
		c) #HRSA-2: Text stating that one of HRSA's objectives is "increasing enrollment in and utilization of health insurance through Medicaid, CHIP, and the Health Insurance Marketplace" was removed and replaced with text stating that its goal is to "connect HRSA patient populations to primary care and preventive services."
		d) #OMH-1: Link with the text "Affordable Care Act" was removed from the "Strategic Priorities" section of Office of Minority Health homepage. The link led to the now-removed "Affordable Care Act" page.
		e) #OWH-2: Language stating that the ACA is a topic that OWH supports through campaigns, programs, and policies was removed.

Table 2: ACA Censorship by Intended Audience (cont.)

Intended Audience	Category	Description of Censorship
General audience	5. Explicit use of the term "Affordable Care Act" or "ACA" on live webpages	a) #ASPE: i) Title of a page was changed from "Affordable Care Act Research" to "Historical Research;" ii) Language was removed from the "Background" section of the page that described the positive impacts of the ACA; iii) Term "Obamacare" was added on the newly renamed "Historical Research" page and the term "Affordable Care Act" was placed in parentheses next to it.
		b) #CDC: Term "Affordable Care Act" was removed from pages about the CDC National Center for Health Statistics. Previously, the ACA was used as an example of a policy initiative policymakers seek to understand using NCHS data.
		c) #CMS-2: Two mentions of the term "Affordable Care Act" were removed from a page about the projected National Health Expenditure. The term was removed with text explaining how the ACA has increased coverage and its impact on national health spending growth. New content on the page does not mention the term "Affordable Care Act" even though information about
		d) #CMS-3: Term "Affordable Care Act" was removed from a page about the Hospital-Acquired Condition Reduction Program. Text was removed stating that Section 3008 of the ACA established the Hospital-Acquired Condition Reduction Program. Instead, the new version of the page states that Section 1886(p)(6)(B) of the Social Security Act established the statutory requirements for the program.
		e) #HHS.gov/answers-1: Page titled "Affordable Care Act" was removed with FAQs about the ACA. A new page labelled "Health Insurance Reform" contains the same FAQs about the ACA that were on the removed page, as well as information about health insurance beyond the ACA.
		f) #HHS.gov/answers-2: Term "Affordable Care Act" was removed from a page about who is eligible for Medicaid. The term was removed with text explaining that some states have expanded Medicaid because of the ACA.
		g) #HHS.gov/healthcare-NYT: i) Term "the Affordable Care Act" was removed from the HHS.gov homepage. The text served as a link to a page about the ACA, with links to websites with additional information about the law. ii) Term "the Affordable Care Act" was removed and replaced with "current law" on a page about pre-existing conditions. The term was changed in a paragraph explaining that insurance companies cannot charge people more for having pre-existing conditions. iii) Term "the Affordable Care Act" was removed and replaced with "current law" on a page about coverage for young adults. The term was changed in a paragraph explaining that parents can add or keep their children on health plans until they turn 26 years old.
		h) #HRSA-1: i) Term "Affordable Care Act" was removed from the "About the Office of Women's Health" page. The page previously explicitly listed the ACA under its "Priorities" section. ii) Term "Affordable Care Act" was removed from the updated "Women's Preventive Services Guidelines" page. The term was used on the old version of the page to explain how the ACA helps make preventive health services more affordable. The old version of the page is still live, but notes that HRSA updated the Women's Preventive Services Guidelines and links to the current version.
		i) #Medicaid-1: i) Term "Affordable Care Act" was removed from the main menu of the Medicaid.gov website. Previously, the term served as a link to the removed "Affordable Care Act" page and was a dropdown with links to other pages about topics related to the ACA. ii) Term "Affordable Care Act" was removed from the Medicaid.gov site map. Previously, the term served as a header for the ACA as a topic on the website and listed related pages below it. It also linked to the removed "Affordable Care Act" page.
		j) #Medicaid-2: Term "Affordable Care Act" was removed from a page about Medicaid and CHIP eligibility levels. The term was removed with text explaining that states have converted their Medicaid and CHIP eligibility levels for certain populations to be based on modified adjusted gross income (MAGI) because it is required by the ACA.
		k) #Medicare: Term "Affordable Care Act" was removed from Medicare.gov's "About Us" page. Previously, the term served as a link to the removed "The Affordable Care Act & Medicare" page.
		l) #OMH-1: i) Term "Affordable Care Act" was removed from the OMH website's homepage. Links with the text "Affordable Care Act" were removed from the "Strategic Priorities" section of the homepage and from the "What We Do" dropdown in the main menu of the website. The links led to the now-removed "Affordable Care Act" page. ii) Term "Affordable Care Act" was removed and replaced with the phrase "the Health Care Law" on a page about guidance for American Indians and Alaska Natives. This page has since been removed completely.
		m) #OMH-2: Term "Affordable Care Act" was removed from a page about OMH's history. Text explaining that OMH exists because it was "reauthorized by the Affordable Care Act (ACA) in 2010" was changed to "reauthorized by health care legislation signed into law in 2010."
		n) #OWH-2: Term "Affordable Care Act" was removed from OWH's "Vision, mission, goals, and history" page. The term was previously used as an example of policy areas which OWH supports.
		o) #OWH-3: Term "Affordable Care Act" was removed from a page about healthy eating. The term was removed with text stating that "nutrition counseling for adults at higher risk of chronic disease must be covered by most insurers under the Affordable Care Act (health care law)."

Table 2: ACA Censorship by Intended Audience (cont.)

Intended Audience	Category	Description of Censorship
Beneficiaries	6. Information directed toward insured individuals to inform them about benefits or services available to them under the ACA	a) #HHS.gov/healthcare-NYT: Pages were removed with information about benefits established by the ACA, specifically about emergency services, doctor choice, and that insurance companies are required to provide consumers with a summary of a health plan's benefits and coverage.
		b) #Medicaid-1: A page was removed with information about how the ACA changed benefits for Medicaid enrollees, including links to the section of the law that explains each benefit.
		c) #Medicare: Page was removed with information about how benefits for Medicare recipients were expanded and changed under the ACA.
		d) #MentalHealth.gov: Text was removed explaining that most health plans must cover preventive services for mental health problems, such as behavioral assessments for children and depression screenings for adults, at no additional cost.
		e) #OWH-3: Text was removed about how, under the ACA, adults at higher risk of chronic disease can receive coverage for nutrition counseling.
	7. Information directed toward underserved groups to inform them about rights, benefits, or special services available to them under the ACA	a) #HHS.gov/healthcare-WIP-NYT: Text was removed stating that women cannot be charged more for health insurance than men under the ACA.
		b) #HHS.gov/healthcare-WIP: Text was removed stating that women cannot be denied or charged more for health insurance because of their gender under the ACA.
		c) #HRSA-1: Text was removed from the "About the Office of Women's Health" page explaining that the Women's Preventive Services Guidelines define services that all health plans must cover at no additional cost.
		d) #MentalHealth.gov: Text was removed explaining that health plans cannot deny individuals coverage or charge them more for having pre-existing conditions, including mental illnesses.
		e) #OCR: Text was removed describing forms of sex discrimination in healthcare settings that are prohibited under Section 1557 of the ACA.
		f) #OMH-1: i) Page was removed that included links to resources about preventive services and other benefits that patients with coverage under the ACA can access at no cost. Targeted audiences of the OMH website include racial minority groups. ii) Page was removed that had information about benefits American Indians and Alaska natives receive under the ACA.
		g) #OWH-1: Text was removed stating that some women have previously not had regular mammograms due to cost and lack of insurance, and that, under the ACA, women over 40 can receive mammograms at no cost.
	8. Information or links that made HealthCare.gov services for enrolling in ACA coverage accessible to consumers	a) #ACF: Link to HealthCare.gov was removed from the footer of the Administration for Children and Families domain, www.acf.hhs.gov. The footer is used by several ACF office websites, including the website for the Office of Refugee Resettlement.
		b) #CMS-1: Link to HealthCare.gov was removed from the header of the CMS.gov domain. HealthCare.gov was linked from the text, "Learn about your healthcare options," which was also removed.
		c) #HealthCare.gov: i) Text and links were removed that provided information about how people can apply for ACA coverage by phone and mail. They were removed from a page specifically about ways to apply for coverage. ii) Text and links were added to the page about ways to apply for coverage that provide information about applying for coverage through third-partner websites and brokers and agents.
		d) #Medicare: Page was removed about the Affordable Care Act, which included a link to HealthCare.gov under a section titled "related resources."
		e) #OMH-1: Page was removed about the Affordable Care Act, which included a link to HealthCare.gov.

Table 2: ACA Censorship by Intended Audience (cont.)

Intended Audience	Category	Description of Censorship
Physicians/ Providers	9. Resources or training materials for physicians or healthcare providers about compliance or service provision under the ACA	a) #OCR: Page was removed that included links to and descriptions of resources used to train healthcare providers and insurers about Section 1557, the nondiscrimination provision of the ACA.
		b) #OPA: Page was removed with links to and descriptions of resources that assist Title X healthcare providers with implementation of ACA family planning activities.
Policymakers and researchers	10. Resources that enabled healthcare or economic researchers and policymakers to evaluate the efficacy of the ACA	a) #ASPE: Descriptive text was removed from beneath the titles and links to 125 ACA-related research articles on a page about ACA research.
		b) #CMS-2: Language and statistics were removed regarding projected impacts of the ACA on healthcare coverage and spending from a page about the National Health Expenditure.
		c) #HHS.gov/healthcare-WIP: i) Pages were removed about the impact of the ACA in each state, including data about the number of newly insured people and other changes in coverage. ii) Pages were removed about how the ACA is working for populations including statistics and information about reductions in the number uninsured people.
		d) #OPA: Page was removed about the "Affordable Care Act Collaborative," which explained projects that would study the impact of ACA-related health system changes on Title X centers.
	11. Information or resources that enable the work of state and local policymakers and actors	a) #HHS.gov/healthcare-WIP: Pages were removed about the impact of the ACA in each state, which included data about the number of people receiving certain types of coverage and benefits, and how much money people are saving.
		b) #Medicaid-1: i) Pages were removed that included information about grants available to states for improving and streamlining coverage between the ACA and Medicaid. ii) Pages were removed with information about delivery and reporting requirements.
Navigators and assisters	12. Information or resources that enabled the work of health insurance navigators and assisters	a) #CMS-marketplace-1: PDF presentation was removed titled "Marketplace Outreach: Best Practices for Outreach to Latino Communities," which included information about challenges to and strategies for enrolling members of Latino communities for health coverage.
		b) #CMS-marketplace-2: Slides were removed from the PDF for a presentation titled "Tips for FFM Assisters on Working with Outside Organizations." The topics of the removed slides include "Consumer Grievances, Complaints, and Questions about Health Coverage," "Consumer Questions about Certain Tax Topics," and "Referrals to Other Assisters."
		c) #OMH-1: Page was removed titled "Fact Sheet for Assisters" which provided information to help assisters enroll Compact of Free Association (COFA) migrants — migrants from the Republic of the Marshall Islands (RFI), the Federated States of Micronesia (FSM), and the Republic of Palau — in coverage.

Chapter 1: Documenting Widespread Website Censorship of Affordable Care Act Content

The general public turns to government websites to learn more about the ACA; beneficiaries need to be able to access information about benefits and services to which they are entitled; and individuals who serve or assist beneficiaries — including healthcare providers and navigators — should be able to find resources that facilitate their work informing the public and explain how to comply with the law.

However, HHS offices have censored ACA-related content that provided information for a wide variety of audiences. This chapter details the examples of censorship we have found thus far. It is divided into three sections organized around the intended audience of the content, which delve into the different types of censorship and the impact they could have if used widely across federal websites. Each section is devoted to explaining censorship of information and materials intended for one of three different audiences:

1. A general audience;

2. ACA beneficiaries;

3. Those serving and assisting federal healthcare recipients (including healthcare providers, researchers, policymakers, and navigators).

As noted in the introduction, Table 1 details each finding of censorship. Table 2 details the categorization of each finding by audience and the nature of the ACA-related censorship.

Agencies have taken a varied set of approaches to altering information and censoring online content, each of which has a different possible impact on each audience, and a different potential impact on the law itself. Though federal agencies are expected to maintain usable and quality information on their websites, the government does little to enforce the maintenance, presence, or accessibility of digital content; this lack of regulation facilitates these forms of censorship. By detailing examples of each form of ACA-related censorship and the possible effect they could have if used on a large scale, this chapter demonstrates the efficient and unregulated means the executive branch possesses to undermine, and even sabotage, congressional mandates it wants to see undone.

Censorship of ACA content intended for a general audience

Offices across HHS have censored ACA-related content on websites intended to provide a general audience with basic information about what the ACA is and does. We have divided the censored content into five categories:

- General information about the ACA;

- Healthcare statistics and references to "affordability";

- Information about special duties of HHS offices defined in the ACA;

- Priorities of HHS offices or programs;

- Explicit use of the terms "Affordable Care Act" or "ACA" on live webpages.

Below are descriptions of censored content from each of these categories, followed by an assessment of how censorship in each category has or could have an impact on the public. Overall, the censorship documented in this section reduces public access to information, including making some information entirely unavailable, about what the Affordable Care Act is and the government's role and responsibility in implementing it. With time, if information remains inaccessible, the public may have less understanding of their stake in the law's success and their ability to hold the government accountable for carrying it out. Ultimately, this could even lead to lower rates of enrollment and support for the ACA.

1. General information about the ACA for the public

At least six HHS offices have removed ACA-related content intended to provide general information about the law.

Removed content included information about how the law works and serves people, and material intended to promote the law:

- On HHS.gov's "Healthcare" website, multiple collections of webpages have been removed. The pages provided the public with information about benefits established by the ACA and how the ACA has improved the quality and affordability of healthcare for all people (#HHS.gov/healthcare-NYT; #HHS.gov/healthcare-WIP);

- A page with general information about the ACA was removed from the Office of Minority Health (OMH) website. The page served as a landing page that linked to other pages with information about how the ACA works (#OMH-1);

- Language that described rights ensured under the ACA was removed from the HHS Office of Civil Rights (OCR) website. The removed language had specified the prohibition on sex stereotyping and discrimination based on gender identity (#OCR).

Offices also removed general information about how the ACA affects specific types of coverage or health services:

- Pages removed from Medicaid.gov and text removed from an HHS.gov webpage provided information about specific ACA provisions related to Medicaid, including that the law allowed for states to expand Medicaid to cover more people (#Medicaid-1; #HHS.gov/answers-2);

- A page removed from Medicare.gov provided information on improved access to care and benefits for Medicare recipients under the ACA (#Medicare);

- A page titled "Health Insurance and Mental Health Services" on MentalHealth.gov was altered to remove information about access to mental health and substance abuse services under the ACA (#MentalHealth.gov).

The examples described above detail only cases in which content was not moved to other places on the same website and which cannot be considered an attempt to integrate ACA-related information into the broader HHS web presence. There have been other removals of ACA information intended for general audiences that reflect not censorship, but rather efforts by offices to integrate ACA-related information into broader healthcare-related content. For example, HHS moved ACA FAQs from a separate page on the ACA to a broader FAQ page about "Health Insurance Reform" (#HHS.gov/answers-1).

If pursued on a large scale, removals of general information about the ACA could reduce awareness of the ACA among the public, which could ultimately reduce enrollment of new consumers and diminish the stability of the Marketplace.[30] This instability is exactly the goal of the Trump administration, which has been clear that it wants to see the ACA fail.[31]

The changes and removals of broad, general information may reduce awareness of the ACA by limiting the availability of information about its existence and the rights and benefits it affords people. If people do not know about the benefits they can receive and the reasons they should enroll in coverage through the ACA, they may be less inclined to do so.

Removing information about the impact of the ACA on healthcare and coverage also means people may be less informed about how they are personally affected by the law. For example, removing the explanation in #HHS.gov/answers-2 that the ACA was responsible for expanding Medicaid in some states may mean fewer Medicaid recipients understand how their coverage and personal interests are dependent on the ACA remaining law.

2. Statistics and terminology about healthcare coverage and affordability

Numerous offices within HHS have censored statistics and terminology about the beneficial effects of the ACA, like increased coverage rates and the affordability of care, on their websites.

Censorship of statistics related to the ACA's impact on healthcare coverage and costs include:

- The Centers for Medicare and Medicaid (CMS) removed statistics about the gains in healthcare coverage under the ACA from a webpage about the National Health Expenditure (NHE) (#CMS-2);

- On a webpage about the National Center for Health Statistics (NCHS), the Centers for Disease Control and Prevention (CDC) removed statistics conveying information about "health insurance coverage" and replaced them with statistics about "access to healthcare" (#CDC);

- On HHS.gov, pages were removed about the impact of the ACA in each state, including statistics about the number of people receiving specific types of benefits and how much money people are saving because of the ACA (#HHS.gov/healthcare-WIP);

- Also on HHS.gov, pages that provided statistics about the reduction in the number of uninsured people from vulnerable populations, like Latinos and women, were removed (#HHS.gov/healthcare-WIP);

- The Health Resources and Services Administration (HRSA) removed statistics on the rate of uninsured women since the ACA's implementation from its website (#HRSA-1).

In addition to removing statistics relating to healthcare coverage under the ACA, in at least one instance, CMS has added language on insured rates that deliberately avoids referring to the law. On the page about the NHE, CMS added language that alludes to the ACA without naming it (#CMS-2). The language suggests that insured rates might decline in 2019 as a result of the 2017 tax legislation

Sudden and unannounced removals, like the removal of the "Affordable Care Act" website from Medicaid.gov (#Medicaid-1), cause undue confusion to Americans who rely on the information they contain.

WIP Recommends:

Agencies issue formal press releases or public statements announcing web changes or removals.

- The statements should include links to archived versions of altered or removed pages.

- Agencies should generate special archives about the ACA- and healthcare-related content.

that "eliminated the individual mandate," but does not note that the individual mandate was established by the ACA.

Additionally, HHS offices have removed language related to "affordable coverage" and "affordability":

- The altered CDC page previously mentioned that the NCHS collects data on "affordability of care" (#CDC);

- Removed and altered pages on HHS.gov previously noted that the ACA is "working to make healthcare more affordable" (#HHS.gov/healthcare-WIP);

- On a still-live HHS.gov page about young adult healthcare coverage, the agency removed text that noted how the ACA makes coverage more affordable for young adults (#HHS.gov/healthcare-NYT).

Potential impact of censorship
of statistics and terminology about healthcare coverage and affordability

Removing statistics and terminology that convey information about changes in rates of healthcare coverage and costs gives the public less opportunity to learn about the impact the ACA has had on coverage and healthcare. The majority of Americans think that the government should be responsible for making sure people have healthcare coverage.[32] Access to reliable data showing the impact the ACA has had on rates of coverage is thus critical for the public to be able to assess their support of the law.

In many of the examples above, HHS offices completely removed relevant statistics and terminology from their websites, rendering it impossible for an interested individual to find data on increased rates of healthcare coverage on the NHE page (#CMS-2) or the rate of uninsured women from the HRSA page (#HRSA-1). In other instances, HHS offices have obfuscated the issues by switching out relevant measures of coverage with less relevant ones, thus making it more difficult for an individual to understand the impact of the ACA. For example, CDC replaced statistics about "health insurance coverage" with statistics about "access to healthcare" (#CDC). The "access to healthcare" statistics measure the number of people who have the option to enroll in coverage. They do not provide any insight into the number of people who are covered by health insurance. Without this data, interested individuals are less able to assess the impact of the ACA and less able to come to meaningful policy positions.

More than making it difficult to assess the impact of

the ACA in terms of insured rates, the removal of statistics and terminology about the costs and affordability of care may mean discussions of costs and affordability are less prominent in debates and discussions about healthcare. When the conversation is framed in terms of "access" rather than "affordability," very different discussions flow and different policy proposals gain traction. These removals may contribute to the reframing of the healthcare debate and ultimately affect the public's stance on the law.

Additionally, removing information about affordability may result in fewer Marketplace participants. If people do not associate ACA coverage with affordability, they may think that they personally cannot afford it and may not support the continued existence of the policy. Without information describing the relatively low cost of subsidized health plans, people may think that they simply cannot afford insurance, and may ultimately forego enrolling in coverage, thereby undermining enrollment rates and weakening the case for the ACA.

As the political debate over healthcare reform continues with attempts to repeal the ACA and plans to expand healthcare by Democrats, the public should have access to information that allows them to compare the impacts the ACA has on coverage rates and costs to those of proposed policies to inform their stance on each.[33] Instead, the administration has censored online content about the law in order to control the narrative and shift the focus of the healthcare debate away from increasing coverage and the affordability of care to a much weaker concept of "access" to healthcare.

3. Information about special duties of HHS offices defined in the ACA

The ACA assigned duties such as assisting states and enforcing non-discrimination provisions, to particular HHS offices and established new programs and offices. Information about some of those duties and offices has been removed from multiple HHS websites.

Language removed from Medicaid.gov and the Office for Civil Rights (OCR) websites obscured information about functions CMS and OCR are required by the ACA to carry out:

- On an altered Medicaid.gov page, CMS removed language about Medicaid and CHIP eligibility that explicitly identified the agency's role in helping states "convert" their Medicaid and CHIP eligibility levels to be based on modified adjusted gross income (MAGI), which is required under the ACA (#Medicaid-2);

- OCR obscured information about the forms of sex discrimination it must enforce against by removing text that defined sex stereotyping as a type of sex discrimination on webpages about the ACA's non-discrimination provision;

- Language removed from a CMS page about the Hospital-Acquired Condition Reduction (HACR) Program obscured information about how the ACA established the HACR program (#CMS-3). The altered CMS page makes no reference to the ACA's role in creating the program, instead explaining that the program's "*statutory requirements*" were established by a section of the Social Security Act.[34]

<table>
<tr><td colspan="2">

Potential impact of censorship
of information about special duties of HHS offices

</td></tr>
<tr><td>

By censoring information about programs and requirements established by the ACA, such as CMS helping states with Medicaid and CHIP eligibility and OCR enforcing prohibitions on specific forms of sex discrimination, HHS offices limit the capacity of the public to hold them accountable.

For example, by removing language explaining how CMS works with states to fulfill an ACA requirement (that Medicaid and CHIP eligibility be based on MAGI), the office has made it more difficult for state officials and the public to understand what the role of CMS is in determining eligibility, and therefore more difficult to assess if CMS is adequately performing this role, or performing it at all.

Similarly, in the case of #OCR, the text that has now

</td><td>

been removed may have provided lawyers and the public with information about OCR's role in taking action against sex discrimination. By obscuring the definition of "sex discrimination," the removal in turn concealed the full extent of OCR's obligations to individuals who experience sex discrimination in healthcare settings.

Additionally, as with so many other removals, removing references to the ACA as the originator of programs and duties serves to diminish the effects and breadth of the law and, if done on a large-scale basis, could result in the public being ignorant of its true impact. For example, the removal of text in #CMS-3 creates a disconnect between the Hospital-Acquired Condition Reduction Program and the ACA. Severing the explicit connection between this entity and the ACA undermines the law by hiding from the public the full extent of what the ACA is responsible for creating.

</td></tr>
</table>

4. Information on priorities of HHS offices or programs

Several offices have removed language from their websites that indicated the implementation of the ACA was one of their priorities. In most of these cases, these changes occurred to webpages intended to inform the public about the function and purpose of the office and were not reflected in the corresponding offices' formal strategic plans, which lay out official priorities for various federal offices.[35]

HHS's Office on Women's Health (OWH) and the Health Resources and Services Administration (HRSA) sub office, the Office of Women's Health — both [mandated by the ACA](#) under provisions to improve health of women — removed text indicating that the ACA is a specific priority of their offices ([#OWH-2](#); [#HRSA-1](#)).[36] While neither office appears to have a recent formal strategic plan, both offices previously listed the ACA on webpages about their purpose and mission:

- HRSA's Office of Women's Health listed the ACA as a priority area on its "About" page ([#HRSA-1](#));

- OWH explained on its "Vision, mission, goals, and history" page under the "About Us" section of its website that it "supports a variety of campaigns, programs, and policies around the Affordable Care Act." ([#OWH-2](#)).

OMH and the CDC National Center for Health Statistics (NCHS) also removed text and links that indicated the ACA was a priority of their offices ([#OMH-1](#); [#CDC](#)):

- OMH, which was reauthorized by the ACA and does not appear to have a recent strategic plan, removed a link with text "Affordable Care Act" from under the "Strategic Priorities" section of the web-site's homepage and from the "What We Do" dropdown located in the website's top menu ([#OMH-1](#));

- NCHS, which has had the same "[Official Mission/Function Statement](#)"[37] [since 2016](#),[38] removed a reference to the ACA from an "Overview" page about the center. NCHS previously noted that it uses data it collects to "track the impact of … the Affordable Care Act." On a fact sheet about how it uses data, NCHS also removed text explaining that Congress and other policymakers use NCHS data to understand the effects of various policies, including "implementation of the Affordable Care Act" ([#CDC](#)).

The website changes cited above were not reflected in the strategic plans of their corresponding offices. One exception to this was the Health Resources and Services Administration (HRSA), which formally altered its strategic plan for fiscal years 2019-2022 to remove increasing Marketplace enrollment from its objectives ([#HRSA-2](#)). Under the goal to "Improve Access to Quality Health Care and Services," HRSA removed "increasing enrollment in and utilization of health insurance through Medicaid, CHIP, and the Health Insurance Marketplace" as an objective and replaced it with "Connect HRSA patient populations to primary care and preventive services."

Potential impact of censorship
of information on priorities of HHS offices or programs

HHS offices altering their priorities on webpages serves as a way to communicate their de-prioritization of the ACA without going through a formal strategic planning process (see Part 6 of [circular](#) from the Office of Management and Budget (OMB)),[35] during which agencies are encouraged to submit a draft of their plans to OMB, and are required to notify Congress of the draft's availability online. The removals detailed in [#HRSA-1](#), [#OWH-2](#), [#OMH-1](#), and [#CDC](#) demonstrate website changes that *de facto* alter the formally communicated priorities and functions of the offices. Without updated strategic plans that describe the objectives and goals of the offices, public-facing content on the offices' websites serves as the clearest indicators of their priorities.

The ACA [codified](#) the establishment of HRSA's Office on Women's Health,[36] OWH, and reauthorized the OMH. All of these offices have a role in carrying out provisions of the ACA as part of their broader missions, which are to make healthcare more accessible to women (HRSA's Office of Women's Health and OWH) and racial and ethnic minorities (OMH), both underserved populations. For instance, under the ACA, underinsured women can receive free mammograms, which both of the women's health offices should help ensure ([#OWH-1](#) and [#HRSA-1](#) detail the removal of language that explained this provision). In actively removing language that stated the ACA was a priority on their websites, these offices are communicating their de-prioritization of implementing and supporting the law that solidified their existence and gave them new authority.

5. Explicit use of the terms "Affordable Care Act" or "ACA" on live webpages

Many HHS offices have censored swaths of ACA information by removing entire webpages about the ACA from their websites, but at least nine HHS offices have employed a more subtle technique: repeatedly altering still-live pages to censor just the term "Affordable Care Act" or "ACA."

Often the term "Affordable Care Act," was replaced with references to the "health care law" or "current law." This type of change happened on:

- HHS.gov, on pages about pre-existing conditions and young adult coverage (#HHS.gov/healthcare-NYT);

- The OMH website, on pages about the office's history and about guidance for American Indians and Alaska Natives about the ACA (#OMH-2; #OMH-1).

Notably, in changing the page with guidance for American Indians and Alaska Natives, OMH censored the name of the ACA on a page about the ACA itself (#OMH-1).

In other instances, offices have altered the titles of pages with content about the ACA so that they no longer include a reference to the law, thereby obscuring the fact that they include ACA-related information:

- On the Assistant Secretary for Planning and Evaluation (ASPE) website, the title of a page that lists research articles about the ACA was changed from "Affordable Care Act Research" to "Historical Research" (#ASPE);

- Content on an HHS.gov FAQ titled "Affordable Care Act" was moved to an FAQ with information about health insurance more broadly titled "Health Insurance Reform" (#HHS.gov/answers-1).

Sometimes agencies excised the term "Affordable Care Act" from webpages without replacing it with another phrase to refer to the ACA, completely removing any reference to the law.

This occurred in prominent locations on the homepages of websites, such as:

- The top menu on Medicaid.gov (#Medicaid-1);

- The top menu on the OMH website and from the homepage in the "Strategic Priorities" section (#OMH-1).

It also occurred on the "About" pages of websites — pages that explain the history and mission of offices —- such as:

- The "About Us" page of Medicare.gov, which previously listed info about the ACA and a link to a page about the law (#Medicare);

- The "Vision, mission, goals, and history" page on the OWH website (#OWH-2);

- The "About" page of the website for HRSA's Office of Women's Health (#HRSA-1);

- The "Overview" page for the National Center for Health Statistics (#CDC).

And it occurred on other pages explaining the offices' work, such as:

- On a page on the HRSA website about women's preventive services, which no longer explains that the ACA is responsible for making preventive services more affordable (#HRSA-1). The page still indicates that women can receive coverage for preventive services;

- On a page about NCHS data on CDC.gov, on which the ACA was removed as an example of a policy initiative that can be better understood using NCHS data (#CDC).

Some offices took a more heavy-handed approach, removing entire sentences or paragraphs that contained the term "Affordable Care Act," and thereby removing informational content:

- Medicaid removed a sentence that ex-

plained that states have converted their Medicaid and CHIP eligibility levels to be based on modified adjusted gross income (MAGI) because it is required by the ACA (#Medicaid-2);

- HHS removed a sentence that explained that some states expanded Medicaid because of the ACA (#HHS.gov/answers-2);

- CMS removed paragraphs explaining that the ACA established the Hospital-Acquired Condition Reduction Program, and how the ACA has affected coverage on a page about the National Health Expenditure (#CMS-2; #CMS-3). Notably, when CMS added information about the ACA's individual mandate to the page about the National Health Expenditure, the term "Affordable Care Act" was not used and the law was not referenced at all (#CMS-2);

Potential impact of censorship
of the terms "Affordable Care Act" or "ACA"

When done on a widespread basis across government websites, altering webpages to remove any reference to the ACA using terms other than "Affordable Care Act" — the shorthand for the law's full name, the "Patient Protection and Affordable Care Act" — or "ACA," may serve as a way to reduce awareness of the law and shift the focus of political discussions about healthcare away from the topic of affordability. It may also make it more difficult for people to find information they are looking for using commonly known terms.

By removing the FAQ category "Affordable Care Act" from its central FAQ repository, HHS made it more difficult for users to find information using a term that is commonly equated with health insurance and purchasing coverage. The changes might also create confusion about the status of the law, and whether the rights and benefits established in the law still remain. For example, ASPE changing the title of its page from "Affordable Care Act Research" to "Historical Research," sends a message that the ACA is "historical," and readers may well conclude

that the ACA is no longer law and that the research included on the page is no longer current and applicable.

#Medicaid-1, #OMH-1, #HRSA-1, and #Medicare are all examples of offices removing the term from prominent locations on their websites. As with the removals that reflected changes to office priorities in Category 4, this again serves as a way to reduce visibility and awareness of the law and shows how these offices have de-prioritized the ACA.

Removing the term "Affordable Care Act" (or "Patient Protection and Affordable Care Act") reduces the prominence of affordability in discussions about the ACA, and healthcare more broadly. Referring to the ACA by a name such as "Obamacare," especially on a page about the ACA now titled "Historical Research," may serve to politicize the law by attributing it to the previous administration. The subtle ways offices excised the terms "Affordable Care Act" or "ACA" from webpages demonstrate how the government can change public perception and understanding of laws through even small changes to public information online.

- OWH removed a sentence from a page about healthy eating that explained that nutritional counseling is available to certain adults under the ACA (#OWH-3).

ASPE also erased the term "Affordable Care Act" from the title of a page with ACA-related research. However, it did not completely remove references to the ACA from the page. Instead, it added "Obamacare" — an informal term sometimes used to deride the ACA — to a description of the ACA on the page (#ASPE).

In sum, the five approaches to ACA censorship that we have defined and detailed here (the removal of general information; the removal of statistics; the removal of information about the non-marketplace aspects of the ACA like the Medicaid expansion; the removal of ACA-related priorities and strategic goals; and the removal of the term "Affordable Care Act") have the capacity to undermine the ACA by reducing public awareness of the law and its provisions. Reducing public awareness may ultimately depress uptake of Marketplace coverage and weakening public support for the law. If these outcomes occur, the political case for repeal gets stronger — exactly the outcome the administration is seeking.

Censorship of ACA content intended for ACA beneficiaries

HHS offices have censored content intended to provide ACA beneficiaries with information about benefits and services they are afforded under the law and information about enrollment. We have divided the censored content into three categories:

- Information directed toward insured individuals to inform them about benefits or services available to them under the ACA;

- Information directed toward underserved groups to inform them about rights, benefits, or special services available to them under the ACA;

- Information or links that made HealthCare.gov services for enrolling in ACA coverage accessible to consumers.

Using these forms of censorship, offices can negatively affect public access to healthcare services. A public with low rates of awareness about the ACA has even fewer opportunities to learn about enrolling in coverage and accessing benefits.[40] Without this information, beneficiaries may never seek out services they need or even enroll in coverage.

6. Information directed toward insured individuals to inform them about benefits or services available to them under the ACA

On many HHS websites, offices provide information about benefits and services the public can access. Since the Trump administration took office, offices have frequently removed pages and information about benefits or services offered to individuals covered by insurance through the ACA.

Pages removed from Medicaid.gov and Medicare.gov, for instance, included information about how the ACA expanded health benefits for Medicaid and Medicare recipients (#Medicaid-1; #Medicare). Importantly, the removed Medicare.gov page informed recipients that the ACA did not change existing Medicare benefits, and emphasized that they do not need to enroll during Open Enrollment in order to keep their Medicare coverage.

Several offices removed content from their websites about specific services insured indi-

viduals can receive at no additional cost under the ACA:

- Removed pages from HHS.gov explained that beneficiaries of the ACA have a right to choose their physician and access emergency services (#HHS.gov/healthcare-NYT);

- Text removed from a MentalHealth.gov page titled "Health Insurance and Mental Health Services" informed the public that most health plans must cover mental health preventive services, like children's behavioral assessments and depression screenings, at no additional cost (#MentalHealth.gov);

- Text removed from an OWH page about healthy eating explained that, under the ACA, adults can receive free or low-cost coverage for nutritional counseling (#OWH-3).

OWH also removed from their websites information about benefits the ACA guarantees to specific populations. The information removed noted that nutritional counseling is offered to adults who are at higher risk of chronic disease (#OWH-3).

Potential impact of censorship
of information for insured individuals

Many agencies have posted web content intended to help individuals with ACA coverage understand the benefits and services to which they are entitled . Removal of such content may inhibit the ability of those with ACA coverage to access benefits and services, such as preventive care and medications.

By removing central pieces of information about ACA services and benefits — such as the mental health services described in #MentalHealth.gov and family planning services described on the removed #Medicaid-1 "Benefits" page — insured individuals may be less likely to ever know about them.

Removing information about ACA coverage — such as information described in #HHS.gov/healthcare-NYT and #Medicare that certain people do not need to sign up for coverage during Open Enrollment — can also create stress and confusion. Without this information, people may question whether they need to seek new coverage.

Agencies are expected to maintain their websites to include relevant and accurate information about services they provide or with which they assist, and yet these findings show that many HHS offices have instead censored this information. Ultimately, the lack of awareness and confusion that stems from these removals may deny people potentially life-saving services to which they are legally entitled and need.

7. Information directed at underserved groups to inform them about rights, benefits, or special services available to them under the ACA

In addition to censorship of information about ACA benefits directed toward insured individuals broadly, there has been a pattern of removals of online content specifically intended to inform underserved populations about the rights or services accessible to them under the ACA.

On several webpages, offices removed information that specifically informed women about their rights to coverage and services:

- Text removed from the HRSA and OWH websites explained that the ACA extends coverage so that women can access certain preventive services at no additional cost (#HRSA-1; #OWH-1);

- Content that explained that women cannot be charged more for or denied coverage because of their gender was removed from multiple HHS.gov pages (#HHS.gov/healthcare-NYT; #HHS.gov/healthcare-WIP);

- OCR removed text about sex discrimination and rights afforded to women and the LGBTQ community under the ACA (#OCR).

Pages and text with information about ACA benefits and services intended for racial minorities were removed from the OMH website (#OMH-1). General information about the ACA, and targeted content including a page informing American Indians and Alaska Natives about their benefits under the ACA, was removed.

Additionally, text with information about ACA benefits and services intended for people with mental illness were removed from MentalHealth.gov. The content explained that health plans cannot deny people with mental illness coverage or charge them more for their pre-existing condition (#MentalHealth.gov).

Potential impact of censorship
of information for underserved groups

Evidence suggests that a lack of awareness of the ACA among uninsured people may impede higher enrollment in health coverage.[41] The removal of ACA-related content, then, may mean that vulnerable, underserved populations — like women[42] and racial minorities[43] — are less likely to learn about the ACA and what it can do for them.

For instance, the removal of specific content about sex discrimination detailed in #OCR ultimately means the loss of information about how people cannot be discriminated against in healthcare settings because of their gender identity or how feminine or masculine they act. This may result in people not understanding that discrimination on these grounds is illegal, and they may not pursue legal action if they experience this wrongdoing.

Even the removal of general information, about services and benefits afforded to anyone under the ACA, may have an outsized impact if the intended audience of the content is a vulnerable group, such as in the case of #OMH-1 (the target audience of the OMH website is minority groups). The dissemination of information about the ACA by offices and the administration more broadly is key to raising awareness of the ACA among these groups and the rights they have under the law. Offices should regularly put out new information targeted at these underserved groups, but instead they have removed content and eliminated ways for these groups to learn more about their rights to coverage and access to services. If people do not know that certain benefits and services are available, they cannot know to seek them out.

8. Information or links that made HealthCare.gov services for enrolling in ACA coverage accessible to consumers

HHS offices have also made it more difficult to access HealthCare.gov, find out where they can enroll in coverage, and learn more about the federal Marketplace. They have done this by removing links to HealthCare.gov on live pages, removing pages that linked to HealthCare.gov, and altering HealthCare.gov itself.

The Administration for Children and Families (ACF) and CMS removed links to HealthCare.gov from the footer and header of their websites, respectively. Links in the footer or header are accessible throughout the entire website, so these removals eliminated direct access to the ACA's federal Marketplace for applying to and buying health insurance, including the information about how to apply and enroll in coverage ([#ACF](#); [#CMS-1](#)). Medicare and OMH reduced access to HealthCare.gov on their websites by removing entire pages about the ACA that included links to HealthCare.gov ([#Medicare](#); [#OMH-1](#)). These removals thus resulted in the loss of information about the ACA on the respective websites, as well as a link to a different website where users could read more about the ACA.

Two weeks into 2019 Open Enrollment — the period when people can enroll in ACA health insurance plans — CMS altered information about how to apply for coverage and use HealthCare.gov on HealthCare.gov itself ([#HealthCare.gov](#)). On a page about ways to apply for coverage, CMS removed text and links about using phone and mail services to apply for coverage, and the option to use HealthCare.gov itself, previously placed at the top of the list of ways to apply, is now listed fourth (and was listed last until information about using phone and mail was returned to the page). Links to information about applying for coverage through third-party websites were also added to the page.

The de-emphasis of HealthCare.gov evidenced on CMS.gov and HealthCare.gov ([#CMS-1](#); [#HealthCare.gov](#)) are particularly notable because CMS, as the office that runs HealthCare.gov, undermined access to its own tool for buying insurance. CMS removed from the header of its main website a link to HealthCare.gov with the text "learn about your healthcare options" ([#CMS-1](#)). This change, which occurred right before the Open Enrollment period started, eliminated the direct connection between CMS.gov and the website it operates, as well as the explanation of why consumers should go to HealthCare.gov. The changes to HealthCare.gov in the middle of Open Enrollment amounted to CMS directing consumers off of HealthCare.gov to third-party websites to buy their insurance, similarly de-emphasizing the website as a tool for buying insurance.

Potential impact of censorship
of information about or links to HealthCare.gov

Together, the findings described above show how HHS websites, including on HealthCare.gov itself, have de-emphasized HealthCare.gov. By removing links to HealthCare.gov, offices have reduced access to the website as well as awareness that it exists. Without explicitly directing consumers to HealthCare.gov, consumers may not immediately know where to go to shop for coverage. And in cases where information about the ACA was removed from other offices' websites, such as the Medicare and OMH websites, removing links to HealthCare.gov means that the offices have re-

moved access to the place where consumers can in fact find live information.

A former Obama-era HHS official noted that most people already do not know the dates for Open Enrollment.[44] De-emphasizing HealthCare.gov through the removal of links to the website further reduces awareness of the Open Enrollment period, and may exacerbate the effect on enrollment of cuts to ACA advertising funding (described further in Chapter 2).[20] If fewer people know about enrollment and fewer people sign up for health coverage, the Marketplace as a whole becomes less stable for those with insurance,[30] and those without insurance could face huge financial burdens if they ever need care.[45]

Censorship of ACA content intended for those serving and assisting federal healthcare recipients

HHS websites make available a trove of information and resources for healthcare providers, policymakers and researchers, and assisters who help consumers find health plans. We have identified four main categories of content aimed at these groups that HHS has censored:

- Resources or training materials for physicians or healthcare providers about compliance or service provision under the ACA;

- Resources that enable healthcare or economic researchers and policymakers to evaluate the efficacy of the ACA;

- Information or resources that enable the work of state and local policymakers and actors;

- Information or resources that enable the work of health insurance navigators and assisters.

Removals of resources for healthcare providers, such as #OPA, may inhibit to provision of services to which patients are entitled.

WIP Recommends:

Create an inter-office portal for healthcare-related information on HHS.gov

- The portal should list and link to all key, live informational assets and resources about healthcare.

- The portal should also list and link to all formal public announcements about overhauls and archives of removed content.

- This portal should be linked to from the footer of all HHS websites.

By removing materials and information, HHS offices have impeded the work of individuals and groups that aim to secure coverage for those who need it and improve the quality of that coverage.

By removing these materials and information, HHS offices have impeded the work of individuals and groups that aim to secure coverage for those who need it and improve the quality of that coverage. Consequently, these removals may ultimately have a negative impact on important healthcare services for Americans.

9. Resources or training materials for physicians or healthcare providers about compliance or service provisions under the ACA

HHS offices have changed or removed materials that informed providers that they are required to comply with rules and regulations under the ACA, such as non-discriminatory practices, and that providers must deliver certain services to patients, such as family planning services.

For example, OCR removed access to a training resource that gave providers information about complying with the nondiscrimination provision of the ACA, which prohibits discrimination based on race, color, national origin, sex, age or disability in health settings. The resource includes examples of these forms of discrimination and explains compliance requirements for healthcare providers and insurers (#OCR).

A page removed from the OPA website linked to resources intended to help Title X providers

— providers who deliver family planning services under Title X grants — understand preventive services available to women and how to comply with ACA regulations and reforms #OPA). The resources also offered advice to providers on how to get contracts with health plans on the Marketplace so that they can expand their service delivery to a wider group of patients.

Potential impact of censorship
of resources for physicians or healthcare providers

Removing information that helps providers better perform service delivery and understand their obligations to their patients may mean that some providers do not even know about services for which their patients have coverage, and thus (1) non-compliance among providers might increase, and (2) patients may not get services they are entitled to under the ACA.

In #OCR, HHS removed content that reminded providers of their obligations to provide services to all people — regardless of "race, color, national origin, sex, age, or disability."[46] Removal of this type of information may: (1) lead to an increase in the number of providers who are unaware of their non-discrimination obligations; (2) signal to providers who prefer not to comply with their obligations under the ACA that HHS will not actively enforce those provisions. In either case, removal of this sort of information may lead to an increase in the number of people being unlawfully refused coverage or services.

#OPA shows how the agency removed resources that help providers lower the barriers low-income women often face in accessing contraception. The resources linked from the removed OPA webpage were for providers who receive grants under Title X, a program that provides family planning and preventive healthcare services to over four million predominantly low-income,[47] underinsured, or uninsured people. Under the ACA's contraceptive coverage mandate, private insurance plans are required to cover female contraception.[48] However, if healthcare providers do not fully understand this mandate, they may not actively seek ways to make contraception available to their patients. If Title X providers do not know what services are available to their patients or how to effectively provide them, low-income women who already face obstacles in accessing contraception could struggle even more.

10. Resources that enable healthcare or economic researchers and federal policymakers to evaluate the efficacy of the ACA

In addition to providing resources for healthcare service providers, HHS websites provide information for federal policymakers and researchers that allow them to oversee and assess the impact of the ACA. HHS collects reports with data about health and healthcare at the state level that it publishes to inform policymakers and researchers about this data. Many HHS websites have changed or removed these types of resources.

On the CMS website and on HHS.gov, statistics on the ACA's efficacy were removed:

- Information and statistics about the ACA's impact on healthcare coverage was altered on a CMS page about the National Health Expenditure (NHE), and the altered page no longer includes up-to-date projections of the law's future impact on coverage rates (#CMS-2);

- A collection of pages that provided statistical information about the impact of the

ACA on healthcare in each state were removed from HHS.gov. HHS also removed pages about how the ACA is working for different underserved populations, including data on how coverage rates for groups such as women and Latinos have dropped since the ACA was implemented (#HHS.gov/healthcare-WIP).

Descriptions of ongoing or completed ACA-related research were removed from the ASPE and OPA websites:

- ASPE, which conducts research to support and inform HHS on policy development, altered a page with 125 articles about ACA-related research conducted by the agency. Descriptive text was removed about each set of research (#ASPE);

- OPA removed a page about the "Affordable Care Act Collaborative," a joint research effort by three grantees to study the impact of the ACA on Title X centers (#OPA). The "Affordable Care Act Collaborative" page presented information about the proposed research. No information about the collaborative, whether the research was ultimately conducted, or the results of the research has been posted elsewhere on the website.

Potential impact of censorship
of resources for researchers and policymakers

Censoring ACA-related research, such as the resources listed on the ASPE website, and removing statistics, such as the NHE data, may reduce the ability of policymakers to make informed, evidence-based decisions about what policies to develop. It may also stifle the work of healthcare or economic policy researchers who produce the research that informs these policymakers. Amidst fierce political debate over healthcare policy, in which policymakers are developing proposals that affect healthcare coverage and costs, the lack of access to evidence-based research could have consequences for policies that affect all Americans.

The removal of content about ACA-related research and statistical information can affect the work of both policymakers and policy researchers.

Analysis about the law and data about the ACA's efficacy is valuable to policymakers who can use it to understand what policies work and what aspects of the healthcare system can be improved. This research and data can also help inform the work of policy researchers. Think tanks and non-profit research organizations conduct some of the research published on the ASPE website, and non-profit research groups were the OPA grantees tasked with studying the impact of the ACA on Title X centers. Policy researchers at these institutions benefit from information about work their peers have completed. They can use this research to understand the conclusions that are being drawn from their field and draw on data to inform their own analysis about trends in coverage and money spent on healthcare services.

11. Information or resources that enable the work of state and local policymakers and actors

ACA-related information may affect state and local actors, who administer parts of the ACA and whose work is affected by shifts in federal policy. Offices within HHS have censored some information directed at state and local actors on their websites.

On Medicaid.gov, a website was removed with content about the relationship between Medicaid and the ACA (#Medicaid-1). The removed pages included information about regulations states must follow to comply with the ACA, content about systems created by CMS, and funding opportunities to help state policymakers improve their programs and streamline coordination between Medicaid and the ACA exchanges.

A website was removed from HHS.gov that included pages about how indicators of healthcare coverage and access have changed in each state since the implementation of the ACA (#HHS.gov/healthcare-WIP). While the intention of these pages was to demonstrate the positive impact the ACA has had on people in each state, they also provided detailed data, such as the number of citizens in each state who: have gained access to coverage since the ACA was enacted; have access to coverage through their employers; have coverage through the ACA Marketplace.

Potential impact of censorship
of resources for state and local policymakers

Censorship of web content about services and regulations created by the ACA and data about the impact of the ACA can negatively affect the ability of state and local policymakers to carry out their work. Such removals of information can inhibit them from serving their constituents and making informed policy decisions about healthcare.

Because the Trump administration has adopted policies that reduce the role of the federal government in administering the ACA and shift the responsibility to the state level,[22] information guiding state and local administrators has become even more important. States have always had the responsibility for administering Medicaid, and the removal of pages about how the ACA affects state

Medicaid programs, detailed in #Medicaid-1, reduces access to information about how to carry out that responsibility.

While information about the ACA helps state and local policymakers carry out existing policies, data about the impacts of the ACA, such as those which were removed in #HHS.gov/healthcare-WIP, may help them conceive of new policies aimed at improving healthcare for their constituents. Policymakers may have access to data about coverage rates and access to coverage in their own states, but this type of information about coverage in other states — in conjunction with information about the policies states have implemented — can help policymakers think about what types of changes and reforms might work in their own states.

12. Information or resources that enabled the work of health insurance navigators and assisters

Just as ACA-related information on HHS websites can be useful and important for policymakers and researchers, HHS web resources can also enable the work of assisters, who are trained to provide free help and outreach to consumers and small businesses seeking health coverage through the ACA Marketplace. Navigators are assisters specifically funded by the budget for the federal health insurance Marketplace, and should thus be able to rely on federal resources to perform outreach activities.[49] Yet HHS offices have altered or removed information or resources for navigators and assisters.

CMS's "Health Insurance Marketplace" website serves as the "official Marketplace" information source for navigators and other assisters. Its role as the official source of information notwithstanding, CMS has removed relevant training information from the website:

- Slides were removed from a presentation titled "Tips for FFM [Federally-facilitated Marketplace] Assisters on Working with Outside Organizations," which provided guidance to assisters on how to make referrals for clients and collaborate with other organizations on outreach efforts (#CMS-marketplace-2);

- A presentation, titled "Marketplace Outreach: Best Practices for Outreach to Latino Communities," was removed (#CMS-marketplace-1). The presentation included information about the challenges Latinos might face when enrolling in coverage, such as fear of immigration enforcement, and best practices for assistance, such as making services culturally and linguistically appropriate;

- A page removed from the OMH website provided information about the eligibility of particular migrants to access and enroll in coverage through the federal Marketplace (#OMH-1). The content was specifically intended for healthcare assisters, who advocate for the ACA by helping the public enroll in coverage;

Potential impact of censorship
of resources for navigators and assisters

Reducing access to valuable training resources for navigators may result in less-knowledgeable navigators and lower quality health-coverage assistance, thus negatively affecting all Americans attempting to sign up for insurance in the Federal Marketplace.

However, the largest impact will most likely be felt by low-income and minority communities, who may benefit the most from access to well-informed assisters.[41] In fact, existing regulations require that navigators receive training to ensure they understand the needs of underserved and vulnerable populations,[50] and yet #CMS-marketplace-1 and #OMH-1 show that information for assisters specifically about how to help Latinos[51] and immigrants[52] — communities in which people are more likely to be uninsured — has been removed. Advocates, in-

cluding those who work for navigator programs, note that these types of removals make it harder to provide targeted outreach to these communities,[53] which may ultimately mean people in these populations do not end up enrolling in coverage.

The two examples of censorship on CMS's "Health Insurance Marketplace" website both occurred shortly before Open Enrollment for 2019 coverage, the period each year when people can sign up for health insurance plans on the Marketplace, often with the help of navigators. A new version of a PDF about how to perform outreach to Latino communities was eventually made accessible, but not until just before the end of Open Enrollment. This means that during the time when consumers, including consumers from underserved populations, were most in need of assistance, the people providing that assistance did not have access to materials that could help them better provide that assistance.

Conclusion

HHS offices have censored a variety of online content and resources about the ACA — from the term "Affordable Care Act" itself to entire websites with information about the law — which has affected different audiences. The outcome is similar with regards to each affected audience — a public that is less aware of and knowledgeable about the law, less likely to access important healthcare services that the ACA affords those with coverage, and, perhaps, less likely to support the retention of the ACA.

Removal of information intended for a general audience contributes to reduced awareness of the law broadly, while the censorship of materials for beneficiaries more specifically reduces awareness of benefits and services to which they are entitled under the ACA, and of how to enroll in coverage at all. Censorship of materials for people who serve and assist beneficiaries — such as healthcare providers and navigators — also affects public awareness of the ACA and consequently affects people's ability to enroll in coverage and access benefits.

A less aware and informed public cannot effectively participate in the political discussions and debate over the ACA and other possible healthcare reform proposals. But perhaps even more troubling, a less informed public that is less likely to access important healthcare services may ultimately be sicker as a result.

It is within HHS's purview to alter language on its websites that explicitly promotes the ACA as a success and accomplishment. However, the large-scale censorship endeavor, as described in the sections above, does more than remove promotional material. It enhances the efforts of the administration to weaken the ACA. Down the line, as fewer people enroll using the ACA Marketplace, the market could destabilize. This may push insurers to exit the market or charge higher premiums, leaving those who want coverage in a position where they might not be able to access or afford it.[54]

The administration has not been able to repeal the ACA, but through censorship of ACA-related information on HHS websites, it has been able to shift the focus of discussions about healthcare away from the ACA and slowly sabotage the broad awareness of the law that is so crucial to its success.

Chapter 2: How Online ACA Censorship Amplifies Executive Actions to Undermine the Law

The censorship of Affordable Care Act-related information across HHS websites documented in Chapter 1 has not occurred in isolation. It is one element of a widespread attempt by the Trump administration to undermine the law through such means as non-enforcement and de-funding of programs established by the ACA.

The executive branch has considerable discretion in how and when to administer and enforce statutes enacted by Congress. The executive office and federal agencies have used the conventional aspects of those powers liberally with regards to the ACA. Trump's first executive order in office directed federal agencies to scale back the ACA as much as is "permitted by law," while still ensuring that the ACA is efficiently implemented.[13] In response to Congress' failure to pass any of the bills to repeal and replace the ACA, Trump said he and Republicans should simply "let Obamacare fail," suggesting the executive branch should not actively enforce it.[55] In the courts, cities have accused Trump of sabotaging the ACA and deliberately failing to carry out the law per his executive obligation by cutting funding for outreach, discouraging enrollment, and promoting plans that do not comply with the law.[56]

In effect, the Trump administration is using government websites, a modern unregulated tool, to complement — and sometimes even foreshadow — formal, regulated tools for changing policy. Unlike rulemaking, non-enforcement, and fund reallocation, there are few rules that govern the use of information

and lack of information on government websites. The changes to online information about the ACA since the beginning of the Trump administration have amplified the effect of policy measures against the ACA and the administration's stated goals to undermine the law.

This chapter describes some of the actions the administration has taken against the ACA, organized around the themes of undermining enrollment (e.g. by defunding navigator programs and limiting access to HealthCare.gov) and weakening specific provisions of the ACA (e.g. by refusing to defend the anti-discrimination provision in the ACA). We explain how these actions have been bolstered by changes made to HHS websites, clearly demonstrating that website censorship is a powerful policy tool. We consider the impact that the ACA-related policy actions and website changes may affect the public.

Executive branch actions undermining ACA enrollment

The Trump administration has changed HHS websites to increase the effect of formal policy changes aimed at undermining enrollment in ACA coverage. In concert with policy changes, website changes have been aimed at reducing access to ACA plans and awareness of the ACA Marketplace.

Reducing outreach capacity of Marketplace navigators and assisters

The combination of policies to defund navigator programs and remove training materials from HHS websites has diminished the capacity of Marketplace navigators and assisters to perform outreach regarding enrollment, particularly to underserved populations.

Policy action: Defunding navigator programs

In August 2017, just a few months before the Open Enrollment period for 2018 coverage began — the first enrollment period during the Trump presidency — the administration announced a 40% cut to grants for nonprofit navigator groups.[20] Navigators provide outreach to eligible individuals and help people enroll at no cost in health plans offered through the ACA marketplaces. In July 2018, the administration announced that it was again cutting grants to nonprofit groups to less than 20% of their 2016 rates.[57]

Related website changes: Removing training materials for assisters

In the months leading up to Open Enrollment in 2018, HHS offices altered or removed from their websites materials used to train assisters in healthcare outreach and policies relevant to their work.

CMS altered or removed at least two resources on the "Health Insurance Marketplace" website, which serves as "the official Marketplace information source" for assisters:

- It removed a presentation titled "Marketplace Outreach: Best Practices for Outreach to Latino Communities," intended as a training resource to help assisters with outreach to Latino communities ((#CMS-marketplace-1);

- It removed slides explaining specific guidelines, requirements, and best practices about referrals to other assisters and organizations from the PDF for a presentation titled "Tips for FFM Assisters on Working with Outside Organizations" (#CMS-marketplace-2).

HHS's Office of Minority Health (OMH) removed a page titled "Fact Sheet for Assisters" from its website. The fact sheet provided information for assisters about the eligibility of Compact of Free Association (COFA) migrants to access and enroll in coverage (#OMH-1). Though the fact sheet is still available through the Health Insurance Marketplace website,[58] the removal from the OMH website means organizations that use the website for resources on the health needs of minority groups have less access to a resource that can help them enroll eligible immigrants in healthcare plans.

Combined impact of policy action and censorship:

On their own, these removals of information for assisters from websites would be a significant, but not devastating, change. When combined with defunding decisions, reducing the pool of online resources amplifies the negative impact on communities that rely on assisters, such as individuals who are uninsured or have limited English proficiency.

The Centers for Medicare and Medicaid Services (CMS), the agency that administers the ACA Marketplace and funds navigator programs, suggested in its funding opportunity announcement that it was

"appropriate to scale down the Navigator program" because the "Federally-facilitated Exchanges" have been in operation since 2013,[59] and consequently there is "enhanced public awareness of health coverage through the Exchanges." However, analysis by the Government Accountability Office (GAO) found that HHS used unreliable data about consumer applications for coverage to make this assessment.[60] In fact, research from the Kaiser Family Foundation suggests that the public still has limited awareness about the Marketplace and the enrollment process.[40] As such, fewer navigator staff and reduced outreach spurred by funding cuts creates an obstacle to enrollment for people who need help navigating the Marketplace and understanding their insurance options.[61] The removal of online training materials worsens the situation, as

it means that remaining navigator staff lack access to resources for training.

Underinsured populations such as immigrants are likely to be especially affected by the policy changes and resource removals. Funding cuts mean fewer bilingual staff can be hired by navigator groups to perform outreach to consumers with limited English proficiency.[62] Such consumers include many immigrants, who are almost three times less likely to have coverage than U.S. citizens (and undocumented immigrants are more than five times less likely).[52] Latinos are also likely to be affected: 22% of Latino adults were uninsured in 2016 — the lowest coverage rates of any racial or ethnic group. Advocates have explained that removing resources, like the presentation on "Best Practices for Outreach to Lati-no Communities," makes it harder to provide targeted outreach to Latino communities.[53] Evidence suggests that Latinos, in particular, lack awareness of the ACA, and outreach is critical to improving rates of enrollment in Latino populations.[41] The lack of bilingual staff combined with the lack of resources that promote cultural competency in performing outreach may mean that Latino populations are even less likely to learn about how to access coverage, and those who are uninsured are more likely to stay that way.

Together, funding cuts to navigator programs and reduced access to online training materials for assisters may ultimately mean that the most vulnerable populations will face even more barriers to getting the coverage they need.

Reducing and de-emphasizing promotional material for the ACA and Marketplace

By cutting the advertising budget for the ACA in concert with removing promotional and informational material about the ACA from HHS websites, the administration may have reduced awareness of the ACA's existence and affected the chance that new consumers enroll in coverage.

Policy action: Defunding promotional material and advertising for ACA enrollment

In August 2017, the administration announced a 90% cut to the advertising budget for the 2017 Open Enrollment period.[20] As part of the budget cut, the administration ended TV advertising, running only radio and digital ads as ways to reach new consumers.[20] It sent emails and texts to people already enrolled in coverage or who had previously visited HealthCare.gov.[63]

Related website changes: Removing online promotional and informational material about the ACA

Well before the funding cut announced in August 2017, HHS offices began removing existing promotional and informational content about the ACA from their websites.

Several offices removed content or collections of pages that used positive language to promote how the ACA has improved the quality and affordability of healthcare, and to explain the benefits the public can access through it:

- HHS removed a video about a man from Florida with diabetes explaining how "he was able to enroll in coverage without worrying about his health status" from an HHS.gov page about pre-existing conditions within weeks of Trump's inauguration (#HHS.gov/healthcare-NYT);[64]

- HHS removed from HHS.gov a collection of webpages about how the ACA has affected the affordability of healthcare in each state (#HHS.gov/healthcare-WIP);

- CMS removed from Medicare.gov a page titled "The Affordable Care Act & Medicare," which provided information about the positive impact of the ACA on Medicare coverage (#Medicare);

- CMS removed from Medicaid.gov a 14-page website containing still-accurate information about the ACA, including specific benefits it affords Medicaid recipients (#Medicaid-1).

HHS offices have also removed content promoting how the ACA improves healthcare for

vulnerable populations:

- Fact sheets about how the ACA has improved the quality of and access to healthcare for various vulnerable populations, including women and Latinos, have been removed from HHS.gov's "Healthcare" website (#HHS.gov/healthcare-WIP);

- The Office of Minority Health (OMH) removed from its website a page titled "The Affordable Care Act," which contained positive language explaining what the ACA does and how it benefits minority consumers (#OMH-1);

- The Office of Population Affairs (OPA) removed a collection of ten webpages about the ACA from its Title X website, including a page titled "Health Insurance Marketplace," which linked to and provided information about the Marketplace (#OPA);

- Information explaining how the ACA has increased access to mental health and substance abuse services was removed from the "Health Insurance and Mental Health Services" page on MentalHealth.gov (#MentalHealth.gov).

Combined impact of policy action and censorship:

According to The New York Times, administration officials explained the advertising cut by saying that it did not make sense to spend as much as in previous years because most Americans already know about their coverage options.[20] However, research indicates that the public still has limited awareness of the enrollment process.[40] Lori Lodes, former HHS official who ran outreach and public education for the ACA under the Obama administration, noted that most people do not know the dates for Open Enrollment or how affordable health plans can be.[44]

Advertising, especially TV advertising, is important, with at least one study indicating that people are more likely to enroll in coverage if they live in areas with high rates of advertising about marketplaces compared to areas with low rates.[65] Emails obtained by the non-profit group Democracy Forward show that government-contracted analysts informed administration officials that cutting TV advertising would lead to over 100,000 fewer enrollments.[66] A GAO analysis, explaining how HHS should enhance management of Open Enrollment performance, noted that stakeholders said that cuts to advertising funding likely detracted from 2018 enrollment.[60]

Without TV advertising, the marketplaces run the risk of failing to enroll new customers and maintaining a large, diverse pool of healthy and less

healthy customers, which could ultimately affect their stability.[30] Lodes deemed the 2017 cuts "nothing less than sabotage," and there were indications of partisan motives.[44] Several former health officials suspected that money intended for promoting the ACA was used to make videos critical of the ACA, showing people saying they had been "burdened by Obamacare."[23]

Adding to the potential impact of the funding cuts, removals of promotional material on government websites narrowed another avenue through which the public, especially new consumers, could gain awareness of the law. Not only is the administration not spending money to produce new forms of advertising, HHS has also reduced digital media content that it claimed it would use to educate consumers and which costs little to maintain.[67] The less visible information about the ACA is on HHS websites, the less opportunity people have to learn about the law's existence.

The removed online material described above included positive, sometimes partisan, language that an administration opposed to the law would no doubt want to eliminate. But much of it also included unbiased content that informed consumers about important benefits and services they are afforded under the ACA, such as benefits they have as Medicaid recipients or mental health services that beneficiaries are entitled to. This information is particularly important to underinsured, vulnerable populations, including poorer populations and racial minorities, who may be less informed about how they can benefit from ACA coverage and access life-

saving services.

The combination of cuts to advertising, and the removal of online promotional material broadly, means that a public with already low rates of awareness about the ACA has even fewer opportunities to learn about its existence and ultimately how to enroll in coverage.

Reducing access to ACA enrollment, including the HealthCare.gov website

One of the ways the Trump administration has sought to undercut the ACA is by making enrollment more difficult. HHS offices have achieved this by making rules that shortened Open Enrollment and changing their websites to remove access to online resources about applying for coverage.

Policy action: Shortening Open Enrollment

Shortly after President Trump took office in 2017, CMS released a rule that halved the Open Enrollment period for the federal Marketplace[21] one year earlier than required by the ACA.[68] The period was shortened from three months to 45 days.

Related website changes: Reducing access to web content about applying for coverage

In line with the goal of making enrollment more difficult, HHS has hindered access to HealthCare.gov and information about ways to enroll in coverage.

At least two offices removed prominent links to HealthCare.gov throughout their website domains:

- In 2017, the Administration of Children and Families removed a link to HealthCare.gov from the footer of its website, as well as from the footers of websites for sub-offices within the agency, such as the Office of Refugee Resettlement (#ACF).

- In 2018, CMS removed a link to HealthCare.gov in the header of its website (#CMS-1).

Other offices have removed specific pages about the ACA, and in doing so removed links, and reduced access, to HealthCare.gov:

1. CMS removed a page titled "The Affordable Care Act & Medicare," which listed HealthCare.gov as a related resource, from Medicare.gov (#Medicare);

2. OMH removed a page titled "The Affordable Care Act," which included the text "visit www.healthcare.gov to enroll, renew, find answers and get help — by phone or in person" (#OMH-1).

Additionally, halfway through the Open Enrollment period for 2019 coverage, CMS altered a webpage on HealthCare.gov about ways to apply for coverage (#HealthCare.gov). Information and links to content about using phone and mail services to apply for coverage were removed, and the option to use HealthCare.gov, previously placed at the top of the list of ways to apply, is now listed fourth (and was listed last until information about using phone and mail was added back to the page). Now listed above the option to use HealthCare.gov is the option to contact third-party agents or brokers, and two new options that also link to information about enrolling in plans through third-party entities. These third-party entities (described in more detail in the section below) can sell less comprehensive, non-ACA insurance.

Combined impact of policy action and censorship:

The removal of links to HealthCare.gov may have exacerbated the impact of a shorter enrollment period on the number of people enrolling using HealthCare.gov. The shorter enrollment period for 2018 and 2019 coverage meant that consumers had less time to visit HealthCare.gov, shop for plans, and seek assistance.[69] The removal of links to the site meant consumers had fewer opportunities to navigate to or become aware of HealthCare.gov. Once on HealthCare.gov, the reduced information about how to apply for coverage further reduced the chances of consumers securing coverage using a method that suited their needs.

Critics of the Trump administration's decision to shorten the Open Enrollment period, including insurers, feared that fewer health plans would be sold and fewer healthy individuals would enroll.[70] Analysis indicates that the shorter period may have contributed to lower enrollment numbers for 2018 coverage, showing that state-based marketplaces that maintained a three-month open enrollment period,[71] instead of aligning with the six week period of HealthCare.gov's federal Marketplace, had higher rates of enrollment, and higher rates of healthy, young enrollees.

HHS offices removing links to HealthCare.gov may have amplified this effect by reducing awareness of the site and the Open Enrollment period, and could have contributed to lower enrollment numbers. CMS directing consumers to use third-party entities instead of HealthCare.gov to buy insurance may also mean that people were more likely to be offered non-ACA plans, and that more people shopping for health insurance ultimately bought non-ACA plans than in years past — further depressing ACA enrollment numbers.

Pushing short-term plans

Changes to information on HealthCare.gov reflect and amplify policy measures aimed at making it easier for consumers to enroll short-term health plans.

Policy action: Increasing the maximum length of short-term health plans

In October 2017, President Trump issued an executive order for agencies to prioritize association health plans, health reimbursement arrangements, and short-term, limited-duration insurance,[14] which do not have to comply with requirements for insurance contained in the ACA.[72] HHS, the Department of Labor, and the Department of the Treasury issued a final rule in August 2018,[73] which took effect in October, to expand the period for which short-term coverage can be sold from three months to twelve months. It also allows insurers to renew short-term policies for up to three years.

Related website changes: Emphasizing access to third-party enrollment assistance

This prioritization of short-term plans, which are not sold through ACA marketplaces, was reflected on HealthCare.gov. Halfway through the Open Enrollment period for 2019 coverage, CMS altered a HealthCare.gov page about ways to apply for coverage to emphasize third-party broker and agent contacts (#HealthCare.gov). Since they operate outside of the ACA Marketplace, these third party entities can offer short-term plans and other health policies that do not comply with ACA benefits standards and consumer protections.[74]

The page previously listed enrolling "through an agent or broker" as one of five options for enrollment. Now it lists "find and contact an agent, broker, or assister" and "have an agent or broker contact you" as two different options. The link listed as part of the new "have an agent or broker contact you" option directs users to "Help On Demand," a website run by a for-profit private software company. The page also lists a new "use a certified enrollment partner's website" option, which links to a page explaining that certified partners may

include online health insurance sellers. All of these options direct consumers to third-party entities that can sell short-term plans.

Additionally, these other options are all listed above the option to use HealthCare.gov itself.

The option to use HealthCare.gov itself was previously placed at the top of the list of ways to apply, but is now listed fourth (and was listed last until information that was removed about using phone and mail was added back to the page).

Combined impact of policy action and censorship:

The combination of increasing the maximum length of short-term plans and CMS's web alterations may make short-term plans seem more appealing to low-income consumers and divert people away from traditional plans that may be their best long-term option.

The administration claimed its final rule increasing the maximum length of short-term plans will offer people more affordable health insurance options, given the high premiums for ACA coverage.[75] While short-term plans usually have lower premiums than ACA plans, and thus may seem like a good option for some consumers, they do not have to provide essential benefits required under the ACA, and can charge higher prices to people with pre-existing conditions. This means that people who sign up for short-term plans often face gaps in coverage and may end up paying high out-of-pocket

costs if they need care.[73]

Links and information added to the HealthCare.gov page about ways to apply for coverage may reflect other policy changes at CMS on enhanced direct enrollment, which allows consumers to bypass HealthCare.gov to find and manage their ACA coverage.[76] Consumers use approved third-party websites including websites of agents and brokers, to enroll. These third parties can sell them short-term plans and other policies that do not comply with ACA requirements. CMS' web changes emphasize using these websites to enroll in coverage over HealthCare.gov itself, thus increasing the chance that consumers are offered short-term plans.

Many brokers get paid more to enroll people in short-term plans,[77] so they might be tempted to promote them over ACA-compliant policies. With the administration increasing the maximum duration of these plans, people who buy them will be at risk of catastrophic out-of-pocket costs and gaps in needed long-term health coverage for longer stretches of time.

Executive branch attacks on specific ACA provisions

Beyond weakening access to and awareness of the ACA Marketplace, the Trump administration has also taken measures to dismantle and undermine provisions of the ACA that guarantee contraceptive coverage and protection from discrimination. The tools it has used have included both conventional policy approaches and the concealment of information on government websites.

Rolling back access to contraceptive coverage

By expanding exemptions to the ACA's contraceptive coverage mandate and obfuscating information about contraceptive coverage on HHS websites, the Trump administration may have reduced access to contraceptive methods that many women rely on for family planning.

Policy action: Expanding exemptions for contraceptive coverage

In November 2018, HHS finalized two rules that would expand exemptions to the ACA's contraceptive coverage mandate, which requires health insurers and employers to cover various forms of contraception with no out-of-pocket costs.[78] The rules would provide exemptions from the mandate to employers that object to covering contraceptive methods based on religious[79] or moral[80] grounds. The rules were scheduled to take effect in January of 2019, but were blocked by a federal court.[81]

Related website changes: Obscuring online information about contraceptive coverage

Months before these rules were proposed in 2017, OPA removed a collection of ten webpages about the ACA from its website about Title X, the federal grant program that provides family planning and preventive services to low-income women (#OPA). In the collection was a page titled "Contraceptive Coverage."

Most of the content about contraception and other preventive services from this removed page is now live on the "Women's Preventive Services" page, but there are some notable exceptions. Some text was not moved from the "Contraception Coverage" page to the "Women's Preventive Services" page, including text explaining that there "are proven health benefits for women that come from using contraception" and that while nearly all women in the U.S. have at some point during their lives relied on contraception, more than 50% of women ages 18-34 "have struggled to afford it." Additionally, the title of the live page obscures the fact that it includes information about contraception.

Combined impact of policy action and censorship:

The rules expanding exemptions to the contraceptive mandate may ultimately make it more difficult for women to access affordable contraception.[82] Analyses indicate that the contraceptive coverage mandate has allowed over 55 million women to access contraception without copays, and hundreds of thousands of women may lose this benefit with the exemptions in place.[83]

The rules, if they eventually take effect, may eliminate the legal entitlement to affordable contraception. In the meantime, website censorship might covertly achieve the administration's intended goal of reducing access to contraception without having to follow the open, formal, and justiciable, rule-making process.

The "Contraceptive Coverage" page clearly informed users that women can still access coverage for contraceptives. Removing the page obscures that fact. Moving most of the content to a page titled "Women's Preventive Services" — ostensibly about preventive services broadly — sows confusion about the status of the contraceptive mandate. Women may no longer be sure of their rights to access contraception under their insurance policies, and may not seek out the affordable contraceptives to which they are entitled.

People who commented on the interim versions of the final rules also explicitly raised concerns that the rules would limit access to contraceptive drugs that can be used to treat health conditions unrelated to preventive contraceptive use.[84] A 2011 study showed that 14% of women who use oral contraceptive pills rely on them to treat these other conditions, and that 58% rely on them at least in part for purposes other than to prevent pregnancy.[85] Whether or not the mandate expands to coverage of contraception for non-contraceptive use is even less clear, given that information about contraceptive coverage is now included on a page specifically about preventive services.

Undoing prohibitions on sex discrimination

A combination of rules suggested by HHS, and removals of language about sex discrimination from HHS webpages, demonstrates the Trump administration's intention to weaken sex discrimination protections for healthcare consumers.

Policy action: Rolling back sex discrimination protections

At the time of writing, HHS is expected to[86] but has not yet issued a rule that would roll back protections set forth in an Obama-era regulation on Section 1557,[87] the provision of the Affordable Care Act prohibiting discrimination,[46] including sex discrimination. The Obama-era regulation (45 CFR 92) defines sex discrimination to include discrimination on the basis of one's sex, gender identity, termination of pregnancy, and sex stereotyping.

A lawsuit brought against HHS challenges the legality of parts of 45 CFR 92. A nationwide preliminary injunction issued by the Texas court hearing the lawsuit prevents HHS's Office for Civil Rights (OCR) from enforcing Section 1557 protections against discrimination based on gender identity and termination of pregnancy.[88] HHS has not sought to lift the injunction because it is "reevaluating the reasonableness, necessity, and efficacy of the rule that is challenged in this case."[89] While the injunction does not allow covered entities, such as hospitals or clinics, to discriminate on the grounds of sex — they can still be sued under Section 1557 — HHS's expected rule may attempt to change that.

Related website changes: Removing sex discrimination prohibition web content

In 2017, prior to any indication that HHS might suggest a new rule to roll back the regulation on Section 1557, OCR removed language about sex discrimination from webpages about Section 1557 (#OCR). While the pages still define sex discrimination to include discrimination on the basis of an individual's sex and pregnancy, they no longer explicitly state that discrimination based on "gender identity" and "sex stereotyping" are prohibited.

Perhaps using the injunction as an excuse, OCR also removed access to a training resource that gave providers and insurers information about complying with Section 1557. The training resource included examples of how to prevent and handle a variety of forms of discrimination beyond sex discrimination, including on the basis of race, age, and disability.

Combined impact of policy action and censorship:

The Trump administration has made no attempt to lift an injunction that inhibits HHS from enforcing prohibitions on discrimination on the basis of gender identity, and has suggested its intention to revise this prohibition, reflecting its ideological antipathy to gender non-conforming individuals, and using web censorship to express that antipathy.

The language changes to the OCR webpages about Section 1557 went further than necessary in response to the injunction regarding Section 1557, and amount to misinformation. Under the injunction, OCR cannot protect women who have been discriminated against for having an abortion, nor transgender patients who have been discriminated against based on their gender identity. OCR changed its website such that it does not make clear that, despite the injunction, discrimination on the basis of gender identity and termination of pregnancy are still illegal, and that the injunction does not enjoin OCR from enforcing the prohibition on sex stereotyping. These changes could lead to confusion among those discriminated against about their rights.[90]

This confusion could mean that individuals who experience discrimination on these grounds do not seek legal assistance or action, and that lawyers might not feel clients have a case for a lawsuit based on discrimination they have experienced. Additionally, the inaccessibility of training materials about Sec-

tion 1557 may cause uncertainty among hospitals and insurers about their obligations to their patients with regard to preventing discrimination.

The consequences of web censorship could become more dire with a possible rule change. If the rule HHS has suggested ultimately takes effect, women who have had abortions, transgender people, and those with a non-binary gender identity could completely lose legal protections against discrimination by hospitals and insurance companies.

For gender non-conforming individuals, this would mean that health insurers could place restrictions or limits on gender transition-related care and health services, including surgical treatment, hormone therapy, and counseling.[91]

Conclusion

This chapter documents how many of the changes to HHS websites detailed in Chapter 1 have been used to extend, complement, and foreshadow formal policy changes by the Trump administration which have been deemed sabotage. The policies, which are advanced through rule-making, re-allocation of funds, and non-enforcement, include weakening outreach efforts, discouraging enrollment, promoting short-term plans, and reducing access to services for women and the LGBTQ community. The altered and censored information examined in this chapter undermines the ACA in similar ways — reducing awareness of the ACA marketplaces, enrollment period, and ACA plans and services — and serves as another tool at the disposal of an executive branch unwilling to administer the existing law.

The administration has actively made and proposed rules to undermine ACA enrollment and access to ACA services. Through censorship of ACA-related content on its websites, HHS has been able to further undercut public awareness of the law and coverage in provides. If used on a widespread basis, these forms of censorship could affect rates of enrollment in ACA coverage, leaving more and more Americans uninsured and thus undercutting the law's legitimacy and success.

The altered and censored information examined in this chapter undermines the ACA — reducing awareness of the ACA marketplaces, enrollment period, and ACA plans and services — and serves as another tool at the disposal of an executive unwilling to administer existing law.

Chapter 3: Undermining of ACA Resources Directed Toward Underserved Populations

The Department of Health and Human Services (HHS) has censored information about rights, benefits, and services under the ACA directed at underserved and vulnerable ACA beneficiaries. In this chapter, we focus on the impact that online censorship and changes to ACA content can have on the following vulnerable populations:

1. Women
2. The LGBTQ community
3. Minority groups
4. Individuals suffering from mental health issues

These groups, which have lower rates of coverage, rely more on the government for healthcare services and information than other groups that have greater access to employer-based or private insurance.[92] Removing information that could help them access insurance may then have an outsized negative effect. In some cases, censorship of resources and information for and about these populations may deepen the negative impacts of policy changes that de-emphasize or de-prioritize their healthcare needs. In other cases, changes on websites point to forthcoming or otherwise unannounced shifts in the posture of offices or the entire administration toward vulnerable populations.

Resources for women

Context: Women's access to coverage

Women have particular healthcare needs, including reproductive care, that make access to insurance especially important. That access can also be difficult to acquire. Prior to the passage of the ACA, a third of women who tried to buy health insurance were charged a higher premium than men,[42] had a specific health condition excluded from their plans, or were completely denied coverage by insurance companies. A page removed from the Office of Population Affairs (OPA) website, described below, additionally noted that though "nearly 99 percent of all women have used contraception at some point in their lives ... more than half of all women between the ages of 18-34 struggle to afford it" (#OPA).

The ACA helped lessen the disparities in coverage between men and women and make contraception more affordable. Analyses show that from 2013 to 2017, the rate of uninsured women dropped by 8%[93] and gave more women access to important preventive services[94] and contraception[78] by requiring that health plans cover recommended preventive services and contraception at no extra cost to women.

In its censorship of online information, HHS is threatening to undo the gains made as a consequence of the ACA. HHS has contributed to reduced awareness by removing two types of key resources:

- Material advertising the affordability of services, the fact that women cannot be charged more because of their gender, and other important information about rights and entitlements;

- Resources that help providers enroll women in affordable coverage.

The collective impact of these two types of removals may contribute to reduced insured rates and to re-opening the gender gap in healthcare coverage.

Examples of censorship of resources promoting the affordable cost of services or coverage

In 2017, the Office on Women's Health (OWH) removed its "Breast Cancer" website from within its WomensHealth.gov domain (#OWH-1). The "Breast Cancer" website included fact sheets about breast cancer and information about how the ACA requires insurance companies to provide free or low-cost breast cancer screenings.

The Office of Women's Health within the Health Resources & Services Administration (HRSA) also removed text explaining that preventive services, such as breast cancer screenings, must be covered at low cost for women. The office removed the ACA as a "priority area" listed on the "About the Office of Women's Health" page of its website, including text specifically noting that there are preventive services "that all health insurance plans must cover without cost-sharing" (#HRSA-1). While the "About" page still lists preventive services as a priority area, it does not state that these services are assured to women at low or no cost.

HHS overhauled its entire "Healthcare" website, which included the removal of a fact sheet titled "The ACA is Working for Women," and the alteration of a page titled "Pre-existing Conditions." Both of these pages previously included text explaining that women cannot be denied coverage because of their gender or charged more than men.

By censoring information, HHS is jeopardizing the gains that have been made in women's coverage rates under the ACA.

Examples of censorship of resources intended to train providers in assisting women

OPA, which is responsible for reproductive health issues and administers the Title X family planning grant, removed a collection of ten webpages about the ACA from within its Title X website (#OPA). Among the removed pages were the "Resources for Providers" page and the "Health Insurance Marketplace" page, which provided training for Title X providers on how to implement the ACA and explained the role of Title X providers to help enroll their clients in the Marketplace. According to the OPA's website, Title X health clinics and providers play a big role in "ensuring access to a broad range of family planning and related preventive health services for millions of low-income or uninsured individuals and others" which would include many individuals who have or are eligible for ACA coverage.

Potential impact of censorship

By censoring this information, HHS risks reducing awareness of the affordability of coverage and services for women. It is also limiting access to information to enhance providers' implementation of the ACA. In doing so, HHS is jeopardizing the gains that have been made in women's coverage rates under the ACA.

Resources for the LGBTQ community

Context: Discrimination against the LGBTQ community in healthcare settings

Members of the LGBTQ community face discrimination based on their sexual or gender identity in healthcare settings. A survey, conducted by the Center for American Progress in 2017, showed that transgender patients faced especially high rates of discrimination, with 29% saying a healthcare provider refused to see them because of their gender identity.[95] This discrimination in healthcare settings can pose risks to the wellbeing of LGBTQ people.[95]

42 CFR 92 — the rule that implemented the ACA's nondiscrimination provision, Section 1557 — adopts a liberal interpretation of "sex discrimination," and expands protections for members of the LGBTQ community. The rule provides protection against gender identity discrimination and sex stereotyping and helps ensure access to healthcare for LGBTQ people. These protections provided legal grounds to challenge health providers that refused to cover treatment for individuals transitioning.[96] Now, pending court decisions mean the future of 42 CFR 92 is in legal jeopardy,[88] potentially endangering access to healthcare for the LGBTQ community.

In concert with departmental plans to remove protections for transgender individuals by defining "sex" as an immutable trait determined by one's genitalia at birth,[97] HHS has used its websites to sow doubt about the protections provided to gender non-conforming individuals under 42 CFR 92.

Examples of censorship of sex discrimination language and training materials

The HHS Office for Civil Rights (OCR) — the office charged with preventing discrimination in healthcare settings — has removed references to sex stereotyping and discrimination on the basis of gender identity from its website and removed useful training materials that informed healthcare providers and insurers about Section 1557.

OCR removed language from webpages about Section 1557 explicitly explaining that sex stereotyping and discrimination on the basis of gender identity are prohibited (#OCR), changes that do not accurately reflect the content of 42 CFR 92. Though these pages do not acknowledge that discrimination based on gender identity is still prohibited, new language was also added to them to explain the presence of an injunction that prevents OCR from enforcing the prohibition. Later, some of the text that had been added to explain that OCR can still enforce prohibitions on sex stereotyping and discrimination on the basis of one's sex was removed. Ultimately, the text on these webpages does not correctly explain the status of the current law and the legality of discrimination.

Access to training materials about Section 1557 intended for healthcare providers and insurers was also reduced on OCR's website. The inaccessible training guide and presentation explain Section 1557 and the its compliance requirements. The training materials also provide examples of various forms of discrimination, including sex discrimination that is still prohibited, and what it required of hospitals and insurers to ensure they do not discriminate against patients. For each example of sex discrimination, the presentation includes information about how OCR investigated the case and the outcomes of the investigation. While OCR can no longer investigate claims of gender identity discrimination, information about its investigations into previous claims is still accurate and useful for helping providers and insurers understand how they can reverse potentially discriminatory practices.

Potential impact of censorship

OCR's webpages about Section 1557 now provide only a narrow view of prohibited forms of sex discrimination, perhaps causing confusion about what the law is for patients who have faced discrimination, or lawyers with clients who have experienced discrimination. Indeed, the removals of accurate text from OCR webpages may enable or encourage discrimination from providers by shedding doubt on whether transgender patients who have been discriminated against have any legal recourse for the delays or denials of medical care that

can endanger their wellbeing. The inaccessibility of training materials about Section 1557 additionally means that providers and insurers do not have access to guidance in how to reduce or reverse discriminatory practices. These changes in language and access to training materials thus may serve to undermine progress made under the ACA in reducing the high rates of discrimination experienced by members of the LGBTQ community.

These website changes likely foreshadow a longer rulemaking process that would roll back protections against discrimination of LGBTQ individuals. The administration can easily remove information from a website and send signals to the community about its intentions regarding LGBTQ individuals. While not as uniform in its impact as a rule change, a website change can achieve some of the same ends, for example — by reducing the likelihood a transgender individual will challenge a decision by their insurance company or by encouraging insurance companies to deny coverage. The administration may be using the unregulated world of website changes to advance a desired policy in advance of a lengthy rule-making process.

A website change can achieve some of the same ends as a rule change. An administration can use the unregulated world of website changes to advance a desired policy in advance of a lengthy rule-making process.

Resources for minority groups

Context: Racial disparities in healthcare access and coverage

Research conducted by institutions like The Commonwealth Fund[43] and Kaiser Family Foundation[98] show that rates of coverage under the ACA have increased more for racial and ethnic minorities than for the white population. Consequently, the ACA has helped narrow racial disparities in coverage.

Despite these gains in coverage, racial minorities still face more barriers to accessing healthcare and are ultimately more likely to be uninsured. Hispanic individuals, in particular, are more likely to face challenges in accessing healthcare services and coverage than their white, non-Latino counterparts.[51] Immigrants generally, including Latino immigrants, are also more likely to be uninsured than American-born citizens.[99]

These gains are being challenged by web censorship undertaken by HHS offices to remove content intended to promote the ACA in minority communities and resources that trained individuals who provide assistance buying coverage to minority groups.

Examples of censorship of resources intended to promote the ACA among racial minorities

The Office of Minority Health (OMH) removed a slew of ACA-related pages, including pages titled "The Affordable Care Act" and "Healthcare Law and You" from its website. These pages explained how ACA programs have helped improve health outcomes for minority groups and the important aspects of the law for users of the website. A link to the "Affordable Care Act" page had also previously been prominently displayed on the OMH homepage.

Examples of censorship of materials intended to train assisters who help minorities enroll in coverage

OMH also removed a page titled "Fact Sheet for Assisters," which provided guidance about how assisters can help enroll migrants from Compact of Free Association (COFA) countries in coverage.[100] The fact sheet included information about the eligibility of these migrants to enroll in different health plans and financial assistance.

CMS removed from its Health Insurance Marketplace website a presentation titled "Marketplace Outreach: Best Practices for Outreach to Latino Communities," intended as a training resource to help assisters with outreach to Latino communities. The slides included information about the challenges Latinos might face when enrolling for coverage, such as fear of immigration enforcement, and best practices for assistance, such as making services culturally and linguistically appropriate.

> *Reduced outreach to improve or maintain awareness of the ACA may lead to fewer individuals from minority groups enrolling in ACA health plans.*

Potential impact of censorship

The removal of information promoting the ACA is likely to have an especially large impact in minority communities. Awareness of the ACA is especially low among racial minorities,[41] even compared to the broader public, which only has limited awareness.[40] Among immigrants, by definition people who have experiences of healthcare in a different country, awareness about the ins and outs of the American healthcare system and the ACA is likely to be even lower.

It is well established that awareness of the ACA and its benefits is key in continuing to improve coverage rates among racial minorities.[41] The removal of ACA links and information from a prominent section of the OMH website where any user could easily access them threatens the impact of efforts — such as those by assister and navigator groups that provide outreach to underserved communities — to strengthen this awareness. And the removals of the "Fact Sheet for Assisters" and the "Best Practices for Outreach to Latino Communities" presentation demonstrate an erosion of these efforts to improve awareness and outreach to minority groups at all. After all, the removal of this type of resource can make it more difficult to provide targeted outreach to immigrants and Latino communities.[53]

Reduced outreach to improve or maintain awareness of the ACA may lead to fewer individuals from minority groups enrolling in ACA health plans, which would undermine the coverage gains that minority groups have achieved since the implementation of the ACA.

Mental health resources

Context: The ACA assures coverage for people with mental health issues

Americans who suffer from serious mental illnesses have higher rates of mortality than those without mental health problems and are more likely to experience homelessness and poverty.[101] According to the National Institute of Mental Health (NIMH) website, estimates indicate that nearly half of people with mental illnesses do not receive treatment.[102] Seeking treatment can be particularly difficult for those who struggle with poverty and the ability to pay for health insurance.

The ACA addressed these disparities by expanding mental health benefits to millions of Americans, and set forth that most health plans must cover mental health screenings for adults at no cost.[103] It also stipulated that health plans cannot deny coverage to people with mental health problems, or any other pre-existing condition.

Censorship of HHS websites is threatening the advances made under the ACA by removing content that informs the public about accessing help for mental health issues and the prohibitions on insurance companies to deny coverage or charge for particular services.

Examples of censorship of content about how the ACA helps people with mental health issues

MentalHealth.gov, a website curated by multiple offices within HHS and interagency offices, provides "one-stop access to U.S. Government mental health information" for the general public, as well as health professionals and policymakers. The website has a section of information about how people with mental health problems can get help, including an FAQ titled "Health Insurance and Mental Health Services" with questions about how to access mental health services through health insurance.[104]

The question "How does the Affordable Care Act help people with mental health issues?" was removed from this FAQ at the end of 2017 along with the answer, which included an infographic titled "3 Ways the Affordable Care Act is Increasing Access to Mental Health and Substance Use Disorder Services" (#MentalHealth.gov). The answer specified that health plans cannot deny coverage to people with mental illness or charge them more, and that most plans must cover screenings for illnesses like depression at no cost.

Potential impact of censorship

Web censorship threatens awareness and utilization of services such as free mental health screenings. As the "one-stop access to U.S. Government mental health information," MentalHealth.gov should reliably provide and maintain content that accurately informs its users. Yet, the website removed information that accurately described benefits afforded to people with mental illness under the ACA. This removal undermines MentalHealth.gov as a reliable resource and reduces awareness of the mental health services available to the public. Without awareness of these services, fewer people will make use of them, which ultimately undermines the impact the ACA has had on expanding mental health coverage. It may also mean more people will have to struggle through life with an undiagnosed and untreated mental illness.

Conclusion

This chapter shows how forms of ACA censorship described in Chapter 1 can and have been used to target information for or about underserved populations. HHS's targeted censorship of resources for women, the LGBTQ community, racial minorities, and people with mental health issues can negatively affect communities that are already more likely to be uninsured or have less access to ACA health services than the rest of the population.

While these communities are all underinsured, they have each made gains in rates of coverage since the implementation of the ACA. By censoring information for these different vulnerable populations and training materials for people who help members of these populations access affordable coverage services, HHS may have reduced outreach and awareness to those who most need healthcare. These instances of censorship either reflect existing policy changes the administration has implemented that de-prioritize the needs of these groups, or indicate unannounced shifts in the administration's priorities. Ultimately, widespread and continued censorship of ACA-related content for these groups may undo any recent gains in coverage.

More broadly, large-scale censorship of public information for or about marginalized communities can deepen the marginalization they feel. If the federal government wants to de-prioritize the rights of a particular group, it can change access to information on its websites to reduce awareness of the needs of those groups.

Conclusion: Using Government Web Censorship to Undermine the Law

This report shows how the Department of Health and Human Services (HHS) has censored from its websites information about rights, benefits, and services guaranteed to the public under the Affordable Care Act (ACA). Chapter 1 demonstrated the wide range of ACA content that has been censored and discussed the possible impact of these forms of censorship on different audiences. Chapter 2 analyzed how web censorship has been used in concert with policy changes intended to undermine the success of the ACA. It also showed how censorship of public information can amplify the impact of formal policy tools. Chapter 3 demonstrated how HHS has, in some cases, censored information directed to underserved and vulnerable ACA beneficiaries, and assessed the potential impact of widespread censorship on these populations.

Taken together, our findings convey the power of censorship when used as a tool to weaken laws, like the ACA, that the executive branch does not want to enforce. Minimal regulations on the use and misuse of federal government websites makes web censorship of ACA-related content — or content on any other subject — possible on a widespread basis. The widespread use of web censorship can negatively affect public opinion and awareness about federal law, and make it more difficult for the public to access rights, services, and benefits provided under law.

It is not only deliberate censorship that negatively affects public awareness of rights, benefits, and services guaranteed by the ACA. Poorly implemented updates to content or integration of ACA-specific content into

Minimal regulations on the use of misuse of federal government websites makes web censorship of ACA-related content — or any other type of content — possible on a widespread basis.

general healthcare information may also decrease public awareness.

Prior to the ACA becoming law, many HHS websites already had information about health insurance and coverage benefits provided by the government in public assistance programs like Medicaid and Medicare. Since the ACA passed, offices have created new webpages with ACA-specific healthcare and health insurance information. Consequently, many HHS websites contained both ACA-specific and more general healthcare pages on the same topics. In these cases, carefully moving and integrating content about the same topic from multiple places to the one webpage or section of the website would improve users' access to comprehensive healthcare information.

When this integration process is done improperly, however, the result is the loss of information. This loss may result when a webpage is removed and the content is not

moved elsewhere, or when the URL for a removed page does not redirect to a page with related content. Ultimately, poor integration has the same consequences for the public as censorship.

Given that websites are the "primary means" through which people interact with and learn about the federal government and loss of information, whether through censorship or poor integration, can have harmful consequences, we recommend agencies adopt best practices that will minimize the loss of ACA- and healthcare-related information.

Recommendations for how to avoid harms from loss of access to information during healthcare-related website overhauls

In the instances of censorship documented in the report, removed ACA-related information typically was not integrated into already existing content about healthcare. For instance, when the "Affordable Care Act" website was removed from Medicaid.gov, many of the URLs for removed pages began redirecting to topic-related pages (#Medicaid-1). For example, the URL for the removed ACA-related "Benefits" page redirected to a general Medicaid "Benefits" page. The removed page listed benefits and services afforded under the ACA — such as "family planning" and "tobacco cessation services for pregnant women." These benefits are not listed on the general Medicaid "Benefits" page (which does not mention the ACA at all). Without proper integration of the content from the removed "Benefits" page into the live "Benefits" page, Medicaid recipients do not have access to a single and comprehensive list of all of their benefits.

When an agency initiates a major removal of information or overhauls its website, it can take measures to properly integrate removed content and avoid the negative impacts of the loss of access to information.

We recommend best practices that agencies should adopt when making removals of, major changes to, and integrations of ACA- and healthcare-related informational pages:

Issue formal press releases or public statements announcing web changes or removals:

- The statements should include links to archived versions of altered or removed pages.

- Agencies should generate special archives about ACA- and healthcare-related content.

Example: *CMS did not provide any public announcement about the removal of the "Affordable Care Act" website from Medicaid.gov (*#Medicaid-1*). Prior to the removal, CMS should have issued a public statement on Medicaid.gov about the upcoming removal with a link to an archive of the website where users could continue to access the information.*

Establish redirects for the URLs of removed webpages

- Redirects to another page should be established only when a page is out of date and related and up-to-date content is available and integrated on a new page.

- As appropriate, banners can be included on new pages to indicate that they contain updates to content formerly on other pages that now redirect to the page.

- If content on a page is removed and will not be replaced, its URL should be maintained without a redirect for one year. The page should contain a notice explaining that the out-of-date content has been removed and include a link to an archived version of the page.

- After one year, a redirect to the site's homepage from the URL of the removed page can be established. All "error" or 404 pages should be redirected.

Example: Redirects were established for the URLs of eight of the pages that were part of the "Affordable Care Act" website removed from Medicaid.gov (#Medicaid-1). The redirects lead to pages that have been live on Medicaid.gov for years. While these live pages provide information on topics similar to those of the removed pages, most, like the "Benefits" page, do not mention how those topics relate to the Affordable Care Act. Content from the removed pages should have been added to the pages to which their URLs now redirect. With regard to the pages for which redirects were not established, if there is no other existing page with related information, CMS should have posted notices explaining that the content from them has been removed and provided links for archived versions.

Maintain archives of removed content

Because ACA- and healthcare-related information can change annually to reflect new statutes and regulations, HHS should keep a dedicated repository of archived ACA content. This should include:

- Press releases and public notices (as noted above).

- Links to archives of all relevant HHS websites that contain healthcare-related content (e.g. HHS.gov, CMS.gov, Medicare.gov, Medicaid.gov).

- Archives should be created on an annual basis (perhaps after Open Enrollment) or after a major website overhaul. As noted above, any major website overhaul should be preceded by a press release or public notice and all content should be captured in an archive.

Example: In its footer, Medicaid.gov does link to an archive of its website that is collected on a weekly basis, and sometimes more frequently. The frequency at which the website is archived likely means that captures of the "Affordable Care Act" website removed from Medicaid.gov (#Medicaid-1) were taken shortly before the overhaul. If the website was archived less frequently than it is, it would have been best practice for CMS to archive the entirety of Medicaid.gov before the removal of the "Affordable Care Act" website.

While these recommendations have been explained in the context of how agencies can avoid the loss of information on the ACA and healthcare, they can apply to maintaining any informational content during a website overhaul.

Recommendations for preventing web censorship and reduction in access to healthcare information

Many of the changes documented in this report likely were not examples of poor or improper integration, but rather instances of censorship of content. Many of our findings detail the removal of content on still-live pages, or the removal of pages on topics that do not exist elsewhere on a website. For instance, on HealthCare.gov, information about ways to apply for coverage was removed from a page specifically about applying for coverage (#HealthCare.gov). The removal of information from this webpage meant that the remaining content about ways to apply for coverage was incomplete.

Agencies can adopt procedures to prevent intentional web censorship that reduces access to information about healthcare.

Recommendations for agencies include:

Adopt a formal process of writing memos that review whether content should be moved to archives

- Move webpages and content to archives only when a review concludes that some aspect of them is out of date.

- Create a brief memo that states which content is out of date and, to the extent possible, where up-to-date information can be found (including if a new resource has been created).

Establish rules about repositories of resources for navigators and other third parties

- Create and maintain a regularly updated and dedicated repository of informational content and training resources for navigators and other third parties.

- Mandate that repositories link to accessible archives of old versions of materials, including all versions of materials that have ever been in the repository.

- Clearly list materials, including linked archived materials, and the dates on which they were created.

- Move materials to archives only when a review concludes that some aspect of the resource is out of date.

  - When this occurs, create a brief memo and link to the memo and archived version(s) of the materials from the repository.

Provide notice when revising or publishing new information on the HealthCare.gov website during Open Enrollment

In #HealthCare.gov, information about how to apply for coverage was removed *during* Open Enrollment, when people are most likely to view and need the information. To prevent confusion and lack of awareness, HHS should provide notice of changes by creating a "Recent changes to HealthCare.gov" page on HealthCare.gov that lists all recent changes.

- Create a "Recent changes to HealthCare.gov" page on HealthCare.gov that lists all recent changes that might affect an applicant or the application process.

- Prominently link to the "Recent changes to HealthCare.gov" page throughout the HealthCare.gov website.

- Prominently link to archives for each recently changed page and list the date on which the page changed on the "Recent changes to HealthCare.gov" page.

Create an inter-office portal for healthcare-related information on HHS.gov

- List and link to all key, live informational assets and resources about healthcare from the portal.

- List and link to all formal public

announcements about overhauled content (explained above) and all archives of removed content from the portal.

- Link to the portal from the footer of all HHS websites.

Most of the recommendations above relate to how agencies can prevent the loss of information specifically about the ACA and healthcare. All agencies, however, could adopt a formal process before making a change to a website of writing a memo that reviews whether the content is out of date and should be archived.

Writing memos is just one example of the best practices that could be implemented to curb the power of federal government agencies to censor content on official websites.

Because agencies have not taken it upon themselves to institute best practices, best practices should be mandated by congressional intervention or the issuance of guidance from agencies like the Government Accountability Office or the Office of Management and Budget.

In an era of cynicism and "fake news," citizens should be able to turn to official government websites for reliable non-partisan information about programs and services they use. Given the presumption of respectability afforded to content by the *.gov* address, agencies should be required to follow formal processes to change their websites and adhere to standards that ensure high quality web content.

Until rules and systems are put in place, censorship on federal agency websites will remain a largely unregulated tool for the executive to use. While this report has analyzed the harms that can stem from widespread censorship of ACA-related information specifically, this tool could be used by agencies to affect public opinion and reduce access to public information about any law the executive branch might oppose and seek to undermine.

References

[1] Office of Management and Budget "Policies for Federal Agency Public Websites and Digital Services." *Executive Office Of The President. November 8, 2016.* https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2017/m-17-06.pdf

[2] Kaiser Family Foundation. "Summary of Coverage Provisions in the Patient Protection and Affordable Care Act." *Kaiser Family Foundation.* July 17, 2012. https://www.kff.org/health-costs/issue-brief/summary-of-coverage-provisions-in-the-patient.

[3] Oberlander, Jonathan. "Long Time Coming: Why Health Reform Finally Passed." *Health Affairs (Journal)* 29,6 (2010). https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2010.0447.

[4] O'Keefe, Ed. "The House has voted 54 times in four years on Obamacare. Here's the full list." *Washington Post.* March 21, 2014. https://www.washingtonpost.com/news/the-fix/wp/2014/03/21/the-house-has-voted-54-times-in-four-years-on-obamacare-heres-the-full-list/

[5] Kaiser Family Foundation. "Kaiser Health Tracking Poll: March 2013." *Kaiser Family Foundation. March 20, 2013.* https://www.kff.org/health-reform/poll-finding/march-2013-tracking-poll.

[6] Diamond, Jeremy. "Trump, Pence pitch Obamacare repeal a week from election." *CNN. November 1, 2016.* https://www.cnn.com/2016/11/01/politics/donald-trump-mike-pence-obamacare-health-care/index.html.

[7] Haberman, Maggie, and Robert Pear. "Trump Tells Congress to Repeal and Replace Health Care Law 'Very Quickly'." *New York Times*. January 10, 2017. https://www.nytimes.com/2017/01/10/us/repeal-affordable-care-act-donald-trump.html.

[8] House GOP. "Read the GOP's new health care plan." *House GOP*. Date unknown. https://housegop.leadpages.co/healthcare.

[9] Ku, Leighton, Erika Steinmetz, Erin Brantley, Nikhil Holla, and Brian K. Bruen. "The American Health Care Act: Economic and Employment Consequences for States." *The Commonwealth Fund.* June 2017. https://www.commonwealthfund.org/sites/default/files/documents/___media_files_publications_issue_brief_2017_jun_ku_economic_effects_ahca_ib.pdf.

[10] Congressional Budget Office. "H.R. 1628, American Health Care Act of 2017." *Congressional Budget Office. Last modified May 24, 2017.* https://www.cbo.gov/publication/52752.

[11] Eibner, Christine, and Sarah Nowak. "The Effect of Eliminating the Individual Mandate Penalty and the Role of Behavioral Factors." *The Commonwealth Fund.* July 11, 2018. https://www.commonwealthfund.org/publications/fund-reports/2018/jul/eliminating-individual-mandate-penalty-behavioral-factors.

[12] Jost, Timothy. "The Tax Bill And The Individual Mandate: What Happened, And What Does It Mean?" *Health Affairs (blog).* December 20, 2017. https://www.healthaffairs.org/do/10.1377/hblog20171220.323429/full.

[13] Hirschfeld Davis, Julie, and Robert Pear. "Trump Issues Executive Order Scaling Back Parts of Obamacare." *New York Times.* January 20, 2017. https://www.nytimes.com/2017/01/20/us/politics/trump-executive-order-obamacare.html

[14] President of the United States of America. "Presidential Executive Order Promoting Healthcare Choice and Competition Across the United States." *White House. October 12, 2017.* https://www.whitehouse.gov/presidential-actions/presidential-executive-order-promoting-healthcare-choice-competition-across-united-states.

[15] Khazan, Olga. "How Trump's Executive Order Might Raise Costs for the Sick." *The Atlantic.* October 12, 2017. https://www.theatlantic.com/health/archive/2017/10/executive-order-associated-health-plans/542718.

[16] Pear, Robert, Maggie Haberman and Reed Abelson. "Trump to Scrap Critical Health Care Subsidies, Hitting Obamacare Again." *New York Times.* October 12, 2017. https://www.nytimes.com/2017/10/12/us/politics/trump-obamacare-executive-order-health-insurance.html.

[17] Scott, Dylan. "Trump ended key Obamacare payments. But bringing them back could do more harm than good." *Vox.* March 21, 2018. https://www.vox.com/policy-and-politics/2018/3/21/17148326/democrats-oppose-stabilizing-obamacare.

[18] Attorney General. "Letter from Attorney General Jeff Sessions regarding Texas v. United States No.4:18-cv-00167-0 (N.D. Tex.)." *Department of Justice.* June 7, 2018. https://www.justice.gov/file/1069806/download.

[19] Diamond, Dan. "In shift, Trump administration backs judge's ruling that would kill Obamacare." *Politico.* March 25, 2019. https://www.politico.com/story/2019/03/25/trump-obamacare-justice-department-1236116.

[20] Goodnough, Abby, and Robert Pear. "Trump Administration Sharply Cuts Spending on Health Law Enrollment." *New York Times.* August 31, 2017. https://www.nytimes.com/2017/08/31/health/affordable-care-act-trump-spending.html.

[21] Shafer, Paul, and Stacie Dusetzina. "Looking Ahead To 2018: Will A Shorter Open Enrollment Period Reduce Adverse Selection In Exchange Plans?" *Health Affairs (blog).* April 14, 2017. https://www.healthaffairs.org/do/10.1377/hblog20170414.059663/full.

[22] Jost, Timothy. "The Affordable Care Act Under the Trump Administration." *The Commonwealth Fund (blog).* August 30, 2018. https://www.commonwealthfund.org/blog/2018/affordable-care-act-under-trump-administration.

[23] Carlsen, Audrey, and Haeyoun Park "The Same Agency That Runs Obamacare Is Using Taxpayer Money to Undermine It." *New York Times*. September 4, 2017. https://www.nytimes.com/interactive/2017/09/04/us/hhs-anti-obamacare-campaign.html.

[24] Smith, Aaron. "Government Online." *Pew Research Center.* April 27, 2010. https://www.pewinternet.org/2010/04/27/government-online.

[25] Office of Management and Budget. "Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies; Republication." *Federal Register.* February 22, 2002. https://www.federalregister.gov/documents/2002/02/22/R2-59/guidelines-for-ensuring-and-maximizing-the-quality-objectivity-utility-and-integrity-of-information.

[26] 44 U.S. Code § 3506.

[27] Sunlight Foundation. "Gov404." 2019. https://sunlightfoundation.com/gov404.

[28] Sunlight Foundation. "Monitoring Federal Websites." 2019. https://sunlightfoundation.com/web-integrity-project/monitoring-federal-websites.

[29] Sunlight Foundation. "Classification of Non-Maintenance Web Content Alterations and Access Reductions to Web Resources." 2019. https://sunlightfoundation.com/web-integrity-project/classification.

30 Corlette, Sabrina, and Rachel Schwab. "States Lean In as the Federal Government Cuts Back on Navigator and Advertising Funding for the ACA's Sixth Open Enrollment." *The Commonwealth Fund (blog).* October 26, 2018. https://www.commonwealthfund.org/blog/2018/states-lean-federal-government-cuts-back-navigator-and-advertising-funding.

31 Withers, Rachel. "Trump's response to the Obamacare ruling reveals his bind on health care." *Vox.* December 15, 2018. https://www.vox.com/2018/12/15/18142063/obamacare-unconstitutional-trump-great-health-care-law.

32 Kiley, Jocelyn. "Most continue to say ensuring health care coverage is government's responsibility." *Pew Research Center.* October 3, 2018. https://www.pewresearch.org/fact-tank/2018/10/03/most-continue-to-say-ensuring-health-care-coverage-is-governments-responsibility.

33 Kliff, Sarah, and Dylan Scott. "We read Democrats' 9 plans for expanding health care. Here's how they work." *Vox.* December 13, 2018. https://www.vox.com/2018/12/13/18103087/medicare-for-all-explained-single-payer-health-care-sanders-jayapal.

34 Social Security Administration. "Payment to hospitals for inpatient hospital services." *Compilation Of The Social Security Laws.* Date unknown. https://www.ssa.gov/OP_Home/ssact/title18/1886.htm.

35 Office of Management and Budget. "Circular No. A–11: Preparation, Submission, And Execution Of The Budget." *Executive Office of the President of the United States. Last modified July 2017. Internet Archive.* https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/assets/a11_current_year/a11_2017.pdf.

36 Department of Health and Human Services. "HHS Activities to Improve Women's Health As Required by the Affordable Care Act." *Health and Human Services.* Last modified 2015. https://www.womenshealth.gov/files/documents/2015_hhs_activities_to_improve_womens_health.pdf.

37 National Center for Health Statistics. "Mission/Function Statements." As captured on April 12, 2019. https://web.archive.org/web/20190412204323/https://www.cdc.gov/maso/pdf/NCHSfs.pdf

38 National Center for Health Statistics. "Mission/Function Statements." As captured on May 12, 2016. https://web.archive.org/web/20160512214953/https://www.cdc.gov/maso/pdf/NCHSfs.pdf

39 Health Resources & Services Administration. *"About HRSA." Health Resources & Services Administration.* As captured on March 27, 2019. https://web.archive.org/web/20190327170408/https://www.hrsa.gov/about/index.html.

40 Pollitz, Karen, Jennifer Tolbert, and Maria Diaz. "Data Note: Further Reductions in Navigator Funding for Federal Marketplace States." *Kaiser Family Foundation.* September 24, 2018. https://www.kff.org/health-reform/issue-brief/data-note-further-reductions-in-navigator-funding-for-federal-marketplace-states.

41 Mosqueira, Adrian Garcia, and Benjamin D. Sommers. "Better Outreach Critical to ACA Enrollment, Particularly for Latinos." *The Commonwealth Fund (blog).* January 14, 2016. https://www.commonwealthfund.org/blog/2016/better-outreach-critical-aca-enrollment-particularly-latinos.

42 Gunja Munira Z., Sara R. Collins, Michelle M. Doty, and Sophie Beutel. "How the Affordable Care Act Has Helped Women Gain Insurance and Improved Their Ability to Get Health Care." *The Commonwealth Fund.* August 10, 2017. https://www.commonwealthfund.org/publications/issue-briefs/2017/aug/how-affordable-care-act-has-helped-women-gain-insurance-and.

43 Hayes Susan L., Pamela Riley, M.D., David C. Radley, and Douglas McCarthy. "Reducing Racial and Ethnic Disparities in Access to Care: Has the Affordable Care Act Made a Difference?" *The Commonwealth Fund.* August 24, 2017. https://www.commonwealthfund.org/publications/issue-briefs/2017/aug/reducing-racial-and-ethnic-disparities-access-care-has.

44 Lodes, Lori. "I ran ACA outreach under Obama. Trump's funding cuts could ruin the health care law." *Vox.* September 15, 2017. https://www.vox.com/the-big-idea/2017/9/12/16294784/aca-outreach-advertising-sabotage-funding.

45 Scott, John, W., Nakul, P. Raykar, John A. Rose, Thomas C.Tsai, Cheryl, K. Zogg, Adil Haider, Ali Salim, John, G. Meara, Mark G. Shrime. "Cured into Destitution: Catastrophic Health Expenditure Risk Among Uninsured Trauma Patients in the United States." *Annals of Surgery. 267, Issue 6 (2018): 1093–1099.* https://journals.lww.com/annalsofsurgery/Citation/2018/06000/Cured_into_Destitution___Catastrophic_Health.18.aspx.

[46] Department of Health and Human Services. "Section 1557 of the Patient Protection and Affordable Care Act." As captured on July 8, 2018. https://web.archive.org/web/20180708221119/https://www.hhs.gov/civil-rights/for-individuals/section-1557/index.html.

[47] Department of Health and Human Services. "Title X Family Planning Annual Report: 2016 National Summary." August 2017. https://www.hhs.gov/opa/sites/default/files/title-x-fpar-2016-national.pdf.

[48] Internal Revenue Service, Department of the Treasury; Employee Benefits Security Administration, Department of Labor; Centers for Medicare & Medicaid Services, Department of Health and Human Services. "Coverage of Certain Preventive Services Under the Affordable Care Act." *Federal Register. July 14, 2015.* https://www.federalregister.gov/documents/2015/07/14/2015-17076/coverage-of-certain-preventive-services-under-the-affordable-care-act

[49] Goodell, Sarah. "Navigators and Assisters." *Health Affairs.* October 31, 2013. https://www.healthaffairs.org/do/10.1377/hpb20131031.857471/full.

[50] 45 CFR § 155.410.

[51] Kaiser Family Foundation. "Health and Health Care for Hispanics in the United States." *Kaiser Family Foundation.* Last modified January 31, 2018. https://www.kff.org/infographic/health-and-health-care-for-hispanics-in-the-united-states.

[52] "Health Coverage of Immigrants." *Kaiser Family Foundation.* Last modified February 15, 2019. https://www.kff.org/disparities-policy/fact-sheet/health-coverage-of-immigrants.

[53] Firozi, Paulina. "The Health 202: The Trump administration removed a training guide for Latino outreach from an ACA website." *Washington Post.* December 10, 2018. https://www.washingtonpost.com/news/powerpost/paloma/the-health-202/2018/12/10/the-health-202-the-trump-administration-removed-a-training-guide-for-latino-outreach-from-an-aca-website/5c0d6ec61b326b67caba2b4f/?noredirect=on&utm_term=.07c2c6bb2f13.

[54] De Witte, Melissa. "Stanford scholars examine causes and consequences of people dropping out from ACA health care plans." *Stanford News.* June 4, 2018. https://news.stanford.edu/2018/06/04/high-attrition-rates-may-make-aca-health-insurance-markets-unstable.

[55] Kaplan, Thomas. "'Let Obamacare Fail,' Trump Says as G.O.P. Health Bill Collapses." *New York Times*. July 18, 2017. https://www.nytimes.com/2017/07/18/us/politics/republicans-obamacare-repeal-now-replace-later.html.

[56] Romo, Vanessa. "4 Cities' Lawsuit Calls Trump Efforts To Undermine Obamacare Unconstitutional." *NPR.* August 2, 2018. https://www.npr.org/2018/08/02/635143233/four-cities-lawsuit-calls-trump-efforts-to-undermine-obamacare-unconstitutional.

[57] Pear, Robert. "Trump Officials Slash Grants That Help Consumers Get Obamacare." *New York Times.* July 10, 2018. https://www.nytimes.com/2018/07/10/us/politics/trump-affordable-care-act.html.

[58] Centers for Medicare and Medicaid Services. *"Fact Sheet for Assisters: Helping COFA Migrants Enroll in Coverage." Centers for Medicare and Medicaid Services.* As captured on April 4, 2019. https://web.archive.org/web/20190404010052/https://marketplace.cms.gov/technical-assistance-resources/helping-cofa-migrants.pdf.

[59] Centers for Medicare and Medicaid Services. "Cooperative Agreement to Support Navigators in Federally-facilitated Exchanges." *Centers for Medicare & Medicaid Services*. Last modified July 10, 2018. https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Marketplaces/Downloads/2018-Navigator-FOA.PDF.

[60] Government Accountability Office. "Health Insurance Exchanges: HHS Should Enhance Its Management of Open Enrollment Performance Government Accountability Office." *GAO-18-565.* July, 2018. https://www.gao.gov/assets/700/693362.pdf.

[61] Cloud, Halley. "Navigator Funding Cuts Will Leave Many Marketplace Consumers on Their Own." *Center on Budget and Policy Priorities (blog).* September 13, 2018. https://www.cbpp.org/blog/navigator-funding-cuts-will-leave-many-marketplace-consumers-on-their-own.

[62] Pollitz, Karen, Jennifer Tolbert, and Maria Diaz. "Data Note: Changes in 2017 Federal Navigator Fund-

ing." *Kaiser Family Foundation.* October 11, 2017. https://www.kff.org/health-reform/issue-brief/data-note-changes-in-2017-federal-navigator-funding.

63 Mershon, Erin. "A patient's guide to enrolling in Obamacare in the age of Trump." *Stat News.* September 28, 2017. https://www.statnews.com/2017/09/28/patients-guide-enrolling-obamacare-age-trump.

64 Health and Human Services "Pre-Existing Conditions." *Health and Human Services.* Captured on January 26, 2017. https://web.archive.org/web/20170126102039/https://www.hhs.gov/healthcare/about-the-law/pre-existing-conditions/index.html.

65 Gollust, Sarah E. *et al.* "TV Advertising Volumes Were Associated With Insurance Marketplace Shopping And Enrollment In 2014." *Health Affairs* 37(6) (2018). https://www.healthaffairs.org/doi/10.1377/hlthaff.2017.1507.

66 Cohn, Jonathan, and Jeffrey Young. "Emails Show Trump Administration Was Told Obamacare Ad Cuts Could Hurt Enrollment." *HuffPost.* December 14, 2018. https://www.huffpost.com/entry/trump-verma-obamacare-advertising-cut_n_5c115061e4b084b082ff8dba.

67 Centers for Medicare & Medicaid Services. "CMS Announcement on ACA Navigator Program and Promotion for Upcoming Open Enrollment." *Centers for Medicare & Medicaid Services.* August 31, 2017. https://www.cms.gov/newsroom/press-releases/cms-announcement-aca-navigator-program-and-promotion-upcoming-open-enrollment.

68 45 CFR § 155.410.

69 Straw, Tara, Sarah Lueck, Shelby Gonzales, and Halley Cloud. "Strong Demand Expected for Marketplace Open Enrollment, Despite Administration Actions." *Center on Budget and Policy Priorities.* October 31, 2018. https://www.cbpp.org/research/health/strong-demand-expected-for-marketplace-open-enrollment-despite-administration.

70 Dickson, Virgil. "Insurers want Trump to rethink shortening open enrollment." *Modern Healthcare.* March 07, 2017. https://www.modernhealthcare.com/article/20170307/NEWS/170309921/insurers-want-trump-to-rethink-shortening-open-enrollment.

71 Burton, Rachel A., Rebecca A. Peters, Erik Wengle, Caroline Elmendorf, and Joshua Aarons. "What Explains 2018's Marketplace Enrollment Rates?" *Urban Institute.* June 2018. https://www.urban.org/sites/default/files/publication/98650/marketplace2018_2001877.pdf.

72 Lueck, Sarah. "Key Flaws of Short-Term Health Plans Pose Risks to Consumers." *Center on Budget and Policy Priorities.* September 20, 2018. https://www.cbpp.org/research/health/key-flaws-of-short-term-health-plans-pose-risks-to-consumers.

73 Keith, Katie. "The Short-Term, Limited-Duration Coverage Final Rule: The Background, The Content, And What Could Come Next." *Health Affairs (blog).* August 1, 2018. https://www.healthaffairs.org/do/10.1377/hblog20180801.169759/full.

74 Straw, Tara. ""Direct Enrollment" in Marketplace Coverage Lacks Protections for Consumers, Exposes Them to Harm." *Center on Budget and Policy Priorities.* March 15, 2019. https://www.cbpp.org/research/health/direct-enrollment-in-marketplace-coverage-lacks-protections-for-consumers-exposes.

75 Department of Health & Human Services. "Trump Administration Delivers on Promise of More Affordable Health Insurance Options." *Health & Human Services.* As captured on April 5, 2019. https://web.archive.org/web/20190405011544/https://www.hhs.gov/about/news/2018/08/01/trump-administration-delivers-on-promise-of-more-affordable-health-insurance-options.html.

76 Centers for Medicare & Medicaid Services. "Enhanced Direct Enrollment Pathway for Health Insurance Exchange Coverage." *Centers for Medicare & Medicaid Services.* As captured on October 22, 2018. https://web.archive.org/web/20181210225819/https://www.cms.gov/newsroom/fact-sheets/enhanced-direct-enrollment-pathway-health-insurance-exchange-coverage.

[77] Campbell, Jon. "CMS de-emphasizes HealthCare.gov and steers consumers towards brokers and agents for help finding insurance plans." *Sunlight Foundation (blog).* December 20, 2018. https://sunlightfoundation.com/2018/12/20/cms-de-emphasizes-healthcare-gov-and-steers-consumers-towards-brokers-and-agents-for-help-finding-insurance-plans.

[78] Taylor, Jamila, and Nikita Mhatre. "Contraceptive Coverage Under the Affordable Care Act." *American Progress.* October 6, 2017. https://www.americanprogress.org/issues/women/news/2017/10/06/440492/contraceptive-coverage-affordable-care-act.

[79] Internal Revenue Service, Department of the Treasury; Employee Benefits Security Administration, Department of Labor; and Centers for Medicare & Medicaid Services, Department of Health and Human Services. "Religious Exemptions and Accommodations for Coverage of Certain Preventive Services Under the Affordable Care Act. " *Federal Register.* October 13, 2017. https://www.federalregister.gov/documents/2017/10/13/2017-21851/religious-exemptions-and-accommodations-for-coverage-of-certain-preventive-services-under-the.

[80] Internal Revenue Service, Department of the Treasury; Employee Benefits Security Administration, Department of Labor; and Centers for Medicare & Medicaid Services, Department of Health and Human Services. "Moral Exemptions and Accommodations for Coverage of Certain Preventive Services Under the Affordable Care Act." *Federal Register.* October 13, 2017. https://www.federalregister.gov/documents/2017/10/13/2017-21852/moral-exemptions-and-accommodations-for-coverage-of-certain-preventive-services-under-the-affordable.

[81] Pear, Robert. "Court Blocks Trump Administration Restrictions on Birth Control." *New York Times.* January 14, 2019. https://www.nytimes.com/2019/01/14/us/politics/court-trump-birth-control.html.

[82] Sobel, Laurie, Alina Salganicoff, and Caroline Rosenzweig. "New Regulations Broadening Employer Exemptions to Contraceptive Coverage: Impact on Women." *Kaiser Family Foundation.* November 19, 2018. https://www.kff.org/health-reform/issue-brief/new-regulations-broadening-employer-exemptions-to-contraceptive-coverage-impact-on-women.

[83] Pear, Robert, Rebecca R. Ruiz and Laurie Goodstein. "Trump Administration Rolls Back Birth Control Mandate." *New York Times.* October 6, 2017. https://www.nytimes.com/2017/10/06/us/politics/trump-contraception-birth-control.html.

[84] Keith, Katie. "Religious, Moral Exemptions From Contraceptive Coverage Mandates: Second Verse, Same As The First." *Health Affairs (blog).* November 9, 2018. https://www.healthaffairs.org/do/10.1377/hblog20181109.87594/full.

[85] Guttmacher Institute. "Many American Women Use Birth Control Pills for Noncontraceptive Reasons." *Guttmacher Institute.* November 15, 2011. https://www.guttmacher.org/news-release/2011/many-american-women-use-birth-control-pills-noncontraceptive-reasons.

[86] Keith, Katie. "ACA Round-Up: Section 1557 Rule On Horizon; CSR And Medicaid Litigation Updates; Focus On Employer Mandate." *Health Affairs (blog).* February 19, 2018. https://www.healthaffairs.org/do/10.1377/hblog20180219.671383/full.

[87] Keith, Katie. "More Courts Rule On Section 1557 As HHS Reconsiders Regulation." *Health Affairs (blog).* October 2, 2018. https://www.healthaffairs.org/do/10.1377/hblog20181002.142178/full.

[88] Breen, George B., Frank C. Morris, Jr. and Jonathan Hoerner. "Court Issues Nationwide Injunction Prohibiting Enforcement of Section 1557 Provisions Relating to Gender Identity and Termination of Pregnancy – But Other Provisions Still Can Be Enforced." *Health Law Advisor.* January 9, 2017. https://www.healthlawadvisor.com/2017/01/09/court-issues-nationwide-injunction-prohibiting-enforcement-of-section-1557-provisions-relating-to-gender-identity-and-termination-of-pregnancy-but-other-provisions-still-can-be-enforced.

[89] Franciscan Alliance, Inc. *et al* v. Azar. U.S. District Court. Case No. 7:16-cv-00108. *Status Report.* June 25, 2018. http://files.eqcf.org/cases/716-cv-00108-114/.

[90] Bergman, Rachel, and Jon Campbell. "HHS removes sex discrimination prohibition language from civil rights office website." *Sunlight Foundation (blog).* July 19, 2018. https://sunlightfoundation.com/2018/07/19/hhs-removes-sex-discrimination-prohibition-language-from-civil-rights-office-website.

[91] Pear, Robert. "Trump Plan Would Cut Back Health Care Protections for Transgender People." *New York Times.* April 21, 2018. https://www.nytimes.com/2018/04/21/us/politics/trump-transgender-health-care.html.

[92] Sohn, Heeju. "Racial and Ethnic Disparities in Health Insurance Coverage: Dynamics of Gaining and Losing Coverage over the Life-Course." *Population Research and Policy Review* 36(2) (2016): 181-201. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5370590.

[93] Kaiser Family Foundation. *"Women's Health Insurance Coverage." Kaiser Family Foundation.* Last modified December 21, 2018. https://www.kff.org/womens-health-policy/fact-sheet/womens-health-insurance-coverage-fact-sheet.

[94] Kaiser Family Foundation. "Preventive Services for Women Covered by Private Health Plans under the Affordable Care Act." *Kaiser Family Foundation.* Last modified December 20, 2016. https://www.kff.org/womens-health-policy/fact-sheet/preventive-services-for-women-covered-by-private-health-plans-under-the-affordable-care-act.

[95] Mirza, Shabab Ahmed, and Caitlin Rooney. "Discrimination Prevents LGBTQ People from Accessing Health Care." *American Progress.* January 18, 2018. https://www.americanprogress.org/issues/lgbt/news/2018/01/18/445130/discrimination-prevents-lgbtq-people-accessing-health-care.

[96] Grinberg, Emanuella, Alice Kantor and Christina Walker. "To be herself, she needs to change her body. But first, comes the battle with insurers." *CNN.* May 31, 2018. https://www.cnn.com/2018/05/31/health/transgender-surgery-insurance/index.html.

[97] Green, Erica L., Katie Benner and Robert Pear. "'Transgender' Could Be Defined Out of Existence Under Trump Administration." *New York Times.* October 21, 2018. https://www.nytimes.com/2018/10/21/us/politics/transgender-trump-administration-sex-definition.html.

[98] Artiga, Samantha, Kendal Orgera, and Anthony Damico. "Changes in Health Coverage by Race and Ethnicity since Implementation of the ACA, 2013-2017." *Kaiser Family Foundation.* February 13, 2019. https://www.kff.org/disparities-policy/issue-brief/changes-in-health-coverage-by-race-and-ethnicity-since-implementation-of-the-aca-2013-2017/.

[99] Parmet, Wendy E. "Immigration And Health Care Under The Trump Administration." *Health Affairs (blog).* January 18, 2018. https://www.healthaffairs.org/do/10.1377/hblog20180105.259433/full.

[100] U.S. Citizenship and Immigration Services. "Federated States of Micronesia, Republic of the Marshall Islands, and Palau." *USCIS.* October 20, 2018. https://www.uscis.gov/i-9-central/complete-correct-form-i-9/complete-section-1-employee-information-and-attestation/federated-states-micronesia-republic-marshall-islands-and-palau.

[101] Colton, Craig W, and Ronald W Manderscheid. "Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental health clients in eight states." *Preventing Chronic Disease* 3(2) (2006): A42. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1563985.

[102] National Institute of Mental Health. "Statistics." *National Institute of Mental Health.* As captured on April 29, 2019. https://web.archive.org/web/20190429130717/https://www.nimh.nih.gov/health/statistics/index.shtml.

[103] Munoz, Cecilia. "The Affordable Care Act and Expanding Mental Health Coverage.' *White House (blog).* August 21, 2013. https://obamawhitehouse.archives.gov/blog/2013/08/21/affordable-care-act-and-expanding-mental-health-coverage.

[104] MentalHealth.gov. "Hot to Get Mental Health Help." *MentalHealth.gov.* As captured March 30, 2019. https://web.archive.org/web/20190330123803/https://www.mentalhealth.gov/get-help.

Appendix 1: Detailed Descriptions of Changes

Note: In the descriptions that follow, only changes to content about the Affordable Care Act have been detailed. Other changes may have occurred in the date ranges provided and may be apparent in the screenshots. These changes are neither detailed nor highlighted.

Removal of link to HealthCare.gov from the footer of HHS.gov's ACF website

Tag: #ACF

Summary of Findings

A link to HealthCare.gov was removed from the footer of HHS.gov's ACF website. The removal occurred for all sites within the https://www.acf.hhs.gov/ filepath.

Change Classification

- (2) Altering or removing links

Reporting

- N/A

Webpage 1

Page title: Homepage

Page status: Altered

- **Before:** February 18, 2017
- **After:** February 21, 2017

URL: https://www.acf.hhs.gov

Known archives: A public web archive of this page, collected at the request of U.S. Department of Health and Human Services, is available from February 18, 2017.

Description of change:

The following content was changed between February 18, 2017 and February 21, 2017:

a. **Removed** link to HealthCare.gov from the footer of the Administration for Children & Families (ACF) website.

   Note: The removal occurred in the footer of many websites for offices within ACF, including the Office of Refugee Resettlement (ORR) at the URL https://www.acf.hhs.gov/orr.

Before (February 18, 2017)

After (February 21, 2017)

Changes in language and removals of descriptive text that emphasized the positive impact of the Affordable Care Act on the ASPE website

Tag: #ASPE

Summary of Findings

In 2017, the Office of the Assistant Secretary for Planning and Evaluation (ASPE) altered and added webpages on its website about research related to the Affordable Care Act (ACA), demonstrating a shift in language, which deemphasized the stated positive impacts of the healthcare law. The title of its "Affordable Care Act Research" webpage was changed to "Historical Research," and the page's URL path was changed to correspond with the new title. Both versions of the page list links to the same 125 ASPE research publications about the ACA, produced between 2011 and 2017, but descriptive text that previously accompanied each publication link no longer appears on the "Historical Research" version of the page. Background text at the top of the page about the research publications was changed so that it no longer describes the positive impacts of the ACA.

Change Classification

- (1) Altering or removing text and non-text content
- (2) Link alteration/removal
- (3) Moving webpages

Reporting

Politico: [Trump policy shop filters facts to fit his message](#) (07/28/2018)

For details see:

Sunlight Foundation's Web Integrity Project Monitoring Report: [Changes in Language and Removals of Descriptive Text on ASPE's Website, Reducing Emphasis on the Affordable Care Act](#) (July 28, 2018) and Jon Campbell: [HHS in-house think tank sidelines ACA publications](#) (July 28, 2018).

Removal of references to the Affordable Care Act from CDC.gov's "National Center for Health Statistics" webpages

Tag: #CDC

Summary of Findings

References to the Affordable Care Act were removed from two pages on CDC.gov's "National Center for Health Statistics" website.

Change Classification

- (1) Altering or removing text and non-text content

Reporting

- N/A

Webpage 1

Page title: NCHS Data Answering the Nation's Health Questions

Page status: Altered

- **Before:** November 12, 2017
- **After:** June 29, 2018

URL: https://www.cdc.gov/nchs/data/factsheets/factsheet_nchs_data.htm

Known archives: A public web archive of this page, collected by the Federal Depository Library Program Web Archive, is available from June 19, 2017.

Description of change:

The following content was changed between January 25, 2018 and June 8, 2018 according to WIP's website monitoring software:

a. **Altered** text in "Who Uses NCHS Data?" section:

From: "Congress and other policymakers—to understand the complete picture of the effects of major policy initiatives, including implementation of the Affordable Care Act, and track health outcomes to set priorities for research and prevention programs."

To: "Congress and other policymakers—to understand the complete picture of the effects of major policy initiatives, including health insurance coverage and access to care, and to track health outcomes and set priorities for research and prevention programs."

b. **Altered** topic in "Guiding National Policy and Priorities" section:

From: "Monitoring changes in health insurance coverage and health care use"

To: "Monitoring access to health care"

Note: *Other changes that occurred during this timeframe have not been included in this stub.*

Screenshot: An excerpt from the of "NCHS Data Answering the Nation's Health Questions" page showing altered text in the "Who Uses NCHS Data?" section from November 12, 2017 (above) and June 29, 2018 (below). Captured by Internet Archive's Wayback Machine.

Before (November 12, 2017)

Congress and other policymakers—to understand the complete picture of the effects of major policy initiatives, including implementation of the Affordable Care Act, and track health outcomes to set priorities for research and prevention programs.

After (June 29, 2018)

Congress and other policymakers—to understand the complete picture of the effects of major policy initiatives, including health insurance coverage and access to care, and to track health outcomes and set priorities for research and prevention programs.

Webpage 2

Page title: NCHS Overview

Page status: Altered
- **Before**: July 18, 2017
- **After**: November 12, 2017

URL: https://www.cdc.gov/nchs/data/factsheets/factsheet_overview.htm

Known archives: None.

Description of change:

The following content was changed between July 18, 2017, 2018 and November 12, 2017:

a. **Altered** text in the "Overview" section:

    From: "Track the impact of major policy initiatives, including the Affordable Care Act"

    To: "Track the impact of major policy initiatives"

Screenshot: A comparison of the July 18, 2017 (left) and November 12, 2017 (right) version of the "NCHS Overview" page, showing the removed reference to the Affordable Care Act. Captured by Internet Archive's Wayback Machine.

Before (July 18, 2017)

After (November 12, 2017)
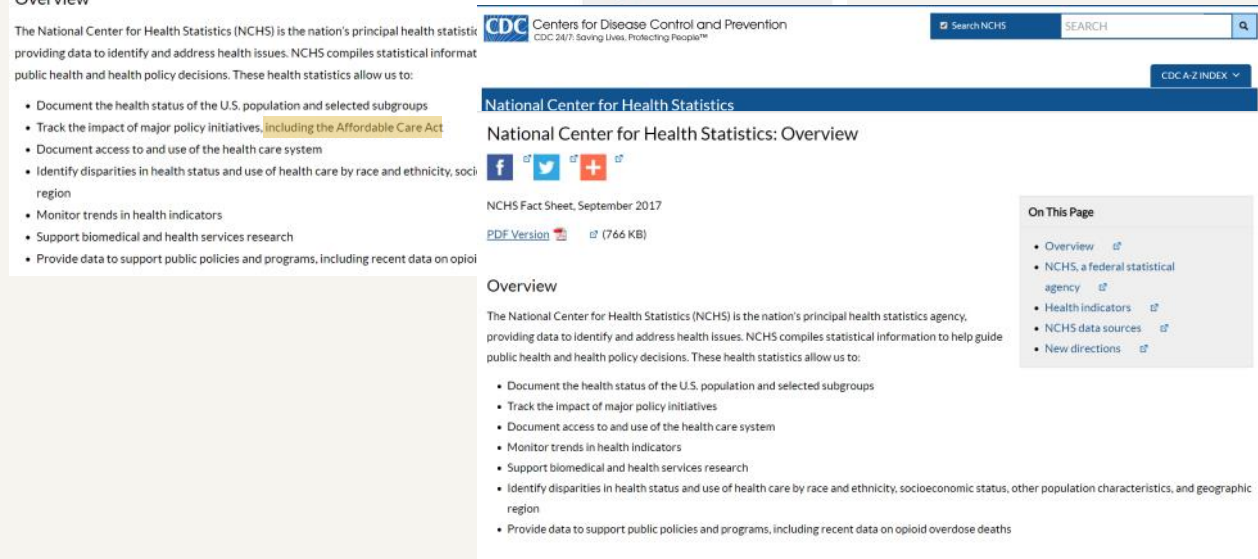
Removal of a link to HealthCare.gov from header of CMS.gov

Tag: #CMS-1

Summary of Findings

In mid-October 2018, the text "Learn about your health care options," which included a link to the HealthCare.gov homepage, was removed from its prominent position in the header of the CMS.gov domain. HealthCare.gov, which is managed and paid for by the Centers for Medicare and Medicaid Services (CMS), is the primary federal health insurance exchange established under provisions of the Affordable Care Act (ACA). The removal of the text and link came just a few weeks before the beginning of the Open Enrollment period to sign up for ACA coverage, which runs from November 1 to December 15, 2018.

Change Classification

- (2) Link alteration/removal

Reporting

- N/A

For details see:

Sunlight Foundation's Web Integrity Project Monitoring Report: [Link for HealthCare.gov removed from CMS.gov header](Link) (December 14, 2018).

Removal of references to the Affordable Care Act from a CMS.gov webpage about the National Health Expenditure

Tag: #CMS-2

Summary of Findings

CMS.gov updated its webpage on the National Health Expenditure projection data to remove two references to the Affordable Care Act.

Change Classification

- (1) Altering or removing text and non-text content

Reporting

- N/A

Webpage 1

Page title: NHE Fact Sheet

Page status: Altered

- **Before:** February 14, 2018
- **After:** February 16, 2018

URL: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NHE-Fact-Sheet.html

Known archives: A public web archive of this page, collected at the request of Centers for Medicare and Medicaid Services, is available from February 14, 2018.

Description of change:

The following content was changed between February 14, 2018 and February 16, 2018:

a. **Altered** text:
   From: "Projected NHE, 2016 - 2025:"

   To: "Projected NHE, 2017 - 2026"

b. **Removed** text:
   "Although the largest health insurance coverage impacts from the Affordable Care Act's expansions have already been observed in 2014-15, the insured share of the population is projected to increase from 90.9 percent in 2015 to 91.5 percent in 2025."

c. **Removed** text:

   "National health spending growth is projected to have decelerated from 5.8 percent in 2015 to 4.8 percent in 2016 as the initial impacts associated with the Affordable Care Act's major coverage expansions fade. Medicaid spending growth is projected to have decelerated sharply from 9.7 percent in 2015 to 3.7 percent in 2016 as enrollment growth in the program slowed significantly. Similarly, private health insurance spending growth is projected to have slowed from 7.2 percent in 2015 to 5.9 percent in 2016 (also largely attributable to slowing expected growth in enrollment)."

d. **Added** text:
   The recent enactment of tax legislation that eliminated the individual mandate is expected to lead to a reduction in the insured rates. Economic factors, such as projected GDP growth and employment trends, are the primary factors contributing to a slight projected decline in the insured share of the population from 91.1 percent in 2016 to 89.3 percent in 2026."

Note: *Other changes that occurred during this timeframe have not been included in this stub.*

Before (February 14, 2018)

NHE Fact Sheet

Projected NHE, 2016-2025:

- National health spending is projected to grow at an average rate of 5.6 percent per year for 2016-25, and 4.7 percent per year on a per capita basis.
  - Health spending is projected to grow 1.2 percentage points faster than Gross Domestic Product (GDP) per year over the 2016-25 period; as a result, the health share of GDP is expected to rise from 17.8 percent in 2015 to 19.9 percent by 2025.
  - Throughout the 2016-25 projection period, growth in national health expenditures is driven by projected faster growth in medical prices (from historically low growth in 2015 of 0.8 percent to nearly 3 percent by 2025). This faster expected growth in prices is partially offset by projected slowing growth in the use and intensity of medical goods and services.
- Although the largest health insurance coverage impacts from the Affordable Care Act's expansions have already been observed in 2014-15, the insured share of the population is projected to increase from 90.9 percent in 2015 to 91.5 percent in 2025.
  - This expectation is mainly a result of continued anticipated growth in private health insurance enrollment, in particular for employer-sponsored insurance, during the first half of the decade in response to faster projected economic growth.
- Health spending growth by federal and state & local governments is projected to outpace growth by private businesses, households, and other private payers over the projection period (5.9 percent compared to 5.4 percent, respectively) in part due to ongoing strong enrollment growth in Medicare by the baby boomer generation coupled with continued government funding dedicated to subsidizing premiums for lower income Marketplace enrollees.
- National health spending growth is projected to have decelerated from 5.8 percent in 2015 to 4.8 percent in 2016 as the initial impacts associated with the Affordable Care Act's major coverage expansions fade. Medicaid spending growth is projected to have decelerated sharply from 9.7 percent in 2015 to 3.7 percent in 2016 as enrollment growth in the program slowed significantly. Similarly, private health insurance spending growth is projected to have slowed from 7.2 percent in 2015 to 5.9 percent in 2016 (also largely attributable to slowing expected growth in enrollment).
- Health spending is projected to grow 5.4 percent in 2017 related to faster growth in Medicare and private health insurance spending.
- Health expenditures are projected to grow at an average rate of 5.9 percent for 2018-19, the fastest of the sub-periods examined, as projected spending growth in Medicare and Medicaid accelerates.

Removal of reference to the Affordable Care Act from CMS.gov's "Hospital-Acquired Condition Reduction Program (HACRP)" webpage

Tag: #CMS-3

Summary of Findings

A reference to the Affordable Care Act was removed from CMS.gov's "Hospital-Acquired Condition Reduction Program (HACRP)" webpage.

Change Classification

- (1) Altering or removing text and non-text content

Reporting

- N/A

Webpage 1

Page title: Hospital-Acquired Condition Reduction Program (HACRP)

Page status: Altered

- **Before:** July 25, 2018
- **After:** August 1, 2018

URL: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/HAC-Reduction-Program.html

Known archives: A public web archive of this page, collected at the request of Centers for Medicare and Medicaid Services, is available from July 25, 2018.

Description of change:

The following content was changed between July 23, 2018 and July 30, 2018 according to WIP's website monitoring software:

a. **Altered** text in first paragraph:

> **From:** "Section 3008 of the Patient Protection and Affordable Care Act (ACA) established the Hospital-Acquired Condition (HAC) Reduction Program to provide an incentive for hospitals to reduce HACs. Effective begin-

ning Fiscal Year (FY) 2015 (discharges beginning on October 1, 2014), the HAC Reduction Program requires the Secretary of the Department of Health and Human Services to adjust payments to applicable hospitals that rank in the worst-performing 25 percent all subsection (d) hospitals with respect to risk-adjusted HAC quality measures. These hospitals will be subject to a 1 percent payment reduction In the FY 2018 HAC Reduction Program, hospitals with a Total HAC Score greater than 0.3687 may be subject to a payment reduction."

To: "The HAC Reduction Program is a Medicare pay-for-performance program that supports CMS's long-standing effort to link Medicare payments to healthcare quality in the inpatient hospital setting. Section 1886(p)(6)(B) of the Social Security Act established the statutory requirements for the HAC Reduction Program. Beginning with Fiscal Year FY 2015 discharges (i.e., effective October 1, 2014), the HAC Reduction Program requires the Secretary of Health and Human Services (HHS) to adjust payments to hospitals that rank in the worst-performing 25 percent of all subsection (d) hospitals with respect to HAC quality measures. Hospitals with a Total HAC Score greater than the 75th percentile of all Total HAC Scores (i.e., the worst-performing quartile) will be subject to a 1 percent payment reduction. This payment adjustment applies to all Medicare discharges between October 1, 2018 and September 30, 2019 (i.e., FY 2019). The payment reduction occurs when CMS pays hospital claims."

Screenshot: A comparison of the first paragraph of the July 25, 2018 (top) and August 1, 2018 (bottom) versions of the "Hospital-Acquired Condition Reduction Program (HACRP)" page, highlighting the removed reference to the Affordable Care Act. Captured by Internet Archive's Wayback Machine.

Before (July 25, 2018)

After (August 1, 2018)

Removal of the "Marketplace Outreach: Best Practices for Outreach to Latino Communities" PDF from CMS's Health Insurance Marketplace website

Tag: #CMS-marketplace-1

Summary of Findings

In September 2018, a PDF titled "Marketplace Outreach: Best Practices for Outreach to Latino Communities" was removed from the Health Insurance Marketplace website, a subdomain of CMS.gov. Links and text corresponding to the PDF were also removed from the website's "Training for navigators, agents, brokers, and other assisters" and "Special populations" webpages. The removed PDF was a slide presentation prepared by the CMS Office of Communications with information about challenges to and strategies for enrolling members of Latino communities for health coverage. A PDF titled "September Marketplace Update for Assisters" from September 2017 still includes a link to the removed PDF, noting that the best practices "identified in the slide presentation" are examples of how to "model targeted outreach efforts" to other populations.

Change Classification

- (5) Removing webpage

Reporting

- N/A

For details see:

Rachel Bergman: [CMS removes PDF used to train assisters in providing healthcare outreach to Latino communities](#) (December 6, 2018) and Sunlight Foundation's Web Integrity Project Monitoring Report: [Removal of the "Marketplace Outreach: Best Practices for Outreach to Latino Communities" PDF from CMS's Health Insurance Marketplace Website](#) (December 4, 2018).

Note: By December 14, 2018, eight days after these findings were originally published, a new version of the ["Marketplace Outreach: Best Practices for Outreach to Latino Communities"](#) PDF was added to CMS's Health Insurance Marketplace website.

Removal of slides from "Tips for FFM Assisters on Working with Outside Organizations" presentation on CMS's Health Insurance Marketplace

Tag: #CMS-marketplace-2

Summary of Findings

CMS altered a slide presentation titled "Tips for FFM Assisters on Working with Outside Organizations" to remove content related to Consumer Grievances, Consumer Questions about Certain Tax Topics, and other Marketplace topics.

Change Classification

- (1) Altering or removing text and non-text content

Reporting

- N/A

Webpage 1

Page title: Tips for FFM Assisters on Working with Outside Organizations

Page status: Altered

- **Before:** June 13, 2018
- **After:** June 20, 2018

URL: https://marketplace.cms.gov/technical-assistance-resources/assisters-working-with-outside-organizations.pdf

Known archives: An archived version of the page from June 13, 2018 is available from the Federal Depository Library Program Web Archive in the Centers for Medicare and Medicaid Services collection.

Description of change:

The following changes occurred between June 13, 2018 and June 20, 2018:

a. **Changed** the date of slideshow from "April 2017" to "June 2018" (Slide 1 in original).

b. **Removed** "non-Navigator assistance personnel (also referred to as in-person assisters)" from the list of intended audiences (Slide 3) .

c. **Removed** two slides with the heading "Consumer Grievances, Complaints, and Questions about Health Coverage," containing information about referring consumers to Consumer Assistance Programs and Health Insurance Ombudsmen (Slides 6-7).

d. **Removed** two slides with the heading "Consumer Questions about Certain Tax Topics," containing information about referring consumers for tax preparation advice and assistance (Slides 8-9).

e. **Removed** two slides with the heading "Consumers' Legal Questions Related to Marketplace Eligibility Appeals," containing information about free or low-cost legal help available to the consumer to help with the Marketplace eligibility appeals process (Slides 10-11).

f. **Removed** three slides with the heading "Referrals to Other Assisters, the Marketplace Call Center, or other Resources," containing information on making timely referrals to other assisters and providing accessible and appropriate assistance (Slides 12-14).

g. **Removed** a slide titled "Requirements and Prohibitions for Working with Outside Organizations," containing information about statutory and regulatory requirements, including a link to a (still live) PDF titled "Tip Sheet: Federally-facilitated Marketplace Assister Conflict of Interest Requirements" (Slide 21).

h. **Altered** a slide titled "General rules to keep in mind slide," by deleting the third bullet point that said assister work should "not result in additional funding requests under HHS grants or contracts" (Slide 22).

i. **Altered** the final slide titled "Resources," by removing a link to a (still live) PDF, titled "Tips for Assisters on Working with Outside Organizations" (Slide 36).

Screenshot: A comparison of the June 13, 2018 (left) and June 20, 2018 (right) versions of the final slide in the "Tips for FFM Assisters on Working with Outside Organizations" slide presentation, highlighting removed content. Captured by Internet Archive's Wayback Machine.

Before (June 13, 2018)

Resources

- Tips for Assisters on Working with Outside Organizations
  - https://marketplace.cms.gov/technical-assistance-resources/assister-guidance-on-referrals-to-outside-organizations.pdf
- Information and Tips for Assisters: How and when to provide information about agent and broker services to consumers, and other information about engaging with agents and brokers
  - https://marketplace.cms.gov/technical-assistance-resources/agents-and-brokers-guidance-for-assisters.PDF
- Tip Sheet: Federally-facilitated Marketplace Assister Conflict of Interest Requirements
  - https://marketplace.cms.gov/technical-assistance-resources/conflict-of-interest-requirements.pdf

This communication was printed, published, or produced and disseminated at U.S. taxpayer expense

36

After (June 20, 2018)

Resources

- Information and Tips for Assisters: How and when to provide information about agent and broker services to consumers, and other information about engaging with agents and brokers
  - https://marketplace.cms.gov/technical-assistance-resources/agents-and-brokers-guidance-for-assisters.PDF
- Tip Sheet: Federally-facilitated Marketplace Assister Conflict of Interest Requirements
  - https://marketplace.cms.gov/technical-assistance-resources/conflict-of-interest-requirements.pdf

This communication was printed, published, or produced and disseminated at U.S. taxpayer expense

26

Overhaul of HealthCare.gov's "Apply for Health Insurance" webpage

Tag: #HealthCare.gov

Summary of Findings

Midway through the Open Enrollment period, between November 14 and November 21, 2018, HealthCare.gov's "Apply for Health Insurance" page was overhauled by changing the page's format and altering a list of ways to apply for health insurance. Previously, the page contained a table that listed five ways to apply:

     (1) Online (using a HealthCare.gov account);
     (2) By phone;
     (3) With in-person help (receiving help from an assister);
     (4) Through an agent or broker; and
     (5) By mail.

This table was removed and replaced with four ways to apply:

     (1) Find and contact an agent, broker, or assister;
     (2) Have an agent or broker contact you;
     (3) Use a certified enrollment partner's website; and
     (4) Use HealthCare.gov.

The overhaul included removals and additions of links listed within each way to apply. One of the links that was added is listed under the "Have an agent or broker contact you" section of the page and leads to the "Help on Demand" website, a third-party, non-governmental consumer assistance referral system.

Change Classification

- (1) Altering or removing text and non-text content
- (2) Link alteration/removal
- (4) Removing section of page

Reporting

Modern Healthcare: Obamacare sign-ups down 550,000 as deadline nears (12/12/2018); Axios: HHS edited HealthCare.gov to prioritize private enrollment options (12/12/2018).

For details see:

Sunlight Foundation's Web Integrity Project Monitoring Report: Overhaul of HealthCare.gov's "Apply for Health Insurance" Webpage (December 10, 2018) and Rachel Bergman: In overhaul of HealthCare.gov webpage, information about ways to apply is gone (December 11, 2018).

Note: *By December 13, 2018, two days after these findings were originally published, the options "Contact the Marketplace Call Center to enroll by phone" and "Fill out and mail in a paper application" were returned to the list of ways to apply for coverage on the "Apply for Health Insurance" page.*

Removal of "Affordable Care Act" as an FAQ category on HHS.gov

Tag: #HHS.gov/answers-1

Summary of Findings

The FAQ section of HHS.gov was reorganized to remove the FAQ category "Affordable Care Act," which meant that FAQs relating to the Affordable Care Act were inaccessible without the full URL. Later, all nine FAQs that were formerly organized under the "Affordable Care Act" category were reorganized within the "Health Insurance Reform" category.

Change Classification

- (1) Altering or removing text and non-text content
- (3) Moving webpage

Reporting

- N/A

Webpage 1

Page title: HHS Frequently Asked Questions (FAQs)

Page status: Altered

- **Before:** July 29, 2017
- **After:** May 22, 2018

URL: https://www.hhs.gov/answers/

Known archives: A public web archive of this page, collected at the request of U.S. Department of Health and Human Services, is available from July 14, 2017.

Description of change:

1. The following changes occurred between July 29, 2017 and August 6, 2017:
   a. **Removed** link for "Affordable Care Act" from the "FAQs Categories" sidebar.

2. The following changes occurred between May 4, 2018 and May 22, 2018:
   a. **Added** link for "Health Insurance Reform" to the "FAQs Categories" sidebar.

Before (July 29, 2017)

After (May 22, 2018)

Webpage 2

Page title: Category: Affordable Care Act

Page status: Altered

- **Before:** July 11, 2017
- **After:** May 23, 2018

URL: https://www.hhs.gov/answers/affordable-care-act

Known archives: None.

Description of change:

The following change occurred between July 11, 2017 and May 23, 2018:

a. **Removed** nine questions pertaining to the Affordable Care Act from the page.

- The removed questions are now available under a new category "Health Insurance Reform."

Before (July 11, 2017)

After (May 23, 2018)

Screenshot: A comparison of the July 11, 2017 (top) and May 23, 2018 (bottom) versions of the "Category: Affordable Care Act" webpage. Captured by Internet Archive's Wayback Machine.

Webpage 3

Page title: Category: Health Insurance Reform

Page status: Added

- **Before:** N/A
- **After:** June 12, 2018

URL: https://www.hhs.gov/answers/health-insurance-reform/index.html

Known archives: None.

Description of change:

The following changes occurred by June 12, 2018:

a. **Added** a page containing 23 FAQs related to health insurance reform, including the nine questions about the Affordable Care Act that had been removed from the "Category: Affordable Care Act" page.

After (June 12, 2018)

Screenshot: A screenshot of the June 12, 2018 version of the "Category: Health Insurance Reform" webpage. No "Before" shot is shown. Captured by Internet Archive's Wayback Machine.

89

Removal of reference to the Affordable Care Act on HHS.gov's "Who is eligible for Medicaid?" webpage

Tag: #HHS.gov/answers-2

Summary of Findings

A reference to the Affordable Care Act was removed from HHS.gov's "Who is eligible for Medicaid?" page.

Change Classification

- (1) Altering or removing text and non-text content

Reporting

- N/A

Webpage 1

Page title: Who is eligible for Medicaid?

Page status: Altered

- **Before:** July 11, 2017
- **After:** March 30, 2018

URL: https://www.hhs.gov/answers/medicare-and-medicaid/who-is-eligible-for-medicaid/index.html

Known archives: None.

Description of change:

The following changes occurred between July 11, 2017 and March 30, 2018:

a. **Removed** text: "Some states have expanded Medicaid to cover more people because of the Affordable Care Act."

Before (July 11, 2017)

After (March 30, 2018)

Alterations to "About the ACA" webpages on HHS.gov's "Healthcare" website

Tag: #HHS.gov/healthcare-NYT

Summary of Findings

A collection of webpages on HHS's website was altered between January 20, 2017 and April 25, 2017. The alterations included removals of links, text, and references to information about the Affordable Care Act (ACA).

Change Classification

- (1) Altering or removing text and non-text content
- (2) Altering or removing links
- (3) Moving an entire webpage or collection of webpages or establishing redirects
- (4) Altering or removing an entire pertinent section of a webpage or collection of webpages

Reporting

- New York Times: The Same Agency That Runs Obamacare Is Using Taxpayer Money to Undermine It (9/4/2017)

Webpage 1

Page title: HHS.gov (Home page)

Page status: Altered

- **Before:** January 20, 2017, 2:41 PM ET
- **After:** January 20, 2017, 3:23 PM ET

URL: https://www.hhs.gov/

Known archives: An archived version of the page from January 20, 2017 1:45 AM is available from the Federal Depository Library Program Web Archive in the U.S. Department of Health and Human Services collection.

Description of change:

The following content was changed on January 20, 2017 between 2:41:22 PM EST and 3:23:01 PM EST:

a. **Removed** link with the text "Affordable Care Act – About the Law," under the "I would like info on…" section
    - This link leads to a live, altered page, "About the Law" (Webpage 3 in #HHS.gov/healthcare-NYT).
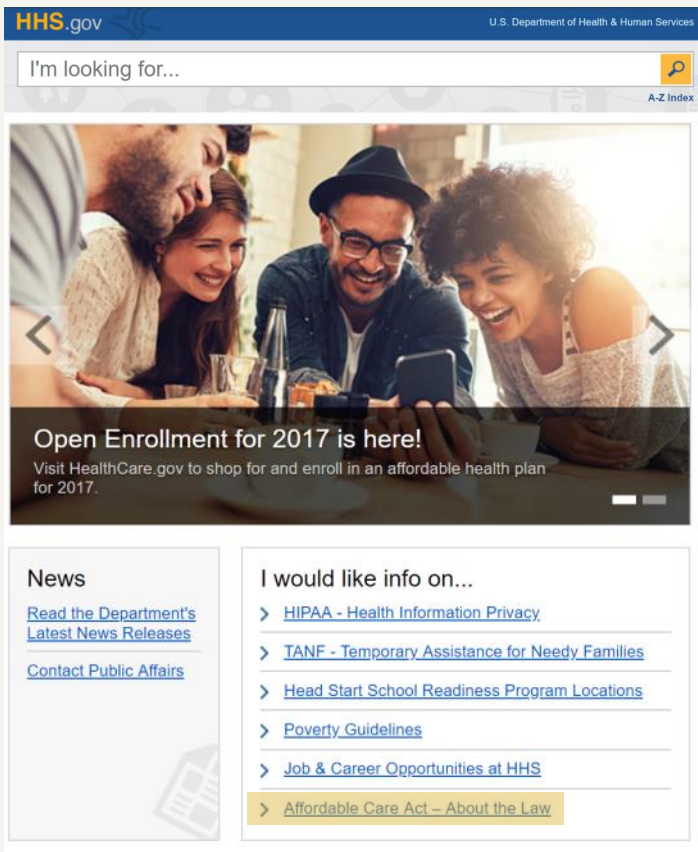
Screenshot: A comparison of a section of the January 20, 2017, 2:41 PM ET (left) and January 20, 2017, 3:23 PM ET (below) versions of the HHS.gov homepage, showing the removed link to the "Affordable Care Act — About the Law" page. Captured by Internet Archive's Wayback Machine.
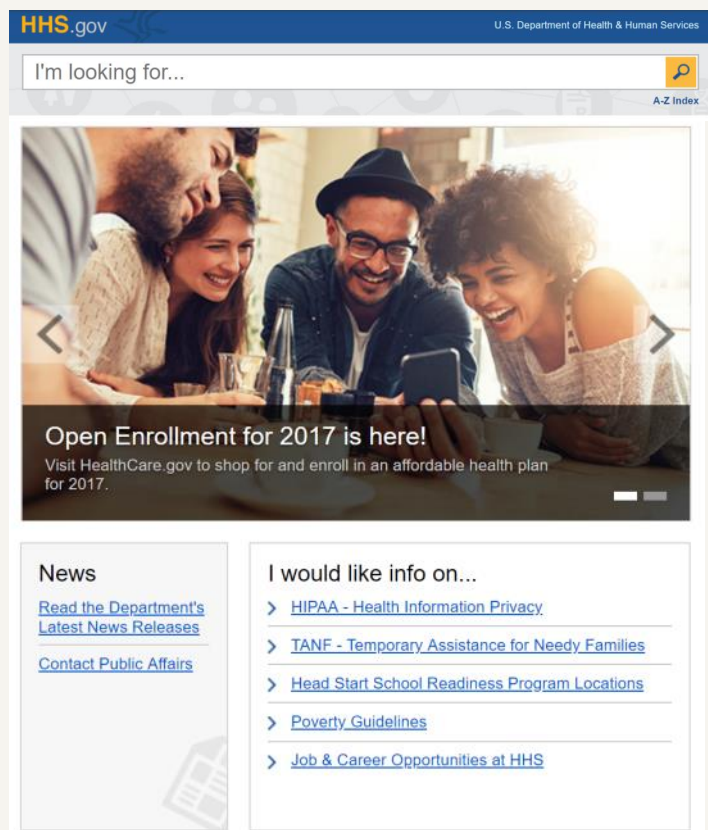
Webpage 2

Page title: Health Care

Page status: Altered

- **Before:** January 31, 2017
- **After:** March 22, 2017

URL: https://www.hhs.gov/healthcare/

Known archives: An archived version of the page from January 29, 2017 is available from the Federal Depository Library Program Web Archive in the U.S. Department of Health and Human Services collection.

Description of change:

The following content was changed between January 31, 2017 and February 1, 2017:

a. **Removed** text: "The Affordable Care Act put in place comprehensive health insurance reforms that have improved access, affordability, and quality in health care for Americans. Learn about the law, how to get coverage, and how it has helped people across the country."

b. **Removed** a panel with a link to the "Facts and Features" webpage at the URL https://www.hhs.gov/healthcare/facts-and-features/index.html.

    i. The panel, which was located in the body of the page, included the following descriptive text: "The Affordable Care Act is working to make health care more affordable, accessible, and of a higher quality for families, seniors, businesses, and taxpayers alike."

c. **Removed** a panel with a link to the "#CoverageMatters: Share Your Story" webpage at the URL https://www.hhs.gov/healthcare/facts-and-features/coverage-matters/index.html.

    i. The panel, which was located in the body of the page, included the following descriptive text:

        The Affordable Care Act is part of the fabric of our nation, and it's the law of the land. Across the country, it's making a difference for millions of Americans. That's why we want to hear your personal story about how health coverage is stronger under the ACA.

        We want to hear from all of you. Be a part of the conversation and share your story on Twitter, Facebook, and Instagram using the hashtag #CoverageMatters.

Before ([January 31, 2017](#))
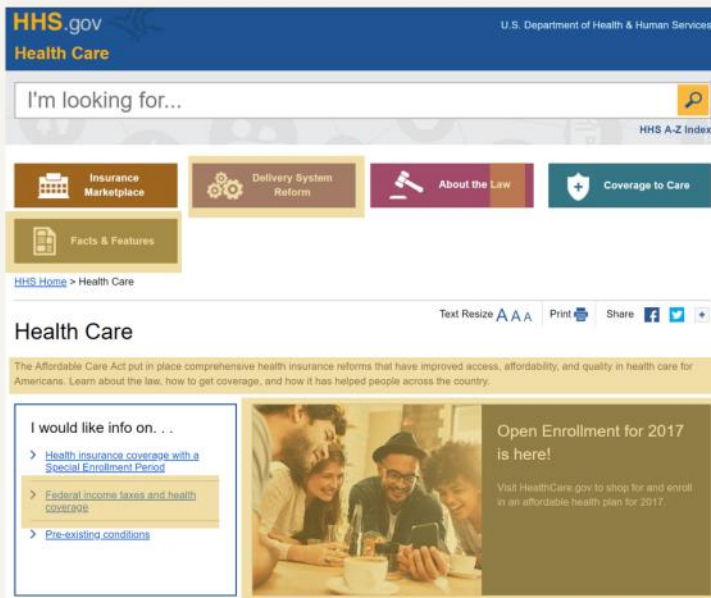
Screenshot: A comparison of the [January 31, 2017](#) (left) and [March 22, 2017](#) (below) versions of the "Health Care" webpage, highlighting changes made. Captured by Internet Archive's [Wayback Machine](#).

After ([March 22, 2017](#))
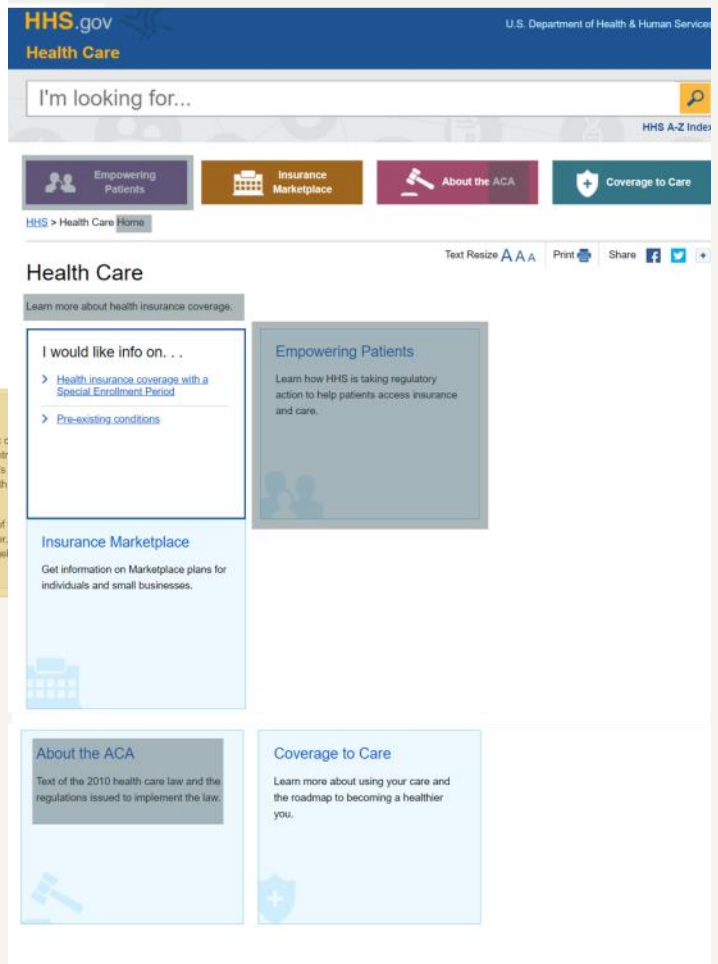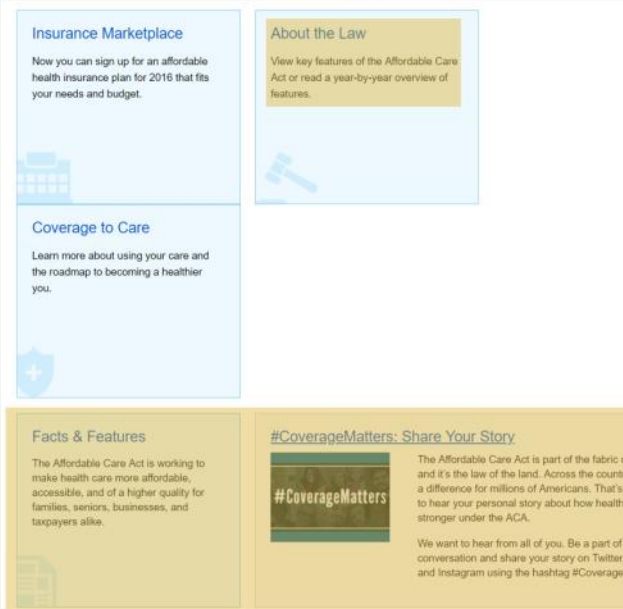
Webpage 3

Page title: About the Law (now "About the ACA")

Page status: Altered

- **Before:** January 30, 2017
- **After:** March 16, 2017

URL: https://www.hhs.gov/healthcare/about-the-law/index.html

Known archives: An archived version of the page from February 18, 2017 is available from the Federal Depository Library Program Web Archive in the U.S. Department of Health and Human Services collection.

Description of change:

1. The following content was changed between January 30, 2017 and February 1, 2017:

    a. **Removed** the following links and text from the sidebar and correspond to re-moved pages:

        I. Read the Law
        II. Plain Language Benefits Information
        III. ER Access & Doctor Choice

    b. **Altered** content in body of the page, including the removal of text and links:
        I. The page previously had four sections with the following headings:

        - Coverage
        - Costs
        - Care
        - For More Information

        II. The page currently only has one section with the heading "Regulations & Guidance."

2. The following content was changed between March 15, 2017 and March 16, 2017:

    a. **Altered** URL from https://www.hhs.gov/healthcare/about-the-law/index.html to https://www.hhs.gov/healthcare/about-the-aca/index.html.

        I. The old URL currently redirects to the new URL.

    b. **Altered** the page title from "About the Law" to "About the Affordable Care Act."

Before (January 30, 2017)

Screenshot: A comparison of the January 30, 2017 (left) and March 16, 2017 (right) versions of the "About the Law" webpage. Captured by Internet Archive's Wayback Machine, highlighting changes made to the body of the page.

After (March 16, 2017)

Webpage 4

Page title: Pre-Existing Conditions

Page status: Altered

- **Before:** January 30, 2017
- **After:** April 23, 2017

URL: https://www.hhs.gov/healthcare/about-the-law/pre-existing-conditions/index.html
- URL redirects to https://www.hhs.gov/healthcare/about-the-aca/pre-existing-conditions/index.html

Known archives: None.

Description of change:

1. The following content was changed between January 30, 2017 and February 5, 2017:

    a. **Altered** text:

    > **From** "Under the Affordable Care Act, health insurance companies can't refuse to cover you or charge you more just because you have a "pre-existing condition" — that is, a health problem you had before the date that new health coverage starts."
    > **To** "Under current law, health insurance companies can't refuse to cover you or charge you more just because you have a "pre-existing condition" — that is, a health problem you had before the date that new health coverage starts."

    b. **Removed** text "They also can't charge women more than men."

    c. **Removed** text with link "Learn more about coverage for pre-existing conditions."

        I. Link leads to a live webpage.

    d. **Removed** section with heading "A Real Story," including text, links, and an embedded Youtube video.

    e. **Removed** two links and text from "For More Information" section. Both links lead to live webpages:

        I. Coverage for pre-existing conditions
        II. Learn more about your rights and protections

2. The following content was changed between March 13, 2017 and April 23, 2017:

    a. **Altered** URL from https://www.hhs.gov/healthcare/about-the-law/pre-existing-conditions/index.html to https://www.hhs.gov/healthcare/about-the-aca/pre-existing-conditions/index.html

        I. The old URL currently redirects to the new URL

Before (January 30, 2017)   **After (February 5, 2017)**

Screenshot: A comparison of the January 30, 2017 (left) and February 5, 2017 (right) versions of the "Pre-Existing Conditions" webpage, showing changes made to the body of the page. Captured by Internet Archive's Wayback Machine.

Webpage 5

Page title: Young Adult Coverage

Page status: Altered

- **Before:** January 30, 2017
- **After:** April 22, 2017

URL: https://www.hhs.gov/healthcare/about-the-law/young-adult-coverage/index.html

- URL redirects to https://www.hhs.gov/healthcare/about-the-aca/young-adult-coverage/index.html

Known archives: None.

Description of change:

1. The following content was changed between January 30, 2017 and February 5, 2017:
   a. **Altered** text in first paragraph, replacing "the Affordable Care Act" with "current law."

   b. **Removed** section called "What This Means For You," which included the text:

   > Before the health care law, insurance companies could remove enrolled children usually at age 19, sometimes older for full-time students. Now, most health plans that cover children must make coverage available to children up to age 26. By allowing children to stay on a parent's plan, the law makes it easier and more affordable for young adults to get health insurance coverage."

   c. **Removed** text "Young Adult Coverage and" and link to HealthCare.gov "Young Adults" page.
      i. Link leads to a live webpage.

   d. **Removed** text and links under "For More Information" section:
      i. I'm Covered Stories: For this 26-er, Getting Insured Was a "No-Brainer"
         - Link leads to a removed page
      ii. Report: Number of Young Adults Gaining Insurance Due to the Affordable Care Act Now Tops 3 Million.
         - Link leads to a removed page
      iii. Read answers to frequently asked questions about young adults and the Affordable Care Act.
         - Link leads to a live page

2. The following content was changed between March 13, 2017 and April 22, 2017:
   a. **Altered** URL from https://www.hhs.gov/healthcare/about-the-law/young-adult-coverage/index.html to https://www.hhs.gov/healthcare/about-the-aca/young-adult-coverage/index.html

      i. The old URL currently redirects to the new URL.

Screenshot: A comparison of the January 30, 2017 (left) and February 5, 2017 (right) versions of the "Young Adult Coverage" webpage, highlighting changes to the body of the page. Captured by Internet Archive's Wayback Machine.

Before (January 30, 2017)   **After (February 5, 2017)**

Webpage 6

Page title: Preventive Care

Page status: Altered

- **Before:** January 30, 2017

- **After:** April 25, 2017

URL: https://www.hhs.gov/healthcare/about-the-law/preventive-care/index.html
- URL redirects to https://www.hhs.gov/healthcare/about-the-aca/preventive-care/index.html

Known archives: An archived version of the page from January 19, 2017 is available from the Federal Depository Library Program Web Archive in the U.S. Department of Health and Human Services collection.

Description of change:

1. The following content changed between January 30, 2017 and February 5, 2017:

   a. **Removed** text and links:

   "Under the Affordable Care Act, … — which can help you avoid illness and improve your health — ...

   - Read the full list of covered preventive services.

   - See a list of eight covered preventive services for women, issued August 1, 2011.

   What This Means for You"

2. The following content changed between February 25, 2017 and April 25, 2017:

   a. **Altered** URL from https://www.hhs.gov/healthcare/about-the-law/preventive-care/index.html to https://www.hhs.gov/healthcare/about-the-aca/preventive-care/index.html.

      i. The old URL currently redirects to the new URL.

Screenshot: A comparison of the January 30, 2017 (left) and February 5, 2017 (right) versions of the "Preventive Care" webpage, highlighting content removed from the body of the page. Captured by Internet Archive's Wayback Machine.

Before (January 30, 2017)

After (February 5, 2017)

Removal of "Facts and Features" website from HHS.gov

Tag: #HHS.gov/healthcare-WIP

Summary of Findings

In 2017, the Department of Health & Human Services (HHS) made a series of changes to HHS.gov, to remove, move, or make less accessible content related to the Affordable Care Act (ACA). Among these changes was the removal of a website of at least 85 "Facts and Features" webpages. The homepage of this website, also titled "Facts and Features," linked to five subpages in the sidebar of the page. One of the subpages, titled "Health Care Facts Sheets," contained a list of links to 29 healthcare-related fact sheets dated between February 9, 2011 and December 13, 2016. Another subpage, titled "State by State," contained links to 51 pages, each of which documented the "Impact of the Affordable Care Act" in all 50 states and the District of Columbia.

Change Classification

- (6) Overhauling or removing an entire website

Reporting

- New York Times: The Same Agency That Runs Obamacare Is Using Taxpayer Money to Undermine It (9/4/2017)

For details see:

Sunlight Foundation's Web Integrity Project Monitoring Report: Removal of "Facts and Features" Website from HHS.gov (May 14, 2019) and Jon Campbell: Removal of "Facts and Features" Website from HHS.gov (May 14, 2019).

Removal of references to the Affordable Care Act from HRSA's "About the Office of Women's Health" webpage

Tag: #HRSA-1

Summary of Findings

HRSA altered the "Priorities" section on the "About the Office of Women's Health" to remove a section about the Affordable Care Act and replaced it with one called "Women's Preventive Services." The "Affordable Care Act" section previously linked to the 2011 version of the *Women's Preventive Services Guidelines*, which heavily referenced the Affordable Care Act. The new "Women's Preventive Services" section links to the 2016 version of the *Women's Preventive Services Guidelines*, which does not mention the ACA.

Change Classification

- (1) Altering or removing text and non-text content
- (2) Altering or removing links
- (4) Removing section of page

Reporting

- N/A

Webpage 1

Page title: About the Office of Women's Health

Page status: Altered

- **Before:** June 14, 2016
- **After:** April 27, 2017

URL: https://www.hrsa.gov/about/organization/bureaus/owh/index.html

Known archives: An earlier version of the page, which includes a differently-worded section on the ACA, available from the Federal Depository Library Program Web Archive in the Womenshealth.gov collection.

Description of change:

The following changes occurred between June 14, 2016 and April 27, 2017:

a. **Removed** "Affordable Care Act" section from a page about the office's priorities.

- The "ACA" section had the following text and links:

  "In the US, women make approximately 80% of the health care decisions for their families, yet often go without health care coverage themselves. The Affordable Care Act (ACA) provides an opportunity for women to gain health care coverage for themselves and their families. Since 2013, the uninsured rate among women declined 9.4 per-

centage points, resulting in nearly 9.5 million adult women gaining coverage.

OWH works to educate underserved women of the Women's Preventive Services' Guidelines, which define services that all health insurance plans must cover without cost-sharing."

- The removed link to Women's Preventive Services' Guidelines redirects to a still-live page containing the 2011 version of the *Women's Preventive Services Guidelines*, which references the Affordable Care Act by name five times.

b. Added a "Women's Preventive Services" section to the page.

- The "Women's Preventive Services" section contained the following text and links:

"We use social media to raise awareness about the availability of women's preventive services.

We highlight women's preventive services during national health observances."

- The added link to women's preventive services leads to a page containing the 2016 version of the *Women's Preventive Services Guidelines*, which does not reference the ACA (except when citing the title of a notice in the *Federal Register*).

Note: *Other changes that occurred during this timeframe have not been included in this stub.*

Screenshot: A comparison of the June 14, 2016 and April 27, 2017 versions of the "Priorities" section on HRSA's "About the Office of Women's Health" webpage, highlighting the removed section about the ACA and the replacement section on Women's Preventive Services. Captured by Internet Archive's Way-back Machine.

Before (June 14, 2016)

After (April 27, 2017)

Removal of reference to Medicaid, CHIP, and the Health Insurance Marketplace from HRSA's strategic goals

Tag: #HRSA-2

Summary of Findings

HRSA altered "Goal 1.3" on its "Goal 1: Improve Access to Quality Health Care and Services" to remove a reference to "Medicaid, CHIP, and the Health Insurance Marketplace."

Change Classification

- (1) Altering or removing text and non-text content

Reporting

- N/A

Webpage 1:

Page title: Goal 1: Improve Access to Quality Health Care and Services

Page status: Altered

- **Before:** May 13, 2017
- **After:** April 1, 2019

URL: https://www.hrsa.gov/about/strategic-plan/goal-1.html

Known archives: None.

Description of change:

The following changes occurred between May 13, 2017 and April 1, 2019:

a. Removed "Medicaid, CHIP, and the Health Insurance Marketplace" from Objective 1.3 on the page.

   i) Objective 1.3 previously read: "Objective 1.3: Increase enrollment in and utilization of health insurance through Medicaid, CHIP, and the Health Insurance Marketplace."

   ii) Objective 1.3 now reads: "Objective 1.3: Connect HRSA patient populations to primary care and preventive services."

Screenshot: A comparison of the May 13, 2017 (left) and April 1, 2019 (right) versions of the "Priorities" section on HRSA's "Goal 1: Improve Access to Quality Health Care and Services" webpage, highlighting the removed ACA-related Objective 1.3 and its replacement. Captured by Internet Archive's Wayback Machine.

Before (May 13, 2017)

After (April 1, 2019)

Removal of the Affordable Care Act website from within Medicaid.gov

Tag: #Medicaid-1

Summary of Findings

In June 2018, the "Affordable Care Act" website, which contained fourteen webpages, was removed from within Medicaid.gov. The main page of the website, which was itself titled "Affordable Care Act," had links to thirteen pages with topics related to the Affordable Care Act (ACA) that have also been removed. Medicaid.gov's top menu previously listed a prominent link with the text "Affordable Care Act," which served as a dropdown menu with links to the removed pages. Some of the removed pages contained information that is no longer found on Medicaid.gov, while other pages contained content that is related to content on pages that have been live on Medicaid.gov for close to two years. Most or all of the content from two of the removed pages can now be found elsewhere within Medicaid.gov. In particular, the content of one page that was linked from the "Affordable Care Act" page can now be found on a live page titled "Affordable Care Act Program Integrity Provisions," which contains information about provisions to fight Medicaid fraud, waste, and abuse.

Change Classification

- (6) Overhauling or removing an entire website

Reporting

- Washington Post: [The Health 202: 'ACA' removed from swaths of Medicaid.gov website, watchdog reports](#) (07/12/2018); CNN: [Medicaid website hides some Obamacare information, group says](#) (07/12/2018).

For details see:

Rachel Bergman: [14-Page Affordable Care Act Website Removed from Medicaid.gov](#) (July 12, 2018) and Sunlight Foundation's Web Integrity Project Monitoring Report: [Removal of the Affordable Care Act Website from within Medicaid.gov](#) (July 10, 2018).

Removal of reference to Medicaid, CHIP, and the Health Insurance Marketplace from HRSA's strategic goals

Tag: #Medicaid-2

Summary of Findings

Medicaid.gov's "Medicaid and CHIP Eligibility Levels" webpage was altered to remove a reference to the Affordable Care Act.

Change Classification

- (1) Altering or removing text and non-text content
- (2) Altering or removing links

Reporting

- N/A

Webpage 1

Page title: Medicaid and CHIP Eligibility Levels

Page status: Altered

- **Before:** July 23, 2018

- **After:** July 30, 2018

URL: https://www.medicaid.gov/medicaid/program-information/medicaid-and-chip-eligibility-levels/index.html

Known archives: A public web archive of this page, collected at the request of Centers for Medicare and Medicaid Services, is available from July 23, 2018.

Description of change:

The following changes occurred between July 23, 2018 and July 30, 2018:

a. **Altered** page title:

>   **From:** "Medicaid and CHIP Eligibility Levels"

>   **To:** "Medicaid, CHIP, and BHP Eligibility Levels"

b. **Removed** first paragraph, including text and links:

>   "CMS has worked with states to "convert" their Medicaid and CHIP eligibility levels to be based on modified adjusted gross income (MAGI) as required by the Affordable Care Act. Not all populations that are enrolled in Medicaid and CHIP will have their eligibility determined based on MAGI. The table below reflects eligibility levels in each state for key MAGI coverage groups, relative to the federal poverty guidelines, as of April 1, 2016."

b. **Added** a new paragraph, including text:

>   "The following table provides eligibility levels in each state for key coverage groups that use Modified Adjusted Gross Income (MAGI), as of April

1, 2018. The data represent the principal, but not all, MAGI coverage groups in Medicaid, the Children's Health Insurance Program (CHIP), and the Basic Health Program (BHP). All income standards are expressed as a percentage of the federal poverty level (FPL). The MAGI-based rules generally include adjusting an individual's income by an amount equivalent to a 5% FPL disregard. Other eligibility criteria also apply, such as citizenship, immigration status, and state residency."

Note: Other changes that occurred during this timeframe have not been included in this description.

Screenshot: A comparison of the July 23, 2018 (left) and July 30, 2018 (right) versions of the "Medicaid and CHIP Eligibility Levels" page, highlighting the changed section about MAGI. Captured by Internet Archive's Wayback Machine.

Before (July 23, 2018)

After (July 30, 2018)

Removal of the "Affordable Care Act & Medicare" webpage and corresponding links from the Medicare website

Tag: #Medicare

Summary of Findings

In December 2017, a page titled "The Affordable Care Act & Medicare" was removed from the Medicare website. A link that led to this page and descriptive text about the Affordable Care Act were also removed from the website's "About Us" page. Content on the removed page included information and links related to Medicare coverage being protected under the healthcare law, preventive services covered under Medicare, discounts on brand-name prescription drugs, and initiatives that support care coordination between providers. The page previously linked to HealthCare.gov, which is the federal health insurance Marketplace, and to another webpage on the Medicare domain called "Medicare & the Marketplace," which is no longer linked from the "About Us" portion of the Medicare website.

Change Classification

- (1) Altering or removing text and non-text content
- (2) Altering or removing links
- (3) Moving webpages
- (4) Removing section of page
- (5) Removing webpage

Reporting

The Hill: A watchdog group says CMS is pulling a disappearing trick with certain Obamacare-related websites (05/17/2018); Government Executive: Report: How HHS Buried Information About the Affordable Care Act (05/17/2018).

For details see:

Rachel Bergman: 14-Page Affordable Care Act Website Removed from Medicaid.gov (July 12, 2018) and Sunlight Foundation's Web Integrity Project Monitoring Report: Removal of the Affordable Care Act Website from within Medicaid.gov (July 10, 2018).

Removal of questions and infographic about the Affordable Care Act on MentalHealth.gov

Tag: #MentalHealth.gov

Summary of Findings

The "Health Insurance and Mental Health Services" webpage on MentalHealth.gov was altered in three different time periods between September 4, 2017 and October 21, 2018. While the page continues to reference the Affordable Care Act, the page altered references to the ACA on several occasions. An infographic titled, "3 Ways the Affordable Care Act is Increasing Access to Mental Health and Substance Use Disorder Services" was removed from the page along with a question and answer for the question "How does the Affordable Care Act help people with mental health issues?" A question, "Does the Affordable Care Act require insurance plans to cover mental health benefits?," was changed to "Do insurance plans have to cover mental health benefits?" for a period of time before reverting back to the original question.

Change Classification

- (1) Altering or removing text and non-text content
- (2) Altering or removing links

Reporting

- N/A

Webpage 1

Page title: Health Insurance and Mental Health Services

Page status: Altered

- **Before:** September 4, 2017
- **After**: October 21, 2018

URL: https://www.mentalhealth.gov/get-help/health-insurance

Known archives: None.

Description of change:

1. The following content was changed between September 4, 2017 and December 16 2017:

    a. **Removed** infographic titled, "3 Ways the Affordable Care Act is Increasing Access to Mental Health and Substance Use Disorder Services."

    b. **Removed** question and answer for the question "How does the Affordable Care Act help people with mental health issues?"

Note: Other questions and answers that referenced the Affordable Care Act remained, unaltered, on the page.

2. The following content was changed between December 16, 2017 and March 21, 2018:

    a. **Altered** the question "Does the Affordable Care Act require insurance plans to cover mental health benefits?" **to** "Do insurance plans have to cover mental health benefits?"

        • The answer for the question remained the same.

3. The following content was changed between March 21, 2018 and October 21, 2018:

    a. **Altered** the question "Do insurance plans have to cover mental health benefits?" **to** "Does the Affordable Care Act require insurance plans to cover mental health benefits?"

    b. This alteration reversed the previous change that occurred between December 16, 2017 and March 21, 2018.

Before (September 4, 2017)

After (October 21, 2018)

Removal of language pertaining to sex discrimination from HHS's Office for Civil Rights webpages about Section 1557 of the Affordable Care Act

Tag: #OCR

Summary of Findings

Between March and August 2017, the Department of Health and Human Services' (HHS) Office for Civil Rights (OCR) removed language relating to sex discrimination and prohibitions on sex discrimination on several webpages about Section 1557 of the Affordable Care Act (ACA). Mentions of "sex stereotyping" and information about sex discrimination on the basis of gender identity and termination of pregnancy were removed. The "Training Materials for Section 1557" page on the OCR website was removed between March 2017 and July 2018.

Change Classification

- (1) Altering or removing text and non-text content
- (2) Altering or removing links
- (4) Removing section of page
- (5) Removing webpage

Reporting

- ThinkProgress: Health Department removes 'gender' from its civil rights page (10/23/2018)

For details see:

Sunlight Foundation's Web Integrity Project Monitoring Report: Language Removals Pertaining to Sex Discrimination from HHS's Office for Civil Rights Webpages about Section 1557 of the Affordable Care Act (July 17, 2018) and Rachel Bergman and Jon Campbell: HHS removes sex discrimination prohibition language from civil rights office website (July 19, 2018).

Removal of pages, references, and links pertaining to the Affordable Care Act from the Office of Minority Health website

Tag: #OMH-1

Summary of Findings

Over the course of two years, between January 2017 and January 2019, the Office of Minority Health (OMH), an agency within the Department of Health and Human Services (HHS), altered its website to remove webpages, references, and links pertaining to the Affordable Care Act (ACA). At least five pages were removed from the website, including the main "Affordable Care Act' page, which contained information about the Affordable Care Act and OMH's role in implementing the ACA. Some pages that previously contained references to the ACA were altered to remove the term. For instance, before OMH removed the "ACA Guidance for American Indians and Alaska Natives" page, the term "Affordable Care Act" was removed from the page's title, text body, and an infographic linked from the page.

Change Classification

- (1) Altering or removing text and non-text content
- (2) Altering or removing links
- (4) Removing section of page
- (5) Removing webpage

Reporting

- Politico: Senate Finance hearings on nursing homes loom next week (02/28/2019); MedPage Today: Office of Minority Health Drops ACA Pages From Website (03/01/2019).

For details see:

Sunlight Foundation's Web Integrity Project Monitoring Report: Removal of Pages, References, and Links Pertaining to the Affordable Care Act from HHS's Office of Minority Health Website (February 26, 2019) and Aaron Lemelin: Office of Minority Health removes access to webpages about the Affordable Care Act (February 28, 2019).

Removal of reference to the Affordable Care Act from the Office of Minority Health "History of the Office of Minority Health" webpage

Tag: #OMH-2

Summary of Findings

The "History of the Office of Minority Health" page on HHS's Office of Minority Health website was altered to remove a reference to the Affordable Care Act.

Change Classification

- (1) Altering or removing text and non-text content

Reporting

- N/A

Webpage 1

Page title: History of the Office of Minority Health

Page status: Altered

- **Before:** July 13, 2018
- **After**: October 17, 2018

URL: https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=2&lvlid=1

Known archives: A public web archive of this page, collected by the Federal Depository Library Program Web Archive, is available from July 13, 2018

Description of change:

The following content was changed between July 13, 2018 and October 17, 2018:

a. **Altered** text:

> **From:** "The Office of Minority Health was created in 1986 as one of the most significant outcomes of the Heckler Report and was reauthorized by the Affordable Care Act (ACA) in 2010."

> **To:** "The Office of Minority Health was created in 1986 as one of the most significant outcomes of the Heckler Report and was reauthorized by health care legislation signed into law in 2010."

Before (July 13, 2018)

After (October 17, 2018)

Removal of a collection of webpages related to the Affordable Care Act from the Office of Population Affairs website

Tag: #OPA

Summary of Findings

The Office of Population Affairs, under the Department of Health and Human Services (HHS), removed a collection of ten webpages related to the Affordable Care Act (ACA) from its "Title X Family Planning" website. The removed pages included information on the Affordable Care Act, contraceptive coverage, the Health Insurance Marketplace, and the Affordable Care Act Collaborative. The URLs for these pages now lead to errors.

Change Classification

- (1) Altering or removing text and non-text content
- (2) Altering or removing links
- (4) Removing section of page
- (5) Removing webpage

Reporting

- Politico: White House shakes up drug policy office (02/07/2019); Government Executive: HHS Removed Webpages on Contraception Coverage Under Obamacare (02/07/2019)

For details see:

Sunlight Foundation's Web Integrity Project Monitoring Report: Removal of a Collection of Webpages Related to the Affordable Care Act from HHS's Office of Population Affairs Website (February 5, 2019) and Cate Pinto and Rachel Bergman: HHS Office of Population Affairs removed Affordable Care Act content from Title X website (February 7, 2019).

Removal of Breast Cancer website and related webpages from within the Office on Women's Health website

Tag: #OWH-1

Summary of Findings

The "Breast Cancer" website and related pages were removed from within the Department of Health and Human Services' (HHS) Office on Women's Health (OWH) website. While content about mammogram breast cancer screening remains, informational pages and factsheets about the disease, including symptoms, treatment, risk factors, and public no- or low-cost cancer screening programs, have been entirely removed and are no longer found elsewhere on the OWH site. Among the material removed is information about provisions of the Affordable Care Act that require coverage of no-cost breast cancer screenings for certain women, as well as links to a free cancer screening program administered by the Centers for Disease Control and Prevention (CDC). The office did not proactively announce or explain the removals.

Change Classification

- (6) Removing website

Reporting

- Newsweek: Breast Cancer Information Removed from Department of Health and Human Services Website (04/02/2018); The Hill: Breast cancer page scrubbed from women's health website: report (04/02/2018)

For details see:

Sunlight Foundation's Web Integrity Project Monitoring Report: Removal of Breast Cancer Website and Related Webpages from within HHS's Office on Women's Health Website (March 29, 2018) and Andrew Bergman: Unexplained censorship of women's health website renews questions about Trump administration commitment to public health (April 2, 2018).

Note: On April 5, 2018, following reporting about the removals, the Office on Women's Health added a single breast cancer page to womenshealth.gov. The page, titled "Breast Cancer," contains four brief sections titled: "What is breast cancer?," "Do I need to be screened for breast cancer?," "Learn more about breast cancer," and "Sources." Many of the removed page URLs documented in the WIP report now redirect to this page (at URL https://www.womenshealth.gov/cancer/breast-cancer/).

Removal of "Affordable Care Act" from "Vision, mission, goals, and history" webpage on Office on Women's Health website

Tag: #OWH-2

Summary of Findings

A reference to the Affordable Care Act was removed from the "Our History" section of the "Vision, mission, goals, and history" page on Office on Women's Health Website .

Change Classification

- (1) Altering or removing text and non-text content

Reporting

- N/A

Webpage 1

Page title: Vision, mission, goals, and history

Page status: Altered (this occurred between **January 19, 2018** and **February 2, 2018** according to WIP's website monitoring software. The Internet Archive's Wayback Machine versions of the page are provided below)

- **Before:** January 18, 2018
- **After**: March 15, 2018

URL: https://www.womenshealth.gov/about-us/who-we-are/vision-mission-goals-and-history

Known archives: A public web archive of this page, collected by the Federal Depository Library Program Web Archive, is available from October 10, 2017.

Description of change:

The following content was changed between January 18, 2018 and February 2, 2018:

a. **Altered** text in "Our History" section:

From: "Working collaboratively with federal agencies and partners, OWH supports a variety of campaigns, programs, and policies around the Affordable Care Act, health disparities, violence against women, HIV and AIDS, trauma-informed care, and health across the lifespan."

To: "Working collaboratively with federal agencies and partners, OWH supports a variety of campaigns, programs, and policies around health disparities, violence against women, HIV and AIDS, trauma-informed care, health across the lifespan, and the provision of health care."

Before ([January 18, 2018](#))

After ([March 15, 2018](#))

Screenshot: A comparison of the [January 18, 2018](#) (top left) and [March 15, 2018](#) (bottom right) versions of the "Vision, mission, goals, and history" page, highlighting the removal of the reference to the ACA from the "Our History" section. Captured by Internet Archive's [Wayback Machine](#).

Removal of references to the Affordable Care Act from Office on the Women's Health "Heart-healthy eating" webpage

Tag: #OWH-3

Summary of Findings

The "Heart-healthy eating" page on WomensHealth.gov was altered to remove references to the Affordable Care Act.

Change Classification

- (1) Altering or removing text and non-text content

Reporting

- N/A

Webpage 1

Page title: Heart-healthy eating

Page status: Altered *(*this occurred between **November 17, 2018** and **January 6, 2019** according to WIP's website monitoring software. The Internet Archive's Wayback Machine versions of the page are provided below)

- **Before:** November 17, 2018
- **After**: January 8, 2019

URL: https://www.womenshealth.gov/a-z-topics/heart-healthy-eating

> URL redirects to a replacement page: https://www.womenshealth.gov/healthy-eating/how-eat-health/heart-healthy-eating

Known archives: A public web archive of this page, collected by the Federal Depository Library Program Web Archive, is available from October 11, 2018.

Description of change:

The following content was changed between November 17, 2018 and November 22, 2018:

a. **Altered** URL: the "Heart-healthy eating" page was moved from the URL https://www.womenshealth.gov/a-z-topics/heart-healthy-eating to https://www.womenshealth.gov/healthy-eating/how-eat-health/heart-healthy-eating

i.   The old URL redirects to the new URL.

b. **Altered** text: Under the "How can I get free or low-cost nutrition counseling?" section the following text was removed:

"Nutrition counseling for adults at higher risk of chronic disease must be covered by most insurers under the Affordable Care Act (the health care law)."

Screenshot: A comparison of the bottom portion of the "Heart-healthy eating" from November 17, 2018 (left) and January 8, 2019 (right), highlighting the removed reference to the ACA. Captured by Internet Archive's Wayback Machine.

Before (November 17, 2018)

After (January 8, 2019)

SUNLIGHT
FOUNDATION

Evolving Care Models

Aligning care delivery to emerging payment models

Aligning Care Delivery to Emerging Payment Models

Hospitals and health systems across the country are redesigning care delivery to improve quality and outcomes, enhance the patient experience, reduce costs and, ultimately, produce better population health. They are testing and implementing new care models to focus on prevention and better coordinate care across the many sites of care that touch patients.

The payment landscape for health care services has evolved to support providers' transition to new care delivery models. Over the past 10 years, payers have transitioned a growing portion of payments made to providers to alternative payment models (APMs). Also, commonly referred to as value-based payment models, APMs incent providers for quality and value, rather than volume.

This report from the AHA Center for Health Innovation provides an overview of the successes and challenges providers have experienced in aligning care delivery models with APMs, and provides lessons for those in the midst of this transition. Though the pace of the transition will vary by local market, payers will continue to shift financial risk to providers through more advanced payment models. Health systems are committed to advancing value-based care and will need to build new capabilities to succeed under these payment arrangements.

The AHA Center for Health Innovation based this report on information and insights from a number of sources, including interviews with hospital and health system leaders and other health care experts, surveys of hospitals and health systems, and a number of health care reports and research articles. A complete list of sources appears on Page 16 of this brief. We thank everyone for their contribution to this analysis.

LEARN MORE | Visit AHA.org/center

1 APMs vary in the degree of financial risk they transfer to providers, and most providers today assume relatively low levels of risk. This approach provides stability to providers as they build up the required capabilities for taking on higher levels of risk.

2 APMs have gained significant traction in recent years, driven in large part by government payers.

3 Providers are juggling the challenge of developing the capacity to operate successfully in shared-risk payment models, while still caring for significant numbers of patients in fee-for-service arrangements.

The Changing Landscape of Alternative Payment Models

Today, more than a third of U.S. health care payments are value based, up from 23 percent in 2015. This significant shift from traditional fee-for-service (FFS) reimbursement models has been fueled in large part by the Medicare program, which has rolled out a number of programs that shift payment toward value, including the Medicare Shared Savings Program (MSSP) in 2011. The passage of the Medicare Access and CHIP Reauthorization Act (MACRA) of 2015, which made sweeping changes to how Medicare reimburses physicians for their services, created an additional platform to drive APMs in Medicare.

Development of APMs in Medicare

2010
Passage of Affordable Care Act, mandating **Medicare Shared Savings Program (MSSP) and Bundled Payments for Care Improvement (BPCI) initiatives**. The MSSP contains upside only and upside/downside risk tracks. BPCI requires providers to accept financial risk but allows choice between prospective or retrospective payment.

2012
Launch of the **MSSP** and **Pioneer Accountable Care Organizations (ACO) Model**, a program for providers accepting higher levels of downside risk than the MSSP.

2015
Start of **ACO Investment Model** offering additional support for providers in rural and underserved areas.

Passage of **MACRA**, tying a portion of most providers' Medicare payments to quality and/or value. Providers may choose one of two tracks: (1) Merit-based Incentive Payment System (MIPS), a pay-for-performance program, or (2) Advanced APMs, which include a discrete number of models selected by the Centers for Medicare & Medicaid Services (CMS).

2016
Launch of **Next Generation ACO**, allowing experienced ACOs to take on greater downside risk than Pioneer ACO or MSSP.

2018
Streamlining of MSSP and BPCI programs, creating shorter glide path for providers to assume downside risk under MSSP and standardizing payment model under BPCI.

Sources: Patient Protection and Affordable Care Act; Medicare Access and CHIP Reauthorization Act of 2015 (MACRA); "Medicare Shared Savings Program," available at www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/index.html; "CMS Finalizes 'Pathways to Success,' an Overhaul of Medicare's National ACO Program, available at www.cms.gov/newsroom/press-releases/cms-finalizes-pathways-success-overhaul-medicares-national-aco-program; "BPCI Advanced," available at https://innovation.cms.gov/initiatives/bpci-advanced

LEARN MORE | Visit AHA.org/center

What States are Doing with APMs

State Medicaid programs are also putting substantial pressure on plans (in Medicaid managed care) and providers to transition payments to APMs; most states have some type of APM or care delivery model in place (e.g., ACO, medical home, etc.), and many include mandatory value-based payment targets in their contracts with Medicaid managed care organizations.

What Private Payers are Doing with APMs

Movement toward APMs is also accelerating in the commercial market. For example, the Health Care Transformation Task Force, a consortium representing key payers and providers that includes Aetna, Anthem, several state-level Blue Cross Blue Shield plans, Geisinger, Kaiser Permanente and Sentara Healthcare, had nearly 50 percent of its provider and payer members' payment arrangements in APMs by the end of 2017 and aims to reach 75 percent by 2020. A small but growing number of employers — including Boeing, Intel and Walmart — are experimenting by directly contracting with health systems for certain groups of employees and/or through center of excellence programs, which typically negotiate bundled-payment arrangements with a limited number of high-quality, low-cost providers for specific episodes of care.

In certain cases, public and private payers are working together — at both the national and state levels — to align payment models. For example, the Comprehensive Primary Care Plus model currently has 56 participating payers across 18 geographic regions.

APM Models that States are Testing

APMs in Medicaid

TENNESSEE: The state requires Medicaid managed care organizations (MCOs) to make bundled payments to providers for 75 different episodes of care. In its first year of operation, the program reduced costs for covered episodes by $11.1 million and, in 2016, the program reduced costs by $14.5 million.

NORTH CAROLINA: The state is preparing to transition its Medicaid program from a fee-for-service delivery system to managed care in late 2019 and has established an Advanced Medical Home (AMH) program to strengthen the role of primary care practices in care management and quality improvement. The AMH program will initially include three participation tiers, with AMHs in higher tiers responsible for greater levels of care management and eligible for care management fees and incentive payments based on a standardized set of quality measures. ●

Sources: "TennCare's New Approach to Payment Shows Savings," https://www.tn.gov/tenncare/news/2016/10/5/tenncare-s-new-approach-to-payment-shows-savings.html; "Strategic Planning & Innovation," Division of TennCare, https://www.tn.gov/content/dam/tn/tenncare/documents2/2016EpisodesofCareResults.pdf; "North Carolina's Care Management Strategy Under Managed Care," North Carolina Department of Health and Human Services, https://files.nc.gov/ncdhhs/documents/CareMgmt-AMH_ConceptPaper_FINAL_20180309.pdf

---

Comprehensive Primary Care Plus (CPC+)

ARKANSAS: The Arkansas Health Care Payment Improvement Initiative brings together both public and private payers, along with Walmart, the State and Public School Employee Benefits program, and other self-funded employers, to promote patient-centered delivery models across the state and includes both medical home and episode-based payment programs. Unlike many medical homes, practices in Arkansas' program assume full financial responsibility for the total cost of care for their attributed patients. If a medical home meets benchmarks for quality metrics and reduces the total cost of care under a payer's preset threshold, the practice receives a shared-savings payment. In 2015, Arkansas was one of only three Comprehensive Primary Care (CPC) regions to achieve net savings as a state. In 2017, the state was selected as one of 14 states to participate in the CPC+ initiative, which extends Medicare participation in primary care medical homes to approximately 182 primary care practices throughout the state. The implementation of CPC+ represents the most recent phase in the state's progression toward a value-based, patient-centered delivery system. ●

Sources: "Arkansas Health Care Payment Improvement Initiative: 3rd Annual Statewide Tracking Report," Arkansas Health Care Payment Improvement Initiative. https://achi.net/wp-content/uploads/2018/10/Arkansas-Health-Care-Payment-Improvement-Initiative-State-Tracking-Report-Year-3-Full-Report.pdf.
Note: Excludes inpatient neonatal services, long-term services and supports, and inpatient psychiatric services for severe mental illness

Evolution in Care Delivery Models

1 Although hospitals and health systems approach health care transformation differently, there are common features as to how they are evolving their care models to improve value and health within their communities.

2 Hospitals and health systems increasingly are participating in value-based APMs, with ACOs and medical homes seeing significant growth.

Trends

By redefining care models and implementing value-based strategies, hospitals are taking steps to develop a culture in which patient-centered value and making a sustainable difference in their patients' health is a major focus for everyone in the organization. Alternative approaches to care delivery have clustered around four specific models: ACOs, medical homes, bundled payment programs and provider-sponsored health plans (PSHPs). ACOs and medical home models, in particular, have increased dramatically.

Redefining Care Delivery

Various service-delivery and payment models that aim to achieve better care for patients, smarter spending and healthier communities are still evolving and being tested. Health systems are implementing and refining a wide array of care delivery models. Health systems without previous experience chose to adopt one of the existing care models for the first time, and those with experience were adopting new processes and/or technologies to make the models more effective.

Health system leaders who have embarked on the change said they are committed to continuing the evolution because the approach is better for patients, but they cautioned that there is no silver bullet or app that can substitute for: setting an inspiring vision for care delivery; engaging clinicians early and often to develop agreement on evidence-based protocols and care plans; retraining staff to support the new approach; and building feedback loops to measure organizational performance and adjust accordingly.

"Health system leaders reported that adopting a new care model is **hard, time-consuming work** because it redefines the responsibilities of providers, who provides the care and how they do it."

Growth in ACO and Medical Home Programs Among Hospitals, 2011-2017
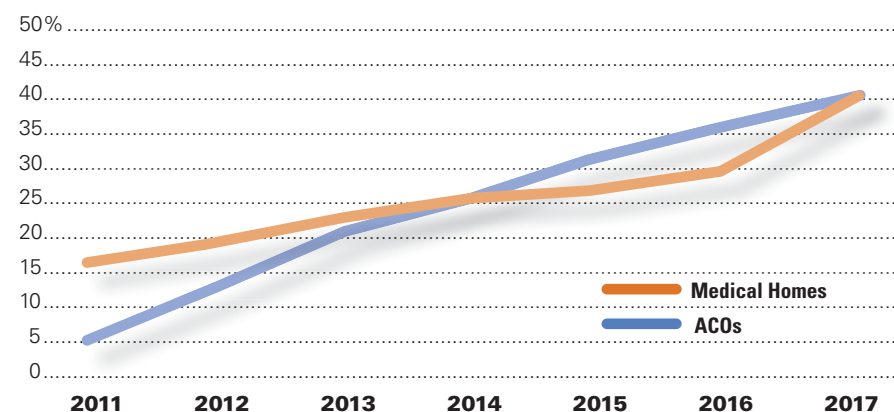
Source: AHA Annual Survey, 2017

ACO, Medical Home, Bundled-payment Program or Provider-sponsored Health Plan, by Hospital Type, 2017

While all types of hospitals and health systems are increasingly adopting these care models, the pace of change differs by hospital type.

Source: AHA Annual Survey, 2017

LEARN MORE | Visit AHA.org/center
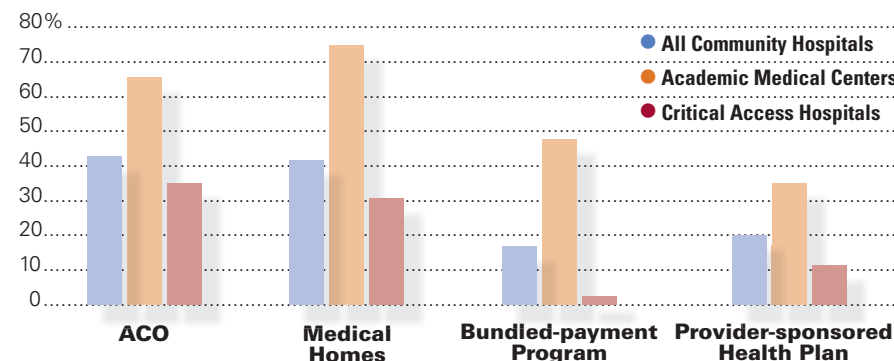
The Alternative Payment Models Framework

This report uses the CMS Health Care Payment Learning and Action Network (HCPLAN) framework — which situates different payment models along a continuum of risk — to describe the APM landscape. Although payments are classified in discrete categories, the framework captures a continuum of clinical and financial risk for provider organizations.

Despite increasing adoption of APMs across payers, most of the dollars in value-based arrangements still flow through an FFS chassis, with few providers assuming responsibility for financial losses, and only 4 percent of arrangements flowing through population-based payments (Category 4). As a result, many health systems are grappling with how to evolve their care models to meet the objectives of APMs while still having the majority of their payment arrangements in FFS.

"Most of the dollars in **value-based arrangements** still flow through a fee-for-service chassis."

CMS Health Care Learning and Action Network (HCPLAN)

CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4
FEE-FOR-SERVICE; NO LINK TO QUALITY OR VALUE	FEE-FOR-SERVICE; LINK TO QUALITY OR VALUE	APMs BUILT ON FEE-FOR-SERVICE ARCHITECTURE	POPULATION-BASED PAYMENTS
	A	**A**	**A**
	Foundational Payments for Infrastructure and Operations (e.g., care coordination fees and payments for health information technology investments)	**APMs with Shared Savings** (e.g., shared savings with upside risk only)	**Condition-Specific, Population-Based Payment** (e.g., per member per month payments, payments for specialty services such as oncology or mental health)
	B	**B**	**B**
	Pay-for-Reporting (e.g., bonuses for reporting data or penalties for not reporting data)	**APMs with Shared Savings and Downside Risk** (e.g., episode-based payments for procedure and comprehensive payments with upside and downside risk)	**Comprehensive Population-Based Payment** (e.g., global budgets or full/percentage of premium payments in integrated systems)
	C		**C**
	Pay for Performance (e.g., bonuses for quality performance)		**Integrated Finance and Delivery Systems** (e.g., global budgets or full/percentage premium payments in integrated systems)
		3N **Risk-Based Payments NOT Linked to Quality**	**4N** **Capitated Payments NOT Linked To Quality**

8 Common Principles of Evolving Care Models

Health systems are evolving their care models in different ways to meet their patients' needs and align with their organizational cultures. While the specifics differ, there are common underlying principles identified by the expert panel.

1 | **Organize care delivery around the needs of patients across the care continuum** (e.g., inpatient, ambulatory, post-acute) through ownership or partnerships with affiliated providers, allowing health systems to better manage patients post-discharge and avoid costly readmissions.

2 | **Significantly broaden the health care provider's scope**, from a narrow focus on individual patients' disease states and episodes of care to a broad focus on the health of populations, including addressing care needs across the continuum and considering health-related social factors — like housing and food insecurity — that have traditionally been far outside the health care sphere.

3 | **Redefine the role of the physician from an autonomous actor to leader of an integrated care team** of advanced practice providers, nurses and others focused on creatively engaging patients and closing gaps in care. As one health system leader told us, creating a "culture of team" has been one of his organization's most substantial challenges.

4 | **Introduce complex new workflows and technologies** — including the use of real-time data to drive clinical decision-making and complementing the traditional medical visit model with proactive care management and telehealth programs.

5 | **Deliver evidence-based clinical care and effectively use care management to support high-needs patients**, including addressing the social determinants of health. This approach addresses patient needs upstream and reduces unnecessary and expensive inpatient hospitalizations and emergency department visits.

6 | **Adopt IT infrastructure and analytic capabilities to track patient quality and cost outcomes**, identify high-risk/high-cost patients and coordinate patient referrals, enabling care management teams to direct at-risk patients to the appropriate care setting and reduce unnecessary inpatient utilization.

7 | **Evolve financial management systems to manage risk-based contracts**, including tracking performance on contracts with downside risk and putting risk-mitigation strategies in place to ensure that APMs can sustainably finance the new care delivery model.

8 | **Align governance and management processes to support alternative payment and care delivery** — including processes to build provider buy-in, develop clinical alignment across the network and build new workforce capabilities — to enable care delivery transformation. ●

"ACOs need a sufficient number of **attributed lives** to minimize random fluctuations."

LEARN MORE | Visit AHA.org/center

The Four Most Common Alternative Care Delivery Models

Each model — while not exhaustive — represents the most common alternative care delivery frameworks in the field and observed in the literature. Each model includes a real-world example and emerging insights.

1 | ACCOUNTABLE CARE ORGANIZATION

Networks of health care providers jointly responsible for improving patient outcomes and reducing spending for an attributed patient population. May involve a range of provider configurations, such as physician groups, behavioral health organizations, hospitals and health systems.

DESCRIPTION: Caravan Health works with rural and independent health systems to build ACOs under the MSSP.

KEY INSIGHTS: After reviewing several years of MSSP data, Caravan recognized a critical challenge: ACOs in a shared savings/shared risk model need sufficient scale to minimize random spending fluctuations in their attributed population. In 2019, the organization launched a national virtual Medicare ACO to aggregate attributed Medicare lives across rural health systems. While many individual rural ACOs had between 5,000 and 10,000 lives, the new ACO has 225,000. Caravan has set up care model requirements participants must adopt, an intensive training program to help health systems build necessary capacity, and a robust data analytics platform in which participants can compare their performance against regional partners and the national ACO. Caravan ultimately shares savings back with ACO participants based on a methodology that includes patient attribution and quality performance. Such an approach offers a way for smaller, rural providers to attain the scale needed to perform well under APMs. As Lynn Barr, Caravan's CEO, says, the goal is to "standardize an effective model that will get results and create a platform for change."

RESULTS: Caravan's national rural ACO is in its first year. However, other Caravan-affiliated ACOs to date have substantially improved their quality scores compared with baseline and generated savings more than 60 percent higher than the national average for MSSP ACOs.

2 | MEDICAL HOME

Model of reorganizing primary care delivery. Under a medical home, an integrated care team — often encompassing a primary care provider, nurses, care managers and others — provides patients with whole-person, coordinated and accessible care. Some organizations pursue accreditation by an outside body (e.g., National Committee for Quality Assurance (NCQA) patient-centered, medical home certification), while others incorporate key features of the model without formal accreditation.

DESCRIPTION: Summa Health in northeast Ohio provides an integrated, team-based approach to primary care based on the principle "tasks for staff, decisions for physicians." Primary care physicians focus on difficult diagnostic dilemmas and building relationships with patients, while nurses, pharmacists and other team members take on clinical and administrative functions of the medical home model directed toward helping patients achieve better health outcomes.

KEY INSIGHTS: James Dom Dera, M.D., Summa Health's patient-centered medical home (PCMH) director, points to substantial evidence that robust primary care is the key to better population health and lower total cost of care, and believes primary care spending will represent a larger percentage of total health spending in the future. The best primary care delivery approaches, Dom Dera says, will build on the medical home model and incorporate increased virtual visits, patient education and links to social determinants of health. Dom Dera believes population-based payments can best finance such an approach; however, incentives must be aligned across primary and specialty care providers for the model to work effectively.

RESULTS: Due to improved care transitions, Summa Health's 2017 30-day readmission rate dropped to the lowest level in seven years. Additionally, 77 percent of Summa's primary care practices are PCMH-certified by NCQA, a large increase from the prior year.

3 | INTEGRATED SERVICE LINES

Hospitals and health systems are organized around integrated service lines — based on specific disease states and/or care episodes (e.g., cancer, heart and vascular, neuroscience, etc.) — across medical specialties and the continuum of care. The approach differs from a traditional hospital organizational structure organized by medical discipline (e.g., surgery, radiology, etc.). Integrated service lines are well positioned to negotiate bundled payments with payers for specific episodes of care.

DESCRIPTION: Mount Sinai Health System (MSHS) in New York has offered a joint replacement, bundled payment program to patients with certain commercial insurance since 2016. Under the model, a care guide visits patients in the hospital, coordinates the transition home, manages outpatient and home-based, post-surgical care and arranges transportation to appointments.

KEY INSIGHTS: Niyum Gandhi, chief population officer at MSHS, says the approach requires a different mindset. "This isn't just a joint replacement program, it's a mobility program. Specifically, the program's ultimate goal isn't the surgery — the goal is pain-free walking, and there's more to that outcome than just the surgical procedure."

RESULTS: Since the start of the program, the percentage of program participants using the emergency department during the episode of care dropped from 26 percent to 3 percent.

4 | PROVIDER-SPONSORED HEALTH PLANS

Health plans that are financially sponsored or acquired by hospitals, physician groups or health systems. Providers often take responsibility for total cost of care for the health plan's enrollees and accept some degree of financial risk from the plan. While the health plan receives a capitated payment for its enrolled population, it does not always pay providers on a capitated basis.

DESCRIPTION: Sharp HealthCare is an integrated delivery system in San Diego County that includes a provider-sponsored health plan. Sharp offers a robust, continuum-based care management program. The system receives approximately 30 percent of its revenue on a capitated basis (a significant portion comes from its health plan). Sharp is affiliated with a foundation-model medical group (Sharp Rees-Steely Medical Group) and an aligned independent practice association (Sharp Community Medical Group), and also works with a large number of independent physicians.

KEY INSIGHTS: Executive Vice President Dan Gross says adapting care management programs to meet the needs of individuals with specific chronic diseases is critical to effectively managing population health. One of the biggest challenges, Gross says, is aligning physician compensation with the health system's payer contracts, especially given varying degrees of physician affiliation with the system.

RESULTS: The system receives consistently high ratings and awards on quality, efficiency and patient-centered care, including awards from the Leapfrog group and Planetree. Sharp's health plan is also the highest member-rated health plan in California and has an NCQA accreditation of excellent.

caravanhealth
traveling together for better care

Summa Health.

Mount Sinai Beth Israel

SHARP®

Addressing the Challenges in the Transition of APMs

While government payers have sparked a paradigm shift around how to pay for health care during the past decade, they have allowed for a transition, granting providers time to build new capabilities without significant exposure to downside risk. And government payers are only one part of a health system's reimbursement landscape; commercial payers typically have lagged in their use of APMs. As a result of the slow on-ramp and divergent reimbursement strategies across payers, adoption of APMs by health systems has been wide rather than deep, with many health systems participating in some form of APM but most not taking downside risk. Many health systems now find themselves with one foot in fee-for-service and the other in alternative-reimbursement models. Health systems interviewed for this report all described being in a situation in which they want to transform their care models, but struggle to finance the required changes to their networks, processes and support systems.

7 Provider Challenges

Providers experimenting with APMs based on fee-for-service architecture have encountered the following challenges:

1 | Delivering care in new ways requires a source of funding, which is often not available under a shared savings model. Providers who want to invest in new care delivery capabilities (e.g., data analytics) or offer innovative services (e.g., virtual care, approaches to addressing social determinants of health) not reimbursable under FFS struggle to finance their care delivery changes. While some providers receive upfront care coordination fees under a Category 3 model, shared savings represent the largest potential source of funding. However, because shared savings are not guaranteed and — if they materialize — are paid retrospectively, providers struggle to leverage them as a dependable financing source.

2 | Health systems that implement APMs with a subset of payers may jeopardize reimbursements under FFS contracts. Providers often negotiate APMs with only a subset of contracted payers, but implement changes to care delivery for all patients incurring additional cost for innovative services. While providers may see shared savings under APMs, care delivery changes may drive down utilization across other payer contracts, reducing providers'

FFS payments without creating an opportunity to share in savings. One executive with Medicare FFS and Medicaid APMs put it simply: "Our commercial and MA [Medicare Advantage] payers are benefiting from the changes without providing any reimbursement."

3 | Reducing revenue under a shared savings APM may not immediately lead to a proportional decrease in expenses because health systems have substantial fixed costs. Under APMs, health system utilization and reimbursement often decline faster than expenses, meaning hospitals can temporarily see a drop in financial resources before costs decline.

4 | Opportunity to achieve shared savings decreases over time, as successfully decreasing spending leads to a lower benchmark in subsequent year. Under most shared-savings arrangements, payers reset providers' benchmark spend annually based on performance in the previous year. While providers initially may see savings, providers soon reach a new equilibrium where achieving additional savings is difficult. A health system executive focused on primary care transformation told us, "If I do my job well, there won't be any shared savings left."

5 | Technical decisions related to setting the cost benchmark can lead to highly variable results. For example, the Pioneer ACO used a national benchmark to establish target spending, which did not reflect regional variations in health care spending. Under the Next Generation model, CMS made changes to its risk-adjustment methodology midcontract year, causing some health systems to see unexpected financial losses and exit the model.

6 | Attribution methodologies are imperfect, often leading to situations in which providers have limited to no relationship with attributed patients and little ability to influence their care. When patients are attributed to a provider but have no incentive (e.g., network restrictions, lower cost-sharing, etc.) to seek care from that provider, they may choose to go outside the provider's network.

7 | Success under shared savings or risk depends on scale. Providers' ability to achieve shared savings is also highly dependent on managing a sufficient number of attributed lives to avoid random fluctuations in spending. ●

Preparing for the Road Ahead

1 Payers will continue to push providers toward accepting greater levels of risk.

2 Providers will need to quickly build new capabilities to succeed under higher levels of risk. An APM Care Delivery Maturity Model offers a framework for providers to assess current capabilities and consider areas for development.

3 While parallel payment models will remain, the message from the field is clear: Transformed care models work best when a substantial portion of providers' reimbursement is in advanced payment models.

Providers interviewed for this report emphasized that HCPLAN Category 3 arrangements [see page 6] gave them an opportunity to rethink their most critical task: how to provide the best care for patients. Once they began implementing some care delivery changes — including a team-based care delivery model, use of care management to support complex populations and robust analytics to assist with identifying high-risk patients and tracking performance on quality and cost — they quickly saw that it was a superior way to deliver care. However, the payment model changes were insufficient to finance the truly transformative care they sought to provide. As one rural health system executive said, "It's been a good experiment, but it's not an endpoint."

● **Providers agreed that payment models will move into more advanced levels of risk during the coming years,** including shared-risk models and population-based payments. Surveys of the field point to a similar conclusion. However, the pace of change will vary by local market. While Medicare and Medicaid programs will continue to push providers into more advanced risk arrangements, the commercial market is highly variable and tends to lag behind public payers for several reasons. First, putting together a risk-sharing option with a commercial payer may not be sustainable based on shared savings from reductions in utilization or costs of care unless the partnership is able to add covered lives. Second, most employer-sponsored plans are self-funded and many cover large numbers of employees across a wide geographic footprint, creating significant logistical challenges. Third, some health systems may be reluctant to forgo the financial security of important commercial FFS contracts while they experiment with APMs.

● **Providers will need to quickly build new capabilities to succeed under higher levels of risk.** Based on interviews with a broad cross-section of providers and a review of the literature, the AHA Center for Health Innovation has developed a maturity framework describing care delivery and organizational capabilities providers need to assume increasingly greater degrees of financial risk.

● **Although the pace of change may differ, the lesson from the field is clear: Transformed care delivery works best with a transformed payment model.** Providers that transition a substantial portion of their payment stream to advanced payment models are more likely to scale their alternative care models and reduce the inherent tension between competing payment models. As health systems' care models grew more mature, they developed confidence to take on greater levels of payment risk, which then financed greater changes in care delivery. ●

RURAL PROVIDER ACO

Winona Health

Description: Winona Health is an integrated delivery system in rural Minnesota. In 2015, the organization developed a Medicaid ACO using startup funds from the state's Medicaid ACO program and, in 2016, created the MN Rural ACO with five geographically dispersed partners to serve Medicare beneficiaries. This ACO was supported by the MSSP ACO Investment Model to develop the infrastructure and managed by Caravan Health. Winona Health implemented an evidence-based population health management model, risk-stratifying patients to identify high-risk patients, developing a team-based primary care approach and using care managers to address gaps in care.

Key Insights: Winona Health leadership recognized that the organization needed greater scale to minimize random fluctuations in spending among its attributed population and also desires to expand the Value-based Purchasing (VBP) model to commercial payers. To advance its VBP model, Winona Health joined a national MSSP ACO in January 2019, serving 225,000 Medicare beneficiaries and managed by Caravan Health. Additionally, Winona Health is using its care delivery successes to negotiate new APMs with commercial payers.

Results: Winona Health does not yet have results related to participation in the national collaborative ACO. However, for patients enrolled in its Medicaid and Medicare ACO program for three or more years, emergency department (ED) visits declined by 37 percent and total charges decreased by 31 percent. ●

ACADEMIC HEALTH SYSTEM MEDICAL HOME

Cleveland Clinic

Description: Cleveland Clinic is an academic health system with a main campus in Cleveland, 11 regional hospitals, 180 outpatient locations in northeast Ohio and additional locations across the United States and internationally. In 2018, the organization created a "community care" division that includes primary care, components of the post-acute care network and its clinically integrated network of 7,100 providers, among others. The organization adopted a team-based primary care, medical home model, using predictive analytics to identify patients likely to experience adverse events and deploying care managers to support at-risk patients. Cleveland Clinic began its transformation with an MSSP ACO, but moved quickly toward Category 4 APMs to support its care model. By the end of 2019, Cleveland Clinic expects to have 60 percent of adult primary care under primary care capitation, providing significant flexibility to finance its transformed care model.

Key Insights: Cleveland Clinic incorporated a number of new specific initiatives to improve population health, including a program for providers and clinicians to proactively identify and close care gaps, and a care-at-home program for frail elderly patients that uses clinic-employed paramedics and virtualist physicians to reduce unnecessary ED visits.

Results: Since both programs were implemented, closure of care gaps increased 1,800 percent and ED visits among individuals enrolled in the care-at-home program decreased by 60 percent. ●

INTEGRATED FINANCE AND DELIVERY SYSTEM

Allegheny Health Network

Description: Allegheny Health Network (AHN) is an integrated delivery system owned by Highmark, which provides health insurance coverage to more than 4.5 million individuals. AHN is an open system, with 50 percent of its business from Highmark enrollees and 50 percent from other payers. AHN secured funding from a local foundation to support a care delivery pilot focused on diabetes and then expanded to other chronic diseases.

Key Insights: AHN has developed an approach to chronic disease management that changes specialty and primary care delivery and aligns providers' financial incentives accordingly. The organization provides an integrated care model for individuals with diabetes, chronic obstructive pulmonary disease and congestive heart failure. Specialists — surrounded by an integrated care team — manage the highest-risk patients and train integrated primary care teams to manage rising-risk patients. Incentives are also aligned for downstream providers. Approximately 25 percent of primary care physician compensation is tied to quality performance, and a portion of specialist compensation will also soon be tied to quality.

Results: AHN demonstrated substantial savings related to diabetes management in its first 6-12 months and then negotiated a shared savings arrangement with Highmark to expand the pilot to other chronic diseases. Going forward, AHN plans to take higher levels of risk (e.g., chronic disease "bundle") for Highmark patients and negotiate upside APMs with other payers. ●

KEY POINTS

4 Alignment of payment models across payers is critical for more rapid and widespread adoption of new care models.

5 Organizations on the ground offer lessons about how to move up the maturity model, often using initial successes to negotiate additional and higher-risk APM arrangements with payers.

LEARN MORE | Visit AHA.org/center

Maturity Framework for New Care Models/Risk-sharing Arrangements

Hospitals are in the midst of navigating significant changes in how they operate and deliver care. Each organization can use the maturity framework to assess its current capabilities to determine the best type of value-based care for the organization. All providers need to rethink where they are on the risk continuum, where they will be in the future and whether they have the infrastructure systems needed to manage risk.

CAPABILITY	MATURITY LEVEL		
	BASIC	FOUNDATIONAL	ADVANCED
Care Continuum and Provider Network Management	**NETWORK** | Significant gaps in assets across care continuum (outpatient — inpatient — post-acute) **AFFILIATION REQUIREMENTS** | Limited criteria for affiliation **QUALITY IMPROVEMENTS** | No link to quality/value	**NETWORK** | Robust network (either owned or affiliated). Health systems can address most patient care needs across continuum through owned or affiliated providers. **AFFILIATION REQUIREMENTS** | Contracts require commitment to shared quality/utilization metrics **QUALITY IMPROVEMENTS** | Portion of payment to physicians tied to performance/value	**NETWORK** | Comprehensive, clinically integrated network **AFFILIATION REQUIREMENTS** | Affiliation relationship contingent on meeting quality and cost-management objectives **QUALITY IMPROVEMENTS** | Strong alignment of physician compensation with clinical objectives through use of incentives
Clinical and Care Management	**CLINICAL PROTOCOLS** | No standardization of clinical protocols **CARE MANAGEMENT** | Limited, if any **QUALITY IMPROVEMENTS** | Quality-improvement and disease-management programs exist but are not coordinated across different parts of the health system	**CLINICAL PROTOCOLS** | Shared clinical protocols and standards of care **CARE MANAGEMENT** | Integrated care teams, including nonphysician providers; dedicated care managers for high-risk patients **QUALITY IMPROVEMENTS** | Shared quality measures	**CLINICAL PROTOCOLS** | Process for updating protocols with latest evidence and monitoring adoption **CARE MANAGEMENT** | Population-health and disease-management programs, including use of telehealth and new technologies, where appropriate; assessment of social determinants of health and referrals to community-based organizations **QUALITY IMPROVEMENTS** | Culture of continuous process improvement with progressively evolving performance standards
IT Infrastructure and Analytics	**ELECTRONIC HEALTH RECORD** | Functional EHR but little interoperability with affiliates **POPULATION HEALTH MANAGEMENT TOOLS** | Use of disease registries/reporting **PERFORMANCE ANALYTICS** | Some ability to track performance against quality/utilization benchmarks	**ELECTRONIC HEALTH RECORD** | Strategy in place to integrate EHR and analytics platforms across network, though not necessarily common platform **POPULATION HEALTH MANAGEMENT TOOLS** | Population health-management system to identify high-risk patients **PERFORMANCE ANALYTICS** | Integration of clinical, administrative and care management data at patient-level; practice-level dashboards to track performance against quality/utilization targets	**ELECTRONIC HEALTH RECORD** | Common EHR, analytics and care management platform used across network **POPULATION HEALTH MANAGEMENT TOOLS** | Ability to identify defined subpopulations for targeted interventions; use of predictive modeling to identify at-risk members; ability to facilitate and track closed-loop referrals to community-based organizations **PERFORMANCE ANALYTICS** | Near real-time visibility into quality and cost performance

LEARN MORE | Visit AHA.org/center

Maturity Framework for New Care Models/Risk-sharing Arrangements *(continued)*

CAPABILITY	MATURITY LEVEL		
	BASIC	FOUNDATIONAL	ADVANCED
Financial Management	● **PRACTICE MANAGEMENT AND REVENUE-CYCLE MANAGEMENT** | Systems in place ● **ACTUARIAL/RISK-MANAGEMENT CAPABILITIES** | Limited to non existent	● **PRACTICE MANAGEMENT AND REVENUE-CYCLE MANAGEMENT** | Evolving to address evolving reimbursement models ● **ACTUARIAL/RISK-MANAGEMENT CAPABILITIES** | Ability to negotiate and manage performance for contracts with downside risk; some risk mitigation in place	● **PRACTICE MANAGEMENT AND REVENUE-CYCLE MANAGEMENT** | Systems fully aligned with reimbursement models ● **ACTUARIAL/RISK-MANAGEMENT CAPABILITIES** | For provider-sponsored health plans, ability to perform claims payment, underwriting and meet reserve requirements
Governance and Provider Engagement	● **GOVERNANCE STRUCTURE** | Informal ● **OPERATING UNITS** | No change ● **PROVIDER ENGAGEMENT** | Limited provider engagement in development of quality improvement programs	● **GOVERNANCE STRUCTURE** | Structure in place to oversee APMs ● **OPERATING UNITS** | New functions created to support contract management with payers and provider partners ● **PROVIDER ENGAGEMENT** | Clinical and administrative leadership buy-in to support alternative payment/care delivery; workforce-development strategy in place to support transition; change-management strategy to guide organizational transformation	● **GOVERNANCE STRUCTURE** | Corporate governance with clear roles for board, executive team, medical staff leaders with regard to clinical direction, state regulatory reporting, compliance, management and operations ● **OPERATING UNITS** | Organizational model aligned with new care delivery and reimbursement models ● **PROVIDER ENGAGEMENT** | Providers well integrated into strategic planning efforts

"Reformed **payment mechanisms** will only be as successful as the delivery system capabilities and innovations they support."

LEARN MORE | Visit AHA.org/center

Road Map to Advance Along the Maturity Model

The experiences of these and other provider organizations offer a road map for others seeking to accelerate their transition to greater levels of risk.

1 Develop and commit to a transformed vision of care delivery, recognizing that the new approach may risk short-term financial losses, but will drive long-term success. Based on interviews conducted for this report, health systems that implemented new care delivery models saw better health outcomes, more satisfied patients and more engaged providers. As consumers and payers come to expect greater value from providers — including high-quality outcomes, a patient-centered approach and multiple pathways to access care (e.g., in person, virtual care, etc.) — health systems that develop such a vision and remain steadfast will be well positioned for long-term success despite initial challenges to finance the new system as payment models catch up.

2 Identify a source of financing for the care delivery transformation. Building networks, transforming care delivery processes and investing in support systems all require capital. Some providers in more mature markets may be able to quickly negotiate risk-based contracts across multiple payers to finance their care delivery changes. Others may need to focus on a handful of payers (e.g., MSSP, Medicare Advantage, one commercial contract, etc.) or philanthropy to provide initial funding for care delivery transformation. For instance, health systems might negotiate upfront care management fees or "prepaid" shared savings, in which they receive funds up front that are discounted against any savings generated.

4 Build financial-management capabilities to manage risk contracts. As providers advance along the risk spectrum, they will need additional capabilities to manage contracts with payers. This function is critical to translating care delivery innovation into success.

6 Align physician incentives with broader APMs negotiated with payers. Providers interviewed for this report identified an inherent tension when health systems implement APMs designed to reduce unnecessary utilization while paying employed and/or affiliated physicians based on volume (e.g., relative value units). Provider organizations can work collaboratively with physicians to develop new compensation models — generally incorporating a base salary, a portion tied to quality, and a smaller portion tied to volume — that align physician incentives with APMs.

3 Develop a proof of concept. Implement changes and test the model, carefully tracking outcomes related to quality and cost for the relevant population.

5 Leverage the proof of concept to negotiate more advanced APMs with other payers. Rather than waiting for payers to evolve their models, providers can use their proof of concept to proactively bring a value proposition to payers.

LEARN MORE | Visit AHA.org/center

Accelerating Care Delivery Transformation

Conversations with hospital and health system innovators suggest that the interplay between care and payment models can act as both a brake and accelerator on transformation. While APMs were an initial catalyst to care delivery transformation, payment models have not evolved sufficiently to finance the new care delivery approaches. Leaders of organizations engaging in advanced models are experimenting with new care delivery models based on the belief that such changes will improve patients' health, but they are also struggling to transform care delivery under a payment system that is still largely one of fee for service. As one health system executive currently navigating APM and fee-for-service payment models said, the conflicting incentives in the system "are like telling your kid not to eat that candy, but if you eat it, I'll pay you."

In addition to reflecting the challenging dynamic between care delivery and payment models, hospital and health system leaders also explained how they can positively influence one another. By building care delivery prototypes, testing their models and bringing a value proposition to payers, health systems can achieve greater alignment in reimbursement from government and commercial payers, thereby further accelerating care delivery transformation. Such an approach creates a virtuous cycle where initial successes in care delivery and payment reform drive bolder care model changes and increased levels of financial risk. As payers continue to shift higher levels of risk onto providers, hospitals and health systems that can leverage this positive feedback loop to transition a substantial portion of their payment stream to APMs will be well positioned for success. Through the hard work of changing their care models, providers are poised to lead care delivery change to improve patient outcomes. ●

Expert Panel

The AHA Center for Health Innovation thanks the following people, organizations and sources for the time and insights that made this Market Insights report possible:

Lynn Barr
CEO and founder, Caravan Health

James Dom Dera, M.D., FAAFP
Patient-Centered Medical Home medical director at NewHealth Collaborative, Summa Health's Accountable Care Organization

Avi Herring
Manager of Manatt Health Strategies

Suzan Manzi, M.D., MPH
Chair, Medicine Institute, professor of medicine, Allegheny Health Network

Naomi Newman
Director of Manatt Health Strategies

Jay Bhatt, D.O., MPH, MPA
Senior vice president and chief medical officer of American Hospital Association, and president, Health Research & Educational Trust

Alison J. Fleury
Senior vice president of business development, Sharp HealthCare

Kevin Joyce
Vice president of insurance networks, business advisory services, Atlantic Health

Adam L. Myers, M.D., MHCM, FACHE
Chief of population health, and chair of Cleveland Clinic Community Care

Ashley Ridlon
Vice president of health policy, Evolent Health

Benjamin K. Chu, M.D.
Managing director of Manatt Health

Daniel L. Gross
Executive vice president of hospital operations, Sharp HealthCare

Thomas Kloos, M.D.
Vice president, Atlantic Health System and president, Atlantic Accountable Care Organization

Griffin Myers, M.D., MBA, FACEP
Chief medical officer and co-founder, Oak Street Health

Rachelle Schultz, EdD.
President and CEO, Winona Health

LEARN MORE | Visit AHA.org/center

Reports, Surveys, Articles and Research

- "2017 Transformation Progress Report," Health Care Transformation Task Force, Dec. 18, 2018. https://hcttf.org/2017-member-transformation-progress-report/

- "50-State Medicaid Budget Survey Archives." Kaiser Family Foundation, Oct. 25, 2018. https://www.kff.org/medicaid/report/medicaid-budget-survey-archives/

- "APM Measurement Effort," Health Care Payment Learning & Action Network, 2018. http://hcp-lan.org/workproducts/apm-infographic-2018.pdf

- "Comprehensive Primary Care Plus," Centers for Medicare & Medicaid Services, 2019. https://innovation.cms.gov/initiatives/comprehensive-primary-care-plus

- "High-performance insights — best practices in health care," 2017 22nd Willis Towers Watson Best Practices in Health Care Employer Survey. https://www.willistowerswatson.com/-/media/WTW/PDF/Insights/2018/01/2017-best-practices-in-health-care-employer-survey-wtw.pdf

- "Medicare Program; Merit-Based Incentive Payment System (MIPS) and Alternative Payment Model (APM) Incentive Under the Physician Fee Schedule, and Criteria for Physician-Focused Payment Models." Centers for Medicare & Medicaid Services, Department of Health & Human Services, Nov. 4, 2016. https://www.federalregister.gov/documents/2016/11/04/2016-25240/medicare-program-merit-based-incentive-payment-system-mips-and-alternative-payment-model-apm

- "Minnesota Rural ACO — The Journey Continues," Caravan Health. https://minnesotaruralhealthconference.org/content/4c-minnesota-rural-aco-journey-continues

- "The APM Framework," Health Care Payment Learning & Action Network, 2017. http://hcp-lan.org/workproducts/apm-framework-onepager.pdf

- Burgess, Michael C. H.R.2 — Medicare Access and CHIP Reauthorization Act of 2015, became public law April 18, 2015. https://www.congress.gov/bill/114th-congress/house-bill/2

- Feeley, Thomasa et al. "New Marketplace Survey: Transitioning Payment Models: Fee-for-Service to Value-Based Care" NEJM Catalyst Insights Report, Nov. 8, 2018. https://catalyst.nejm.org/transitioning-fee-for-service-value-based-care/

- Gifford, Kathleen et al. "States Focus on Quality and Outcomes Amid Waiver Changes: Results from a 50-State Medicaid Budget Survey for State Fiscal Years 2018 and 2019. Kaiser Family Foundation," Oct. 25, 2018. https://www.kff.org/report-section/states-focus-on-quality-and-outcomes-amid-waiver-changes-managed-care-initiatives/

- McLellan, Mark et al. "A National Strategy to Put Accountable Care into Practice." Health Affairs. May 2010. https://www.healthaffairs.org/doi/10.1377/hlthaff.2010.0194

- Tu, Tianna et al. "The Impact of Accountable Care: Origins and Future of Accountable Care Organizations," Robert Wood Johnson Foundation, May 12, 2015. https://www.brookings.edu/wp-content/uploads/2016/06/Impact-of-Accountable-CareOrigins-052015.pdf

- Woods, Lisa et al. "How Employers are Fixing Health Care," Harvard Business Review, 2019. https://hbr.org/cover-story/2019/03/how-employers-are-fixing-health-care

This report was collaboratively prepared with insights from Benjamin Chu, Naomi Newman and Avi Herring from Manatt Health

AHA CENTER FOR HEALTH
INNOVATION | **MARKET** INSIGHTS

The AHA Center for Health Innovation was launched as part of an American Hospital Association initiative to help our members on their journey of transformation. Our purpose is to lead, connect and transform the future of health care by sharing knowledge and accelerating change with market intelligence, key insights, targeted education, actionable data, and tools designed to help our members drive high-impact innovation.

For more information, contact Lindsey Dunn Burgstahler at 312-893-6836 | **www.AHA.org/center**

Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey, 2018

by Robin A. Cohen, Ph.D., Emily P. Terlizzi, M.P.H., and Michael E. Martinez, M.P.H., M.H.S.A.
Division of Health Interview Statistics, National Center for Health Statistics

What's new?

This report provides full-year health insurance estimates for the United States and 17 selected states using 2018 National Health Interview Survey data.

Highlights

- In 2018, 30.4 million persons of all ages (9.4%) were uninsured at the time of interview—not significantly different from 2017, but 18.2 million fewer persons than in 2010.

- In 2018, among adults aged 18–64, 13.3% were uninsured at the time of interview, 19.4% had public coverage, and 68.9% had private health insurance coverage.

- In 2018, among children aged 0–17 years, 5.2% were uninsured, 41.8% had public coverage, and 54.7% had private health insurance coverage.

- Among adults aged 45–64, the percentage who were uninsured increased from 9.3% in 2017 to 10.3% in 2018.

- Among adults aged 18–64, 68.9% (136.6 million) were covered by private health insurance plans at the time of interview in 2018. This includes 4.2% (8.4 million) covered by private health insurance plans obtained through the Health Insurance Marketplace or state-based exchanges.

- The percentage of persons under age 65 with private health insurance enrolled in a high-deductible health plan increased from 43.7% in 2017 to 45.8% in 2018.

Introduction

This report from the National Center for Health Statistics (NCHS) presents selected estimates of health insurance coverage for the civilian noninstitutionalized U.S. population based on data from the 2018 National Health Interview Survey (NHIS), along with comparable estimates from previous calendar years. Estimates for 2018 are based on data for 72,762 persons.

Three estimates of lack of health insurance coverage are provided: (a) uninsured at the time of interview, (b) uninsured at least part of the year prior to interview (which includes persons uninsured for more than 1 year), and (c) uninsured for more than 1 year at the time of interview. Estimates of public and private coverage, coverage through exchanges, and enrollment in high-deductible health plans (HDHPs) and consumer-directed health plans (CDHPs) are also presented. Detailed appendix tables at the end of this report show estimates by selected demographics. Definitions are provided in the Technical Notes at the end of this report.

This report is updated quarterly and is part of the NHIS Early Release (ER) Program, which releases updated selected estimates that are available from the NHIS website at: https://www.cdc.gov/nchs/nhis.htm.

Estimates for each calendar quarter, by selected demographics, are also available as a separate set of tables through the ER Program. For more information about NHIS and the ER Program, see Technical Notes and Additional Early Release Program Products at the end of this report.

Figure 1. Percentage of adults aged 18–64 who were uninsured or had private or public coverage at the time of interview: United States, 1997–2018
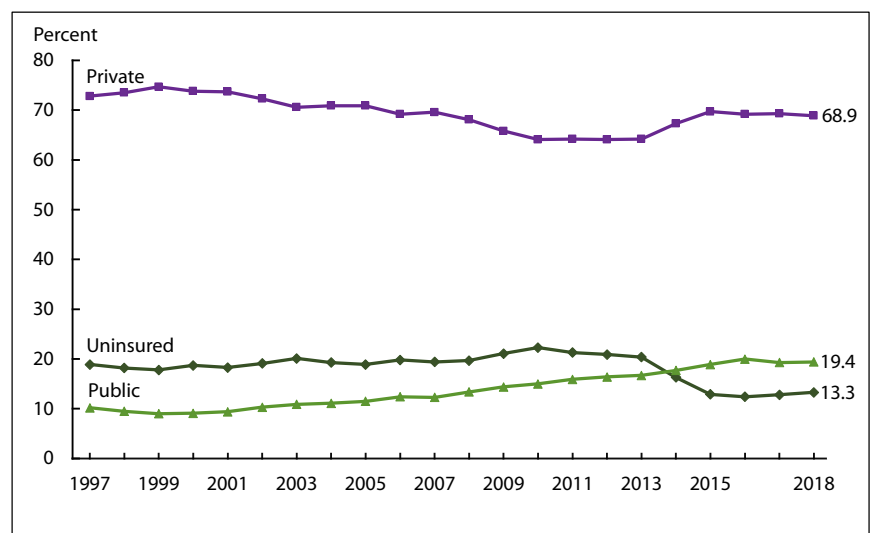
NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.
SOURCE: NCHS, National Health Interview Survey, 1997–2018, Family Core component.

Results

In 2018, the percentage of persons of all ages who were uninsured at the time of interview was 9.4% (30.4 million). There was no significant change from the 2017 uninsured rate of 9.1% (29.3 million). A total of 18.2 million fewer persons lacked health insurance coverage in 2018 compared with 2010 (48.6 million or 16.0%).

Long-term trends

In 2018, among adults aged 18–64, 13.3% were uninsured at the time of interview, 19.4% had public coverage, and 68.9% had private health insurance coverage (Figure 1). After generally increasing, more recently, the percentage of adults aged 18–64 who were uninsured at the time of interview decreased and then leveled off. Between 2015 and 2018, the increasing trend observed among adults aged 18–64 (from 12.8% to 13.3%) was not statistically significant. After generally decreasing, more recently, the percentage of adults aged 18–64 with private coverage increased, and has also leveled off. The percentage of adults aged 18–64 with public coverage, while generally increasing over this time period, has leveled off more recently.

In 2018, among children aged 0–17 years, 5.2% were uninsured, 41.8% had public coverage, and 54.7% had private health insurance coverage (Figure 2). After generally decreasing, more recently, the percentage of children who were uninsured at the time of interview has leveled off. Between 2015 and 2018, the increasing trend observed among children (from 4.5% to 5.2%) was not statistically significant. While the percentage of children with private health insurance coverage has decreased and public coverage has increased over time, more recently, the percentage of children with public or private coverage has also leveled off.

Short-term trends by age

In 2018, adults aged 25–34 were the most likely to lack health insurance coverage (17.0%) compared with the other age groups examined in Figure 3. Adults aged 45–64 were the least likely to be uninsured at the time of interview (10.3%).

Figure 2. Percentage of children aged 0–17 years who were uninsured or had private or public coverage at the time of interview: United States, 1997–2018
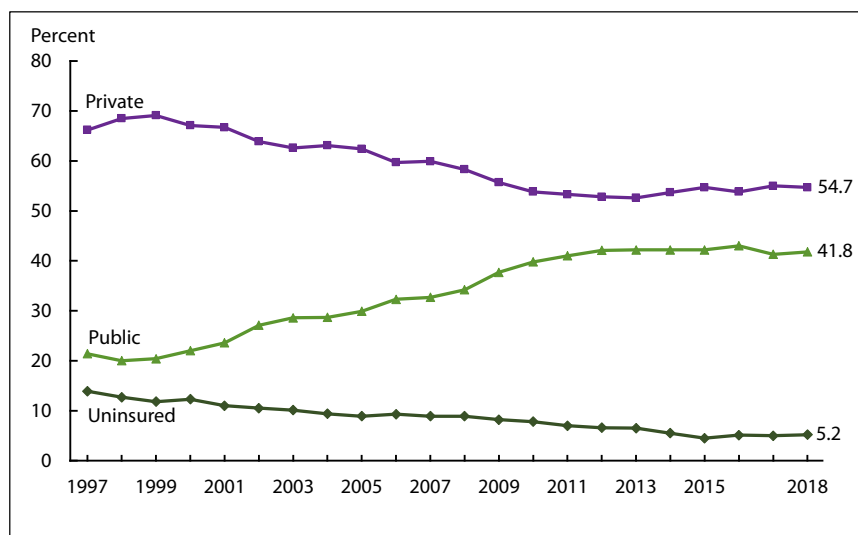
NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.
SOURCE: NCHS, National Health Interview Survey, 1997–2018, Family Core component.

Figure 3. Percentage of adults aged 18–64 who were uninsured at the time of interview, by age group: United States, 2010–2018
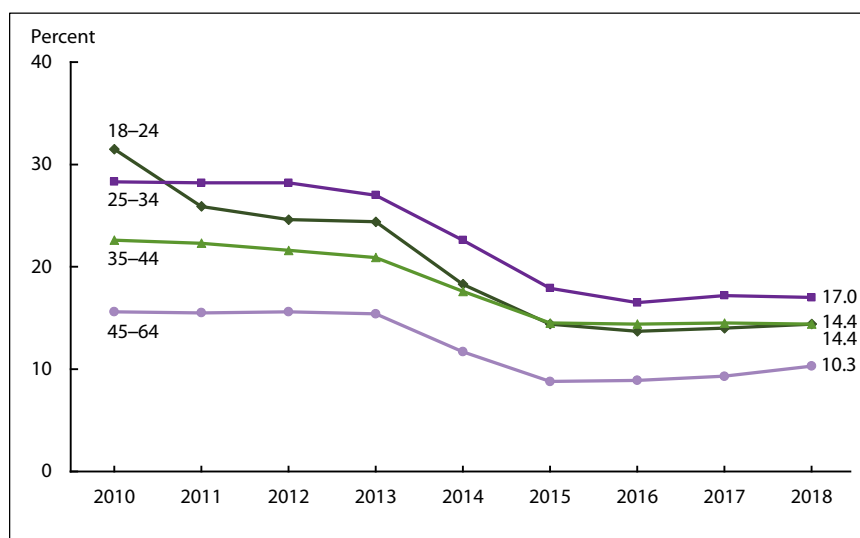
NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.
SOURCE: NCHS, National Health Interview Survey, 2010–2018, Family Core component.

The percentage of those uninsured at the time of interview remained relatively stable from 2010 through 2013 for all age groups except adults aged 18–24 (Figure 3). Among adults aged 18–24, the percentage who were uninsured decreased, from 31.5% in 2010 to 25.9% in 2011, and then remained stable through 2013. For adults aged 18–24, 25–34, and 35–44, the percentage who were uninsured generally decreased from 2013 through 2018. The magnitude of the decreases ranged from –6.5 percentage points for adults aged 35–44 to –10.0 percentage points for adults aged 18–24 and adults aged 25–34. Although there have been decreases since 2013, more recently, the percentage of uninsured from 2015 through 2018 has remained stable for most age groups. However, among adults aged 45–64, the percentage who were uninsured decreased, from 15.4% in 2013 to 8.8% in 2015, and then increased to 10.3% in 2018. For adults aged 18–24, 25–34, and 35–44, the percentage of those uninsured

at the time of interview did not change significantly from 2017 to 2018. Among adults aged 45–64, the percentage who were uninsured increased from 9.3% in 2017 to 10.3% in 2018.

Short-term trends by poverty status

In 2018, among adults aged 18–64, 27.4% of those who were poor, 25.1% of those who were near poor, and 8.3% of those who were not poor lacked health insurance coverage at the time of interview (Figure 4). A decrease was observed in the percentage of uninsured adults from 2010 through 2018 among all three poverty status groups. However, the greatest decreases in the uninsured rate since 2010 were among adults who were poor or near poor.

More recently, among adults aged 18–64 who were not poor, there was a statistically significant increase between 2015 (7.6%) and 2018 (8.3%) in the percentage who were uninsured. Increases were also observed from 2015 to 2018 in the percentage of poor and near poor adults aged 18–64 who were uninsured (from 25.2% to 27.4% for poor adults and from 24.1% to 25.1% for near-poor adults). However, these increases were not statistically significant. Among adults who were poor, the observed increase from 24.4% in 2017 to 27.4% in 2018 was also not significant.

In 2018, among children aged 0–17 years, 6.4% of those who were poor, 6.3% of those who were near poor, and 4.2% of those who were not poor lacked health insurance coverage at the time of interview (Figure 5). A general decrease in the percentage of uninsured children was observed among the poor, near poor, and not poor from 2010 through 2015. More recently, among poor children, the percentage who were uninsured increased from 4.4% in 2015 to 6.5% in 2016 and has stayed relatively stable between 2016 and 2018. Among near-poor children, the observed decrease in the percentage who were uninsured from 7.5% in 2017 to 6.3% in 2018 was not statistically significant. Among not-poor children, there was a significant increase in the percentage who were uninsured, from 3.3% in 2015 to 4.2% in 2018.

Figure 4. Percentage of adults aged 18–64 who were uninsured at the time of interview, by poverty status: United States, 2010–2018
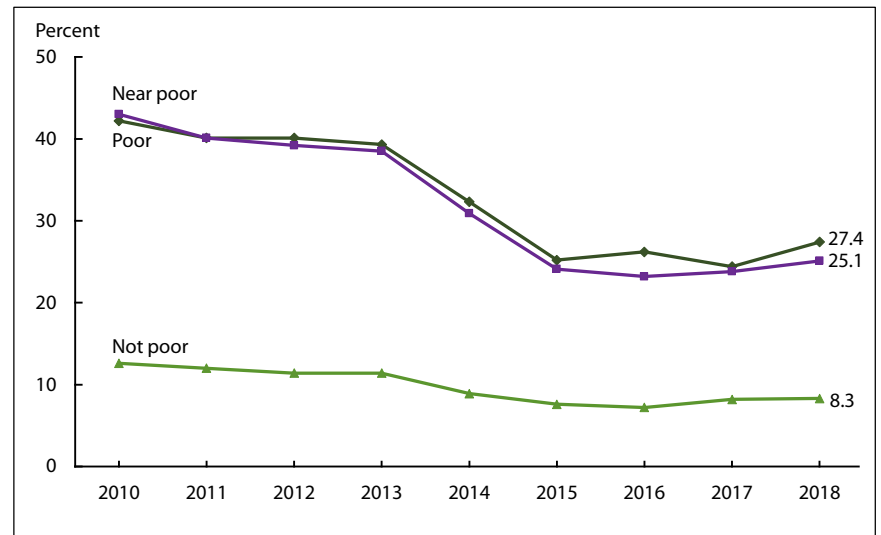
NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.
SOURCE: NCHS, National Health Interview Survey, 2010–2018, Family Core component.

Figure 5. Percentage of children aged 0–17 years who were uninsured at the time of interview, by poverty status: United States, 2010–2018
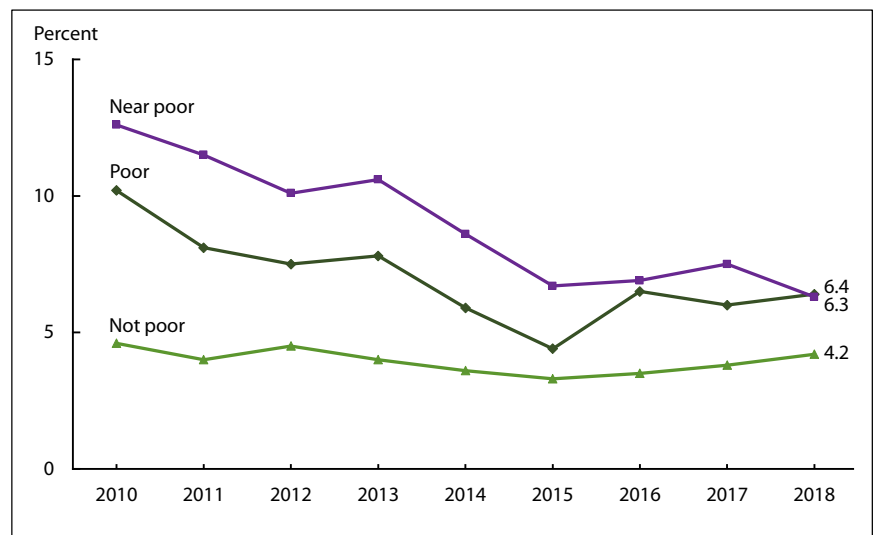
NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.
SOURCE: NCHS, National Health Interview Survey, 2010–2018, Family Core component.

Short-term trends by race and ethnicity

In 2018, 26.7% of Hispanic, 15.2% of non-Hispanic black, 9.0% of non-Hispanic white, and 8.1% of non-Hispanic Asian adults aged 18–64 lacked health insurance coverage at the time of interview (Figure 6). Significant decreases in the percentage of uninsured adults were observed from 2013 through 2018 for Hispanic, non-Hispanic black, non-Hispanic white, and non-Hispanic Asian adults. Hispanic adults had the greatest percentage point decrease in the uninsured rate from 2013 (40.6%) through 2018 (26.7%). For all groups shown in Figure 6, the percentage of persons who were uninsured at the time of interview did not change significantly from 2017 through 2018.

Periods of noncoverage

Among adults aged 18–64, the percentage of those who were uninsured at the time of interview decreased, from 22.3% (42.5 million) in 2010 to 13.3% (26.3 million) in 2018 (Figure 7). The percentage of adults who were uninsured for at least part of the past year decreased, from 26.7% (51.0 million) in 2010 to 17.7% (35.1 million) in 2018. The percentage of adults who were uninsured for more than 1 year decreased, from 16.8% (32.0 million) in 2010 to 7.9% (15.6 million) in 2018. More recently, for all three measures of noncoverage, there were no significant changes from 2017 through 2018.

Figure 6. Percentage of adults aged 18–64 who were uninsured at the time of interview, by race and ethnicity: United States, 2010–2018
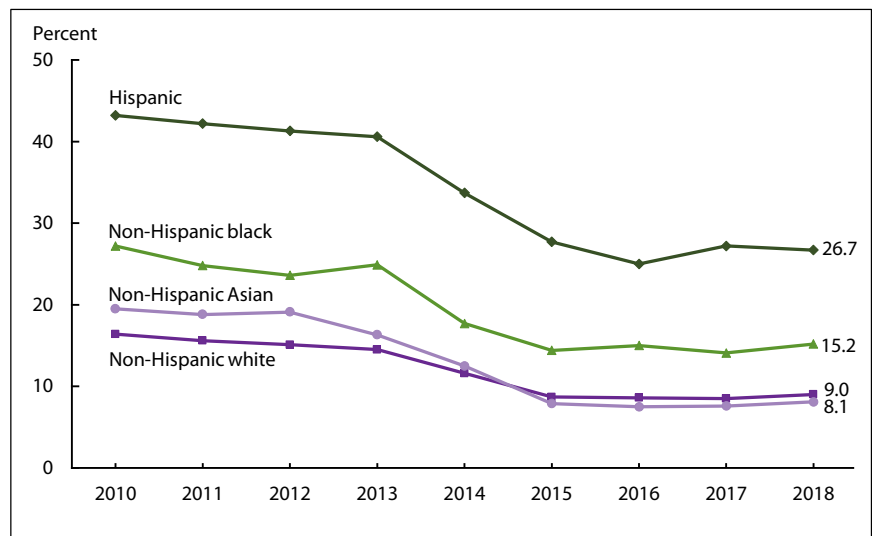
NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.
SOURCE: NCHS, National Health Interview Survey, 2010–2018, Family Core component.

Figure 7. Percentage of adults aged 18–64 without health insurance, by three measures of uninsurance: United States, 2010–2018
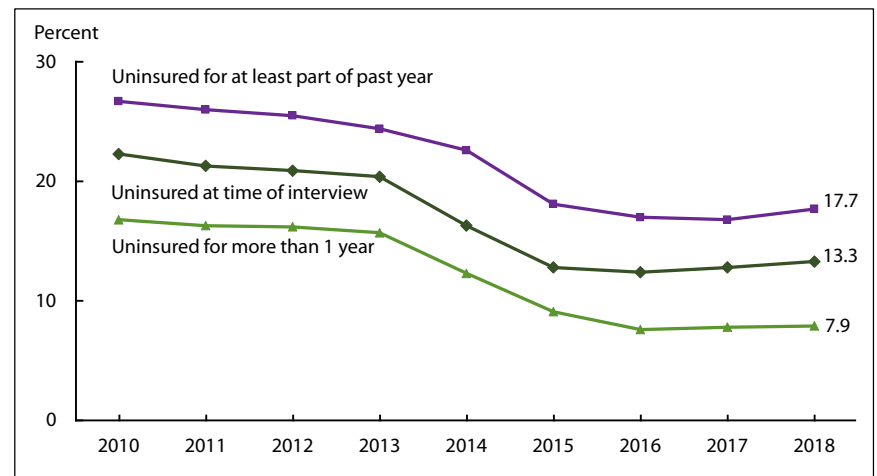
NOTES: Beginning in 2016, answer categories for those who were currently uninsured concerning the length of noncoverage were modified. Therefore, starting in 2016, estimates of "uninsured for at least part of past year" and "uninsured for more than 1 year" may not be completely comparable with previous years. For more information on this change, see the Technical Notes in this report. Data are based on household interviews of a sample of the civilian noninstitutionalized population.
SOURCE: NCHS, National Health Interview Survey, 2010–2018, Family Core component.

Private exchange coverage

Among persons under age 65, 65.1% (176.7 million) were covered by private health insurance plans at the time of interview in 2018. This includes 3.7% (10.0 million) covered by private plans obtained through the Health Insurance Marketplace or state-based exchanges. The percentage of persons under age 65 who were enrolled in exchange plans did not change significantly from 3.6% (9.8 million) in the fourth quarter of 2017 to 4.0% (10.8 million) in the fourth quarter of 2018 (Figure 8).

Among adults aged 18–64, 68.9% (136.6 million) were covered by private health insurance plans at the time of interview in 2018. This includes 4.2% (8.4 million) covered by private health insurance plans obtained through the Health Insurance Marketplace or state-based exchanges. The percentage of persons aged 18–64 who were enrolled in exchange plans did not change significantly from 4.2% (8.3 million) in the fourth quarter of 2017 to 4.4% (8.7 million) in the fourth quarter of 2018 (Figure 8).

Among children aged 0–17 years, 54.7% (40.2 million) were covered by private health insurance at the time of interview in 2018. This includes 2.3% (1.7 million) covered by plans obtained through the Health Insurance Marketplace or state-based exchanges. The observed increase in the percentage of children enrolled in exchange plans from 2.1% (1.5 million) in the fourth quarter of 2017 to 2.8% (2.0 million) in the fourth quarter of 2018 was not statistically significant (Figure 8).

Health insurance coverage by state Medicaid expansion status

Under provisions of the Affordable Care Act (ACA) of 2010, states have the option to expand Medicaid coverage to those with low income. In 2018, adults aged 18–64 residing in Medicaid expansion states were less likely to be

Figure 8. Percentage of persons under age 65 with private health insurance obtained through the Health Insurance Marketplace or state-based exchanges, by age group and quarter: United States, January 2014–December 2018
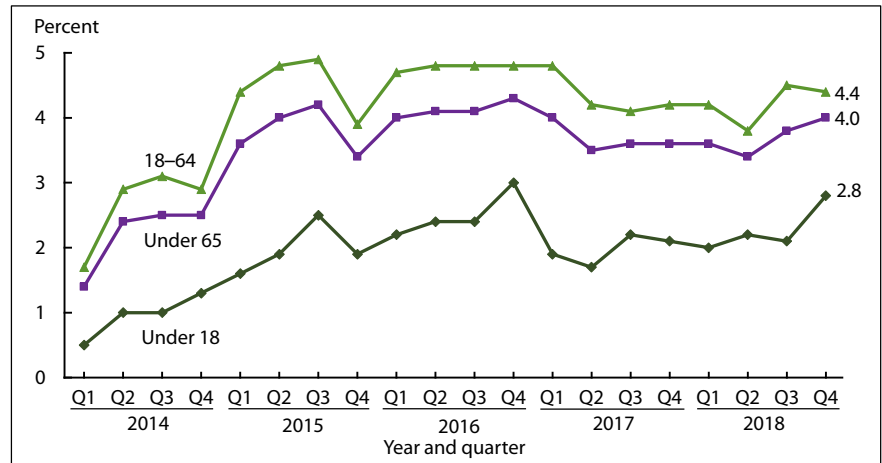
NOTES: Includes persons who had purchased a private health insurance plan through the Health Insurance Marketplace or state-based exchanges that were established as part of the Affordable Care Act of 2010 (P.L. 111–148, P.L. 111–152). 2014 is the first year that all states had exchange-based coverage. All persons who have exchange-based coverage are considered to have private health insurance. Data are based on household interviews of a sample of the civilian noninstitutionalized population.
SOURCE: NCHS, National Health Interview Survey, 2014–2018, Family Core component.

Figure 9. Percentage of adults aged 18–64 who were uninsured at the time of interview, by year and state Medicaid expansion status: United States, 2013–2018
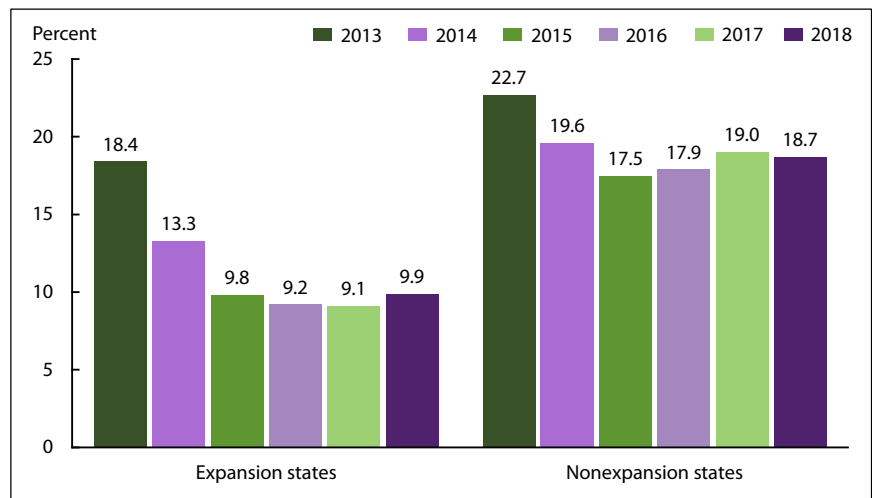
NOTES: For 2013 and 2014, there were 26 Medicaid expansion states. For 2015, there were 29 Medicaid expansion states. For 2016–2018, there were 32 Medicaid expansion states. Data are based on household interviews of a sample of the civilian noninstitutionalized population.
SOURCE: NCHS, National Health Interview Survey, 2013–2018, Family Core component.

uninsured than those residing in nonexpansion states (Figure 9). In Medicaid expansion states, the percentage of uninsured adults decreased, from 18.4% in 2013 to 9.9% in 2018. In nonexpansion states, the percentage of uninsured adults

decreased, from 22.7% in 2013 to 17.5% in 2015. There was a significant increase in the percentage who were uninsured, from 17.5% in 2015 to 19.0% in 2017, and no significant change between 2017 and 2018 (18.7%).

Health insurance coverage by state Health Insurance Marketplace type

Under provisions of ACA, each state has the option to set up and operate its own Health Insurance Marketplace, rely on a Federally Facilitated Marketplace operated solely by the federal government, or have a hybrid partnership Marketplace that is operated by the federal government but where the state runs certain functions and makes key decisions. In 2018, adults aged 18–64 in states with a Federally Facilitated Marketplace were more likely to be uninsured than those in states with a state-based Marketplace or states with a partnership Marketplace (Figure 10).

Among adults aged 18–64, significant decreases were observed in the uninsured rates from 2013 through 2018 in states with a state-based Marketplace, a partnership Marketplace, and a Federally Facilitated Marketplace. For all three Marketplace types, the percentage of adults aged 18–64 who were uninsured at the time of interview has remained stable from 2015 through 2018 (Figure 10).

Estimates of enrollment in HDHPs and CDHPs

In 2018, 45.8% of persons under age 65 with private health insurance were enrolled in an HDHP, including 20.4% who were enrolled in a CDHP (an HDHP with a health savings account [HSA]) and 25.4% who were enrolled in an HDHP without an HSA (Figure 11) (see Technical Notes for definitions of HDHP, CDHP, and HSA). Among those with private health insurance, enrollment in HDHPs has generally increased since 2010. The percentage of persons enrolled in an HDHP increased 20.5 percentage points, from 25.3% in 2010 to 45.8% in 2018. More recently, the percentage of those enrolled in an HDHP increased from 43.7% in 2017 to 45.8% in 2018. The percentage of persons enrolled in a CDHP almost tripled, from 7.7% in 2010 to 20.4% in 2018. More recently, the percentage of those enrolled in a CDHP increased, from 18.2% in 2017 to 20.4% in 2018. The percentage of those enrolled in an HDHP without an HSA did not

Figure 10. Percentage of adults aged 18–64 who were uninsured at the time of interview, by year and state Health Insurance Marketplace type: United States, 2013–2018
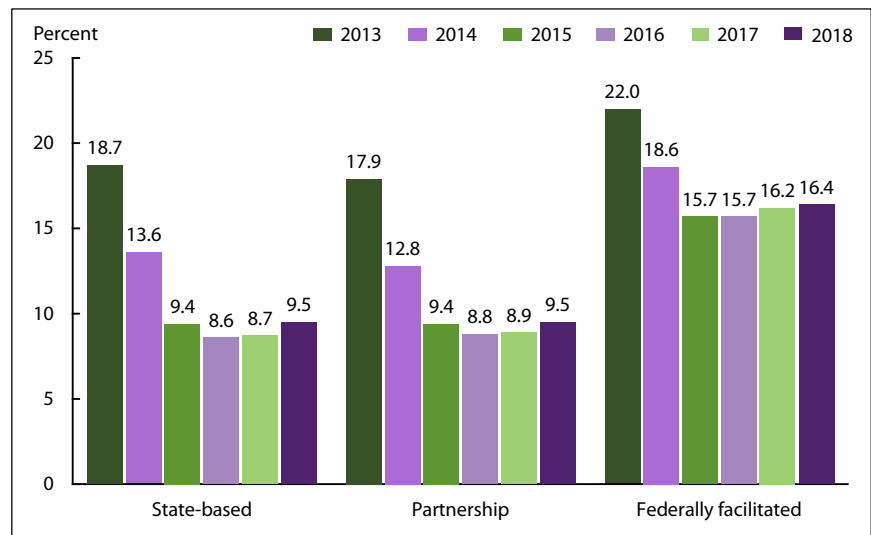
NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.
SOURCE: NCHS, National Health Interview Survey, 2013–2018, Family Core component.

Figure 11. Percentage of persons under age 65 enrolled in a high-deductible health plan without a health savings account or in a consumer-directed health plan, among those with private health insurance coverage: United States, 2010–2018
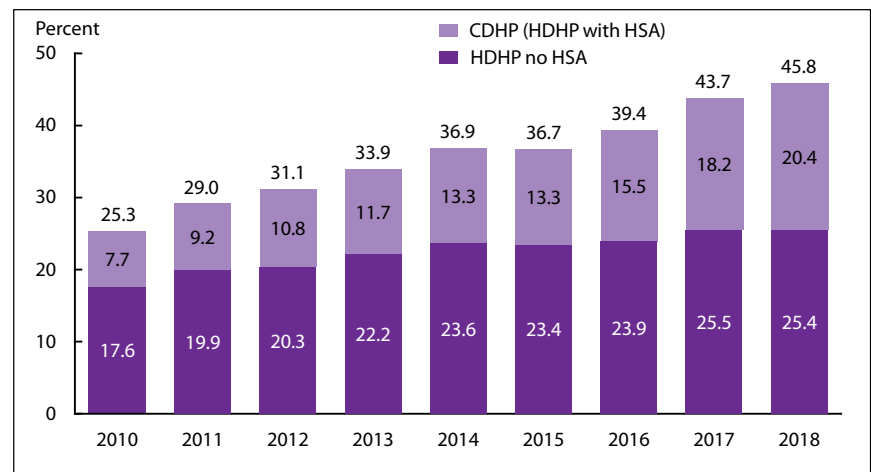
NOTES: CDHP is consumer-directed health plan, which is a high-deductible health plan (HDHP) with a health savings account (HSA). HDHP no HSA is a high-deductible health plan without an HSA. The individual components of HDHPs may not add up to the total due to rounding. Data are based on household interviews of a sample of the civilian noninstitutionalized population.
SOURCE: NCHS, National Health Interview Survey, 2010–2018, Family Core component.

change significantly from 25.5% in 2017 to 25.4% in 2018.

Health insurance coverage in selected states

State-specific uninsured estimates for persons aged 18–64 are presented for 17 states (Figure 12). The percentage of uninsured adults aged 18–64 in Ohio increased from 9.4% in 2017 to 12.7% in 2018. All other differences in Figure 12 were not significant.

Figure 12. Percentage of adults aged 18–64 who were uninsured at the time of interview, by selected state and year: United States, 2017 and 2018
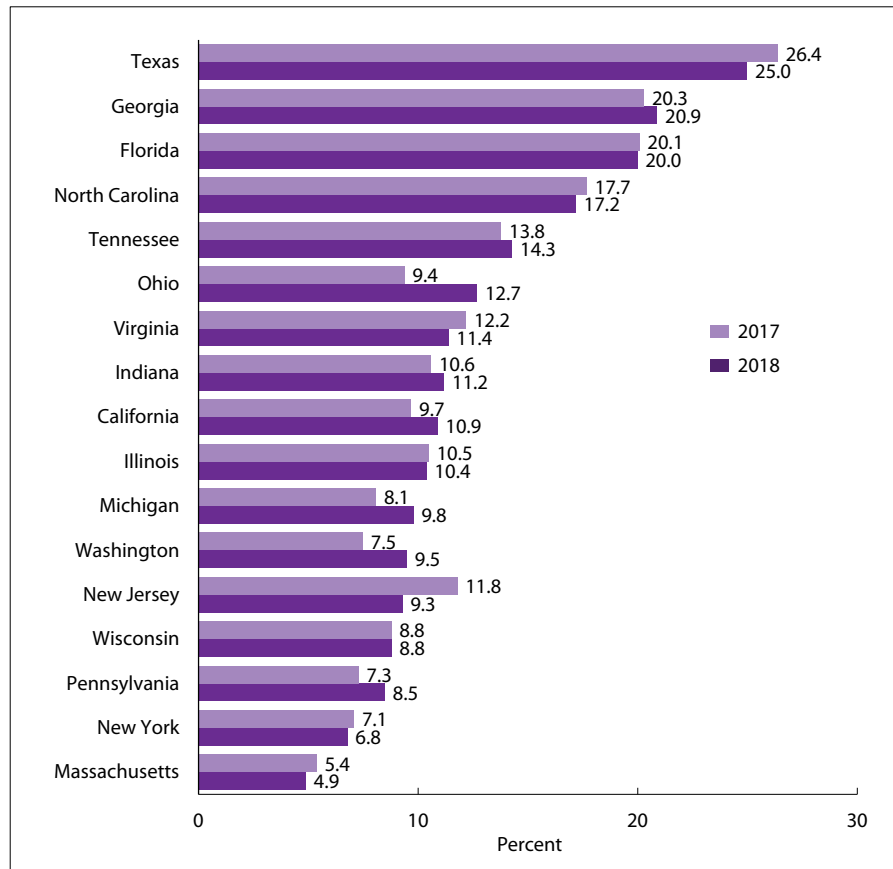
NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.
SOURCE: NCHS, National Health Interview Survey, 2017 and 2018, Family Core component.

References

1. U.S. Government Accountability Office. Consumer-directed health plans: Early enrollee experiences with health savings accounts and eligible health plans. GAO–06–798. Washington, DC. 2006.

2. National Cancer Institute. Joinpoint Regression Program (Version 4.5.1) [computer software]. 2017.

3. Parker JD, Talih M, Malec DJ, Beresovsky V, Carroll M, Gonzalez Jr JF, et al. National Center for Health Statistics Data Presentation Standards for Proportions. National Center for Health Statistics. Vital Health Stat 2(175). 2017. Available from: https://www.cdc.gov/nchs/data/series/sr_02/sr02_175.pdf.

4. Lamison-White L. Poverty in the United States: 1996. U.S. Bureau of the Census. Current Population Reports, P60–198. Washington, DC: U.S. Government Printing Office. 1997.

5. DeNavas-Walt C, Proctor BD, Lee CH. Income, poverty, and health insurance coverage in the United States: 2004. U.S. Census Bureau. Current Population Reports, P60–229. Washington, DC: U.S. Government Printing Office. 2005.

6. DeNavas-Walt C, Proctor BD, Smith JC. Income, poverty, and health insurance coverage in the United States: 2009. U.S. Census Bureau. Current Population Reports, P60–238. Washington, DC: U.S. Government Printing Office. 2010.

7. DeNavas-Walt C, Proctor BD, Smith JC. Income, poverty, and health insurance coverage in the United States: 2010. U.S. Census Bureau. Current Population Reports, P60–239. Washington, DC: U.S. Government Printing Office. 2011.

8. DeNavas-Walt C, Proctor BD, Smith JC. Income, poverty, and health insurance coverage in the United States: 2011. U.S. Census Bureau. Current Population Reports, P60–243. Washington, DC: U.S. Government Printing Office. 2012.

9. DeNavas-Walt C, Proctor BD, Smith JC. Income, poverty, and health insurance coverage in the United States: 2012. U.S. Census Bureau. Current Population Reports, P60–245. Washington, DC: U.S. Government Printing Office. 2013.

10. DeNavas-Walt C, Proctor BD. Income and poverty in the United States: 2013. U.S. Census Bureau. Current Population Reports, P60–249. Washington, DC: U.S. Government Printing Office. 2014.

11. DeNavas-Walt C, Proctor BD. Income and poverty in the United States: 2014. U.S. Census Bureau. Current Population Reports, P60–252. Washington, DC: U.S. Government Printing Office. 2015.

12. Proctor BD, Semega JL, Kollar MA. Income and poverty in the United States: 2015. U.S. Census Bureau. Current Population Reports, P60–256. Washington, DC: U.S. Government Printing Office. 2016.

13. Semega JL, Fontenot KR, Kollar MA. Income and poverty in the United States: 2016. U.S. Census Bureau. Current Population Reports, P60–259. Washington, DC: U.S. Government Printing Office. 2017.

14. Fontenot KR, Semega JL, Kollar MA. Income and poverty in the United States: 2017. U.S. Census Bureau. Current Population Reports, P60–263. Washington, DC: U.S. Government Printing Office. 2018.

15. National Center for Health Statistics. Health, United States, 2017: With special feature on mortality. Hyattsville, MD. 2018. Available from: https://www.cdc.gov/nchs/data/hus/hus17.pdf.

16. Holahan J, Buettgens M, Carroll C, Dorn S. The cost and coverage implications of the ACA Medicaid expansion: National and state-by-state analysis. Kaiser Commission on Medicaid and the Uninsured. 2012. Available from: https://kaiserfamilyfoundation.files.wordpress.com/2013/01/8384.pdf.

17. Clarke TC, Norris T, Schiller JS. Early release of selected estimates based on data from the National Health Interview Survey. National Center for Health Statistics. March 2019. Available from: https://www.cdc.gov/nchs/nhis.htm.

18. Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, January–June 2018. National Center for Health Statistics. December 2018. Available from: https://www.cdc.gov/nchs/nhis/htm.

Technical Notes

The National Center for Health Statistics (NCHS) is releasing selected estimates of health insurance coverage for the civilian noninstitutionalized U.S. population based on data from the 2018 National Health Interview Survey (NHIS), along with comparable estimates from previous calendar years.

To reflect different policy-relevant perspectives, three measures of lack of health insurance coverage are provided: (a) uninsured at the time of interview, (b) uninsured for at least part of the year prior to interview (which also includes persons uninsured for more than 1 year), and (c) uninsured for more than 1 year at the time of interview. The three time frames are defined as:

- *Uninsured at the time of interview—* Provides an estimate of persons who, at the given time, may have experienced barriers to obtaining needed health care.

- *Uninsured for at least part of the past year—*Provides an annual caseload of persons who may experience barriers to obtaining needed health care. This measure includes persons who have insurance at the time of interview but who had a period of noncoverage in the year prior to interview, as well as those who are currently uninsured and who may have been uninsured for a long period of time.

- *Uninsured for more than 1 year—* Provides an estimate of those with a persistent lack of coverage who may be at high risk of not obtaining preventive services or care for illness and injury.

These three measures are not mutually exclusive, and a given individual may be counted in more than one of the measures. Estimates of enrollment in public and private coverage are also provided.

Persons who were uninsured at the time of interview were asked the following question (HILAST): *Not including Single Service Plans, about how long has it been since [you/Alias] last had health care coverage?* In 2016, the answer categories for the HILAST question were modified to align NHIS responses to

those of other national federal surveys. Therefore, starting in 2016, estimates of "uninsured for at least part of the past year" and "uninsured for more than 1 year" may not be completely comparable with previous years. Prior to 2016, the answer categories for the HILAST question were: 6 months or less; More than 6 months, but not more than 1 year ago; More than 1 year, but not more than 3 years ago; More than 3 years; and Never. Beginning in 2016, the answer categories for the HILAST question are: 6 months or less; More than 6 months, but less than 1 year; 1 year; More than 1 year, but less than 3 years; 3 years or more; and Never.

This report also includes estimates for three types of consumer-directed private health care. Consumer-directed health care may enable individuals to have more control over when and how they access care, what types of care they use, and how much they spend on health care services. National attention to consumer-directed health care increased following enactment of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (P.L. 108– 173), which established tax-advantaged health savings accounts (HSAs) (1). In 2007, three questions were added to the health insurance section of NHIS to monitor enrollment in consumer-directed health care among persons with private health insurance. Estimates are provided for enrollment in high-deductible health plans (HDHPs), plans with high deductibles coupled with HSAs (i.e., consumer-directed health plans or CDHPs), and being in a family with a flexible spending account (FSA) for medical expenses not otherwise covered. For a more complete description of consumer-directed health care, see Definitions of selected terms.

The 2018 health insurance estimates are being released prior to final data editing to provide access to the most recent information from NHIS. Differences between estimates calculated using preliminary data files and final data files are typically less than 0.1 percentage point. However, preliminary estimates of persons without health insurance coverage are generally 0.1–0.3 percentage points lower than the final estimates due

to the editing procedures used for the final data files.

Estimates for 2018 are stratified by age group, sex, race and ethnicity, poverty status, marital status, employment status, region, and educational attainment.

Data source

NHIS covers the civilian noninstitutionalized population residing in the United States at the time of interview and is the source of data for this report. The survey is conducted continuously throughout the year by NCHS through an agreement with the U.S. Census Bureau.

NHIS is a comprehensive health survey that can be used to relate health insurance coverage to health outcomes and health care utilization. It has a low item nonresponse rate (about 1%) for the health insurance questions. Because NHIS is conducted throughout the year—yielding a nationally representative sample each month—data can be analyzed monthly or quarterly to monitor trends in health insurance coverage.

A new sample design was implemented with the 2016 NHIS. Sample areas were reselected to take into account changes in the distribution of the U.S. population since 2006, when the previous sample design was first implemented. Commercial address lists were used as the main source of addresses, rather than field listing; and the oversampling procedures for black, Hispanic, and Asian persons that were a feature of the previous sample design were not implemented in 2016. Some of the differences between estimates for 2016 and beyond and estimates for earlier years may be attributable to the new sample design. Visit the NHIS website at: https://www.cdc.gov/nchs/nhis.htm for more information on the design, content, and use of NHIS.

The data for this report are derived from the Family Core component of the 1997–2018 NHIS, which collects information on all family members in each household. Data analyses for the 2018 NHIS were based on 72,762 persons in the Family Core.

Data on health insurance status were edited using a system of logic checks. Information from follow-up questions, such as plan name(s), were used to reassign insurance status and type of coverage to avoid misclassification. The analyses excluded persons with unknown health insurance status (about 1% of respondents each year).

Data points for all figures can be found in the detailed appendix tables at the end of this report, appendix tables from previous reports, and quarterly tables available separately through the Early Release (ER) program.

Estimation procedures

NCHS creates survey weights for each calendar quarter of the NHIS sample. The NHIS data weighting procedure is described in more detail at: https://www.cdc.gov/nchs/data/series/sr_02/sr02_165.pdf. Estimates were calculated using NHIS survey weights, which are calibrated to census totals for sex, age, and race and ethnicity of the U.S. civilian noninstitutionalized population. Weights for 2010 and 2011 were derived from 2000 census-based population estimates. Beginning with 2012 NHIS data, weights were derived from 2010 census-based population estimates.

Point estimates and estimates of their variances were calculated using SUDAAN software (RTI International, Research Triangle Park, N.C.) to account for the complex sample design of NHIS, taking into account stratum and primary sampling unit (PSU) identifiers. The Taylor series linearization method was chosen for variance estimation.

Trends in coverage were generally assessed using joinpoint regression (2), which characterizes trends as joined linear segments. A joinpoint is the year where two segments with different slopes meet. Joinpoint software uses statistical criteria to determine the fewest number of segments necessary to characterize a trend and the year(s) when segments begin and end. A limitation of using aggregated data and joinpoint software alone for trend analysis of NHIS is that this approach does not account for year-to-year correlation or use the recommended degrees of freedom for

statistical testing. Trends from 2010 through 2018 were also evaluated using logistic regression analysis.

For 2018, state-specific health insurance estimates are presented for 17 states. Estimates are not presented for all 50 states and the District of Columbia due to considerations of sample size and precision. States with fewer than 600 household interviews are excluded. For state-specific estimates, the final weights and design structure were used for the calculations.

For the 10 states with the largest populations (California, Florida, Georgia, Illinois, Michigan, New York, North Carolina, Ohio, Pennsylvania, and Texas), standard errors (SEs) were calculated using SUDAAN. Because of the smaller sample size and limitations of the NHIS design, similarly estimated SEs for other states could be statistically unstable or negatively biased. Consequently, for states other than the largest 10 states, an estimated design effect was used to calculate SEs. For this report, the design effect, *deff*, of a percentage is the ratio of the sampling variance of the percentage (taking into account the complex NHIS sample design) to the sampling variance of the percentage from a simple random sample (SRS) based on the same observed number of persons.

Therefore, for each health insurance measure and domain, SEs for smaller states were calculated by multiplying the SRS SE by A, where A is the average value of the square root of *deff* over the 10 most populous states. Values of A ranged from 1.53 for adults aged 18–64 with public coverage to 2.32 for persons of all ages with private coverage.

Beginning with the 2017 NHIS, all estimates shown meet the NCHS standards of reliability as specified in "National Center for Health Statistics Data Presentation Standards for Proportions" (3), unless otherwise noted. Current state estimates as well as other estimates based on the 2016 and earlier NHIS meet the former NCHS standard of having less than or equal to 30% relative standard error, unless otherwise noted. Differences between percentages or rates were evaluated using two-sided significance tests at the 0.05 level. All differences discussed are significant unless otherwise noted. Lack of comment

regarding the difference between any two estimates does not necessarily mean that the difference was tested and found to be not significant.

Because NHIS is conducted throughout the year, yielding a nationally representative sample each month, data can be analyzed monthly or quarterly to monitor health insurance trends. However, due to small sample sizes, estimates based on one quarter of data often have large variances. Caution should, therefore, be used in comparing estimates with large variances. The NHIS is transitioning to a redesigned questionnaire in 2019. The sample size for the fourth quarter of 2018 was reduced to facilitate this transition.

Definitions of selected terms

Private health insurance coverage—Includes persons who had any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care.

Public health plan coverage—Includes Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plans, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

Uninsured—A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, CHIP, state-sponsored or other government-sponsored health plan, or military plan at the time of interview. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

Directly purchased coverage—Private insurance that was originally obtained through direct purchase or other means not related to employment.

Employment-based coverage—Private insurance that was originally obtained through a present or former employer, union, or professional association.

Exchange-based coverage—A private health insurance plan purchased through the Health Insurance Marketplace or state-based exchanges that were established as part of the Affordable Care Act (ACA) of 2010 (P.L. 111–148, P.L. 111–152). In response to ACA, several questions were added to NHIS to capture health care plans obtained through exchange-based coverage.

In general, if a family member is reported to have coverage through the exchange, that report is considered accurate unless there is other information (e.g., plan name or information about premiums) that clearly contradicts that report. Similarly, if a family member is not reported to have coverage through the exchange, that report is considered accurate unless other information clearly contradicts that report. For a more complete discussion of the procedures used in classifying exchange-based coverage, see https://www.cdc.gov/nchs/nhis/insurance.htm.

Based on these classification procedures, an average of 3.7% (standard error [SE] 0.14) of persons under age 65, 4.2% (SE 0.15) of adults aged 18–64, 2.3% (SE 0.19) of children under age 18 years, and 3.2% (SE 0.27) of adults aged 19–25 had exchange-based private health insurance coverage in 2018. This equates to 10.0 million persons under age 65, 8.4 million adults aged 18–64, 1.7 million children, and 0.9 million adults aged 19–25. If these procedures had not been used and reports of coverage through the exchanges (or lack thereof) had been taken at face value, the estimates would have been higher. For example, an average of 4.8% (13.2 million) of persons under age 65 would have been reported to have obtained their coverage through exchanges in 2018.

High-deductible health plan (HDHP)—For persons with private health insurance, a question was asked regarding the annual deductible of each private health insurance plan. HDHP was defined in 2018 as a private health plan with an annual deductible of at least $1,350 for self-only coverage or $2,700 for family coverage. The deductible is adjusted annually for inflation. For 2015 through 2017, the annual deductible was $1,300 for self-only coverage and $2,600 for family coverage. For 2013 and 2014, the annual deductible was $1,250 for self-only coverage and $2,500 for family coverage. For 2010 through 2012, the annual deductible was $1,200 for self-only coverage and $2,400 for family coverage.

Consumer-directed health plan (CDHP)—An HDHP with a special account to pay for medical expenses. Unspent funds are carried over to subsequent years. For plans that are considered HDHPs, a follow-up question was asked regarding these special accounts. A person is considered to have a CDHP if there is a "yes" response to the following question: *With this plan, is there a special account or fund that can be used to pay for medical expenses? The accounts are sometimes referred to as Health Savings Accounts (HSAs), Health Reimbursement Accounts (HRAs), Personal Care accounts, Personal Medical funds, or Choice funds, and are different from Flexible Spending Accounts.*

Health savings account (HSA)—A tax-advantaged account or fund that can be used to pay medical expenses. It must be coupled with an HDHP. The funds contributed to the account are not subject to federal income tax at the time of deposit. Unlike flexible spending accounts (FSAs), HSA funds roll over and accumulate year to year if not spent. HSAs are owned by the individual. Funds may be used to pay qualified medical expenses at any time without federal tax liability. HSAs may also be referred to as health reimbursement accounts (HRAs), personal care accounts, personal medical funds, or choice funds. The term "HSA" in this report includes accounts that use these alternative names.

Flexible spending account (FSA) for medical expenses—Persons are considered to be in a family with an FSA if there is a "yes" response to the following question: *[Do you/Does anyone in your family] have a Flexible Spending Account for health expenses? These accounts are offered by some employers to allow employees to set aside pretax dollars of their own money for their use throughout the year to reimburse themselves for their out-of-pocket expenses for health care. With this type of account, any money remaining in the account at the end of the year, following a short grace period, is lost to the employee.*

The measures of HDHP enrollment, CDHP enrollment, and being in a family with an FSA for medical expenses are not mutually exclusive; a person may be counted in more than one measure.

Medicaid expansion status—Under provisions of ACA, states have the option to expand Medicaid eligibility to cover adults who have income up to and including 138% of the federal poverty level. There is no deadline for states to choose to implement the Medicaid expansion, and they may do so at any time. As of October 31, 2013, 26 states and the District of Columbia were moving forward with Medicaid expansion. As of January 1, 2016, 32 states and the District of Columbia were moving forward with Medicaid expansion.

Health Insurance Marketplace—A resource where individuals, families, and small businesses can learn about their health coverage options; compare health insurance plans based on cost, benefits, and other important features; choose a plan; and enroll in coverage. The Marketplace also provides information on programs that help people with low-to-moderate income and resources pay for coverage. There are three types of Health Insurance Marketplaces: (a) a state-based Marketplace set up and operated solely by the state; (b) a hybrid partnership Marketplace in which the state runs certain functions, makes key decisions, and may tailor the Marketplace to local needs and market conditions but is operated by the federal government; and (c) the Federally Facilitated Marketplace operated solely by the federal government.

Education—Categories are based on the years of school completed or highest degree obtained for persons aged 18 and over.

Employment—Employment status is assessed at the time of interview and is obtained for persons aged 18 and over. In this report, it is presented only for persons aged 18–64.

Hispanic or Latino origin and race—Hispanic or Latino origin and race are two separate and distinct categories. Persons of Hispanic or Latino origin may be of any race or combination of races. Hispanic or Latino origin includes persons of Mexican, Puerto Rican, Cuban, Central and South American, or Spanish origin. Race is based on the family respondent's description of his or her own racial background, as well as the racial background of other family members. More than one race may be reported for a person. For conciseness, the text, tables, and figures in this report use shorter versions of the 1997 Office of Management and Budget terms for race and Hispanic or Latino origin. For example, the category "not Hispanic or Latino, black or African American, single race" is referred to as "non-Hispanic black, single race" in the text, tables, and figures. Estimates for non-Hispanic persons of races other than white only, black only, and Asian only, or of multiple races, are combined into the "non-Hispanic, other races and multiple races" category.

Poverty status—Poverty categories are based on the ratio of the family's income in the previous calendar year to the appropriate poverty threshold (given the family's size and number of children), as defined by the U.S. Census Bureau for that year (4–14). Persons categorized as "poor" have a ratio less than 1.0 (i.e., their family income is below the poverty threshold); "near poor" persons have incomes of 100% to less than 200% of the poverty threshold; and "not poor" persons have incomes that are 200% of the poverty threshold or greater. The remaining group of respondents is coded as "unknown" with respect to poverty status. The percentage of respondents with unknown poverty status (19.1% in 1997, 28.9% in 2005, 12.2% in 2010, 11.5% in 2011, 11.4% in 2012, 10.2% in 2013, 8.8% in 2014, 8.8% in 2015, 7.8% in 2016, 7.5% in 2017, and 7.1% in 2018) is disaggregated by age and insurance status in Tables IV, V, and VI.

For more information on unknown income and unknown poverty status, see the NHIS Survey Description documents for 1997–2017 (available from: https://www.cdc.gov/nchs/nhis/quest _data_related_1997_forward.htm).

NCHS imputes income for approximately 30% of NHIS records. The imputed income files are released a few months after the annual release of NHIS microdata and are not available for the ER updates. Therefore, ER health insurance estimates stratified by poverty status are based on reported income only and may differ from similar estimates produced later (e.g., in *Health, United States* [15]) that are based on both reported and imputed income.

Region—In the geographic classification of the U.S. population, states are grouped into the following four regions used by the U.S. Census Bureau:

Region	States included
Northeast	Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont
Midwest	Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin
South	Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia
West	Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming

Expanded regions—Based on a subdivision of the four regions into nine divisions. For this report, the nine Census divisions were modified by moving Delaware, the District of Columbia, and Maryland into the Middle Atlantic division. This approach was used previously by Holahan et al. (16).

Additional Early Release Program Products

Two additional periodical reports are published through the NHIS ER Program. "Early Release of Selected Estimates Based on Data From the National Health Interview Survey" (17) is published quarterly and provides estimates of 14 selected measures of health including estimates of having a usual place to go for medical care, obtaining needed medical care, influenza vaccination, pneumococcal vaccination, obesity, leisure-time physical activity, current smoking, alcohol consumption, HIV testing, general health status, personal care needs, serious psychological distress, diagnosed diabetes, and asthma episodes and current asthma. Starting with the June 2018 release, this report has an online dynamic report format.

"Wireless Substitution: Early Release of Estimates From the National Health Interview Survey" (18) is published semiannually and provides selected estimates of telephone coverage in the United States.

Other ER reports and tabulations on special topics are released as needed (available from: https://www.cdc.gov/nchs/nhis/releases. htm.)

In addition to these reports, preliminary microdata files containing selected NHIS variables are produced as part of the ER Program. For each data collection year (January through December), these variables are made available four times approximately 5–6 months following the completion of data collection. NHIS data users can analyze these files through the NCHS Research Data Centers (https://www.cdc.gov/rdc/) without having to wait for the final annual NHIS microdata files to be released.

New measures and products may be added as work continues and in response to changing data needs. Feedback on these releases is welcome (nhislist@cdc.gov).

Announcements about ERs, other new data releases, and publications, as well as corrections related to NHIS, will be sent to members of the HISUSERS electronic mailing list. To join, visit the Centers for Disease Control and

Prevention (CDC) website at: https://www.cdc.gov/nchs/products/nchs_listservs.htm, click on the "National Health Interview Survey (NHIS) Researchers" button, and follow the directions on the page.

Suggested Citation

Cohen RA, Terlizzi EP, Martinez ME. Health insurance coverage: Early release of estimates from the National Health Interview Survey, 2018. National Center for Health Statistics. May 2019. Available from: https://www.cdc.gov/nchs/nhis/releases.htm.

Table I. Percentages (and standard errors) of persons who lacked health insurance coverage at the time of interview, for at least part of the past year, and for more than 1 year, by age group and selected years: United States, 1997–2018

Age group and year	Uninsured[1] at time of interview	Uninsured[1] for at least part of the past year[2]	Uninsured[1] for more than 1 year[2]
All ages			
1997	15.4 (0.21)	19.5 (0.24)	10.4 (0.18)
2005	14.2 (0.21)	17.6 (0.23)	10.0 (0.18)
2010	16.0 (0.27)	19.8 (0.29)	11.7 (0.22)
2011	15.1 (0.25)	19.2 (0.29)	11.2 (0.21)
2012	14.7 (0.23)	18.6 (0.27)	11.1 (0.22)
2013	14.4 (0.26)	17.8 (0.27)	10.7 (0.23)
2014	11.5 (0.23)	16.5 (0.25)	8.4 (0.19)
2015	9.1 (0.19)	13.2 (0.23)	6.2 (0.15)
2016	9.0 (0.27)	12.5 (0.29)	5.2 (0.23)
2017	9.1 (0.25)	12.4 (0.28)	5.4 (0.18)
2018	9.4 (0.27)	12.9 (0.31)	5.3 (0.21)
Under 65 years			
1997	17.4 (0.24)	21.9 (0.28)	11.8 (0.21)
2005	16.0 (0.24)	19.9 (0.26)	11.3 (0.21)
2010	18.2 (0.30)	22.5 (0.33)	13.3 (0.24)
2011	17.3 (0.29)	21.8 (0.33)	12.7 (0.25)
2012	16.9 (0.27)	21.3 (0.31)	12.7 (0.24)
2013	16.6 (0.30)	20.4 (0.32)	12.4 (0.27)
2014	13.3 (0.26)	19.0 (0.29)	9.7 (0.22)
2015	10.5 (0.22)	15.3 (0.27)	7.2 (0.17)
2016	10.4 (0.31)	14.5 (0.33)	6.1 (0.26)
2017	10.7 (0.29)	14.5 (0.32)	6.3 (0.21)
2018	11.1 (0.30)	15.1 (0.36)	6.3 (0.24)
0–17 years			
1997	13.9 (0.36)	18.1 (0.41)	8.4 (0.29)
2005	8.9 (0.29)	12.6 (0.33)	5.3 (0.24)
2010	7.8 (0.32)	11.6 (0.37)	4.5 (0.23)
2011	7.0 (0.27)	10.9 (0.36)	3.7 (0.19)
2012	6.6 (0.27)	10.4 (0.35)	3.7 (0.19)
2013	6.5 (0.26)	10.0 (0.33)	3.6 (0.20)
2014	5.5 (0.27)	9.4 (0.40)	3.0 (0.19)
2015	4.5 (0.24)	7.7 (0.32)	2.3 (0.16)
2016	5.1 (0.31)	8.0 (0.31)	2.2 (0.22)
2017	5.0 (0.40)	8.2 (0.43)	2.4 (0.28)
2018	5.2 (0.25)	8.2 (0.37)	1.9 (0.19)
18–64 years			
1997	18.9 (0.23)	23.6 (0.26)	13.3 (0.21)
2005	18.9 (0.26)	22.8 (0.28)	13.8 (0.23)
2010	22.3 (0.35)	26.7 (0.37)	16.8 (0.30)
2011	21.3 (0.34)	26.0 (0.37)	16.3 (0.31)
2012	20.9 (0.31)	25.5 (0.34)	16.2 (0.29)
2013	20.4 (0.37)	24.4 (0.38)	15.7 (0.34)
2014	16.3 (0.31)	22.6 (0.34)	12.3 (0.27)
2015	12.8 (0.27)	18.1 (0.33)	9.1 (0.22)
2016	12.4 (0.36)	17.0 (0.38)	7.6 (0.31)
2017	12.8 (0.32)	16.8 (0.36)	7.8 (0.24)
2018	13.3 (0.39)	17.7 (0.43)	7.9 (0.31)

See footnotes at end of table.

Table I. Percentages (and standard errors) of persons who lacked health insurance coverage at the time of interview, for at least part of the past year, and for more than 1 year, by age group and selected years: United States, 1997–2018—Con.

Age group and year	Uninsured[1] at time of interview	Uninsured[1] for at least part of the past year[2]	Uninsured[1] for more than 1 year[2]
19–25 years			
1997	31.4 (0.63)	39.2 (0.67)	20.8 (0.51)
2005	31.2 (0.65)	37.9 (0.68)	21.6 (0.54)
2010	33.9 (0.73)	41.7 (0.78)	24.1 (0.61)
2011	27.9 (0.71)	36.1 (0.77)	20.1 (0.61)
2012	26.4 (0.72)	33.0 (0.72)	19.6 (0.62)
2013	26.5 (0.71)	31.3 (0.79)	19.8 (0.61)
2014	20.0 (0.65)	26.9 (0.73)	14.2 (0.56)
2015	15.8 (0.58)	22.2 (0.68)	10.2 (0.43)
2016	14.7 (0.71)	20.1 (0.78)	7.7 (0.61)
2017	15.2 (0.64)	19.9 (0.77)	8.1 (0.53)
2018	15.1 (0.73)	20.3 (0.84)	7.8 (0.57)

[1]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[2]In references to "part of the past year" and "more than 1 year," 1 year is defined as the 12 months prior to interview. Beginning in 2016, answer categories concerning the length of noncoverage were modified for those who were currently uninsured. Therefore, starting in 2016, estimates of "uninsured for at least part of the past year" and "uninsured for more than 1 year" may not be completely comparable with previous years. For more information on this change, see Technical Notes.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 1997, 2005, and 2010–2018, Family Core component.

Table II. Numbers (in millions) of persons who lacked health insurance coverage at the time of interview, for at least part of the past year, and for more than 1 year, by age group and selected years: United States, 1997–2018

Age group and year	Uninsured[1] at time of interview	Uninsured[1] for at least part of the past year[2]	Uninsured[1] for more than 1 year[2]
All ages			
1997	41.0	51.9	27.7
2005	41.2	51.3	29.2
2010	48.6	60.3	35.7
2011	46.3	58.7	34.2
2012	45.5	57.5	34.1
2013	44.8	55.4	33.4
2014	36.0	51.6	26.3
2015	28.6	41.7	19.6
2016	28.6	39.9	16.7
2017	29.3	39.8	17.3
2018	30.4	41.8	17.3
Under 65 years			
1997	40.7	51.4	27.6
2005	41.0	50.9	29.0
2010	48.2	59.6	35.4
2011	45.9	58.0	33.9
2012	45.2	56.8	33.9
2013	44.3	54.7	33.1
2014	35.7	50.8	26.1
2015	28.4	41.1	19.4
2016	28.2	39.3	16.5
2017	28.9	39.2	17.0
2018	30.1	41.0	17.0
0–17 years			
1997	9.9	12.9	6.0
2005	6.5	9.3	3.9
2010	5.8	8.7	3.4
2011	5.2	8.1	2.7
2012	4.9	7.7	2.7
2013	4.8	7.3	2.6
2014	4.0	6.9	2.2
2015	3.3	5.7	1.7
2016	3.8	5.9	1.6
2017	3.7	6.0	1.8
2018	3.8	6.0	1.4
18–64 years			
1997	30.8	38.5	21.7
2005	34.5	41.7	25.2
2010	42.5	51.0	32.0
2011	40.7	49.9	31.2
2012	40.3	49.2	31.2
2013	39.6	47.4	30.5
2014	31.7	44.0	23.9
2015	25.1	35.5	17.8
2016	24.5	33.4	14.9
2017	25.2	33.2	15.3
2018	26.3	35.1	15.6

See footnotes at end of table.

Table II. Numbers (in millions) of persons who lacked health insurance coverage at the time of interview, for at least part of the past year, and for more than 1 year, by age group and selected years: United States, 1997–2018—Con.

Age group and year	Uninsured[1] at time of interview	Uninsured[1] for at least part of the past year[2]	Uninsured[1] for more than 1 year[2]
19–25 years			
1997	7.7	9.7	5.1
2005	8.8	10.7	6.1
2010	10.0	12.3	7.1
2011	8.4	10.8	6.0
2012	7.9	9.9	5.9
2013	8.0	9.5	6.0
2014	6.0	8.1	4.3
2015	4.8	6.7	3.1
2016	4.4	6.0	2.3
2017	4.5	5.9	2.4
2018	4.5	6.0	2.3

[1]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[2]In references to "part of the past year" and "more than 1 year," 1 year is defined as the 12 months prior to interview. Beginning in 2016, answer categories concerning the length of noncoverage were modified for those who were currently uninsured. Therefore, starting in 2016, estimates of "uninsured for at least part of the past year" and "uninsured for more than 1 year" may not be completely comparable with previous years. For more information on this change, see Technical Notes.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 1997, 2005, and 2010–2018, Family Core component.

Table III. Percentages (and standard errors) of persons who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by age group and selected years: United States, 1997–2018

Age group and year	Uninsured[1] at time of interview	Public health plan coverage[2]	Private health insurance coverage[3]
All ages			
1997	15.4 (0.21)	23.3 (0.27)	70.7 (0.32)
2005	14.2 (0.21)	26.4 (0.30)	67.3 (0.37)
2010	16.0 (0.27)	31.4 (0.39)	60.2 (0.48)
2011	15.1 (0.25)	32.4 (0.37)	60.1 (048)
2012	14.7 (0.23)	33.4 (0.35)	59.6 (0.43)
2013	14.4 (0.26)	33.8 (0.36)	59.5 (0.49)
2014	11.5 (0.23)	34.6 (0.37)	61.8 (0.45)
2015	9.1 (0.19)	35.6 (0.42)	63.2 (0.46)
2016	9.0 (0.27)	36.8 (0.36)	62.5 (0.44)
2017	9.1 (0.25)	36.2 (0.37)	62.6 (0.45)
2018	9.4 (0.27)	36.7 (0.38)	62.3 (0.46)
Under 65 years			
1997	17.4 (0.24)	13.6 (0.25)	70.8 (0.35)
2005	16.0 (0.24)	16.8 (0.29)	68.4 (0.39)
2010	18.2 (0.30)	22.0 (0.38)	61.2 (0.50)
2011	17.3 (0.29)	23.0 (0.37)	61.2 (0.51)
2012	16.9 (0.27)	23.5 (0.37)	61.0 (0.47)
2013	16.6 (0.30)	23.8 (0.35)	61.0 (0.52)
2014	13.3 (0.26)	24.5 (0.36)	63.6 (0.46)
2015	10.5 (0.22)	25.3 (0.43)	65.6 (0.50)
2016	10.4 (0.31)	26.3 (0.41)	65.0 (0.48)
2017	10.7 (0.29)	25.3 (0.39)	65.4 (0.46)
2018	11.1 (0.30)	25.5 (0.42)	65.1 (0.51)
0–17 years			
1997	13.9 (0.36)	21.4 (0.48)	66.2 (0.57)
2005	8.9 (0.29)	29.9 (0.56)	62.4 (0.60)
2010	7.8 (0.32)	39.8 (0.73)	53.8 (0.75)
2011	7.0 (0.27)	41.0 (0.74)	53.3 (0.76)
2012	6.6 (0.27)	42.1 (0.72)	52.8 (0.73)
2013	6.5 (0.26)	42.2 (0.70)	52.6 (0.76)
2014	5.5 (0.27)	42.2 (0.65)	53.7 (0.68)
2015	4.5 (0.24)	42.2 (0.79)	54.7 (0.78)
2016	5.1 (0.31)	43.0 (0.65)	53.8 (0.71)
2017	5.0 (0.40)	41.3 (0.77)	55.0 (0.67)
2018	5.2 (0.25)	41.8 (0.82)	54.7 (0.83)
18–64 years			
1997	18.9 (0.23)	10.2 (0.20)	72.8 (0.30)
2005	18.9 (0.26)	11.5 (0.22)	70.9 (0.36)
2010	22.3 (0.35)	15.0 (0.30)	64.1 (0.46)
2011	21.3 (0.34)	15.9 (0.29)	64.2 (0.45)
2012	20.9 (0.31)	16.4 (0.29)	64.1 (0.42)
2013	20.4 (0.37)	16.7 (0.30)	64.2 (0.47)
2014	16.3 (0.31)	17.7 (0.32)	67.3 (0.43)
2015	12.8 (0.27)	18.9 (0.36)	69.7 (0.43)
2016	12.4 (0.36)	20.0 (0.38)	69.2 (0.41)
2017	12.8 (0.32)	19.3 (0.30)	69.3 (0.41)
2018	13.3 (0.39)	19.4 (0.34)	68.9 (0.46)

See footnotes at end of table.

Table III. Percentages (and standard errors) of persons who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by age group and selected years: United States, 1997–2018—Con.

Age group and year	Uninsured[1] at time of interview	Public health plan coverage[2]	Private health insurance coverage[3]
19–25 years			
1997	31.4 (0.63)	11.2 (0.46)	58.4 (0.71)
2005	31.2 (0.65)	12.9 (0.51)	56.5 (0.79)
2010	33.9 (0.73)	15.7 (0.55)	51.0 (0.84)
2011	27.9 (0.71)	16.8 (0.60)	56.2 (0.85)
2012	26.4 (0.72)	17.5 (0.59)	57.2 (0.85)
2013	26.5 (0.71)	16.1 (0.54)	58.1 (0.84)
2014	20.0 (0.65)	19.1 (0.64)	61.9 (0.88)
2015	15.8 (0.58)	19.5 (0.68)	65.7 (0.81)
2016	14.7 (0.71)	21.9 (0.79)	64.7 (0.88)
2017	15.2 (0.64)	19.9 (0.67)	65.7 (0.96)
2018	15.1 (0.73)	20.3 (0.62)	65.8 (0.91)

[1]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[2]Includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

[3]Includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of persons were covered by both public and private plans and were included in both categories.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 1997, 2005, and 2010–2018, Family Core component.

Table IV. Percentages (and standard errors) of persons under age 65 who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by poverty status and selected years: United States, 1997–2018

Poverty status[1] and year	Uninsured[2] at time of interview	Public health plan coverage[3]	Private health insurance coverage[4]
Poor (< 100% FPL)			
1997	32.7 (0.80)	46.1 (1.01)	22.9 (0.93)
2005	28.4 (0.78)	50.6 (0.98)	22.1 (0.89)
2010	29.5 (0.83)	56.0 (0.98)	15.5 (0.70)
2011	28.2 (0.66)	56.2 (0.82)	16.6 (0.77)
2012	28.3 (0.65)	57.1 (0.83)	16.1 (0.83)
2013	27.3 (0.68)	59.0 (0.81)	14.7 (0.72)
2014	22.3 (0.66)	62.1 (0.80)	16.6 (0.69)
2015	17.2 (0.63)	65.6 (0.87)	18.5 (0.78)
2016	18.7 (0.94)	66.8 (1.01)	16.2 (0.71)
2017	17.7 (0.72)	63.4 (0.85)	20.1 (0.94)
2018	19.6 (0.98)	65.2 (1.09)	16.7 (1.01)
Near poor (≥ 100% and < 200% FPL)			
1997	30.4 (0.70)	18.2 (0.56)	53.5 (0.80)
2005	28.6 (0.63)	30.0 (0.72)	43.2 (0.89)
2010	32.3 (0.69)	36.2 (0.63)	33.2 (0.77)
2011	30.4 (0.58)	37.7 (0.73)	33.5 (0.75)
2012	29.5 (0.56)	37.1 (0.66)	35.2 (0.75)
2013	29.3 (0.70)	39.1 (0.77)	33.4 (0.79)
2014	23.5 (0.60)	41.1 (0.74)	37.3 (0.81)
2015	18.2 (0.51)	45.1 (0.77)	39.1 (0.77)
2016	17.6 (0.63)	49.2 (0.89)	35.4 (0.85)
2017	18.2 (0.63)	48.1 (1.15)	35.7 (0.82)
2018	18.7 (0.81)	49.6 (0.92)	34.1 (0.82)
Not poor (≥ 200% FPL)			
1997	8.9 (0.22)	5.3 (0.19)	87.6 (0.27)
2005	9.1 (0.22)	7.4 (0.22)	84.7 (0.30)
2010	10.7 (0.24)	9.7 (0.28)	81.0 (0.36)
2011	10.1 (0.25)	9.9 (0.26)	81.4 (0.36)
2012	9.8 (0.23)	10.3 (0.33)	81.3 (0.39)
2013	9.6 (0.24)	10.5 (0.29)	81.2 (0.39)
2014	7.6 (0.20)	9.9 (0.28)	83.7 (0.36)
2015	6.6 (0.19)	10.6 (0.31)	84.1 (0.38)
2016	6.4 (0.23)	11.2 (0.21)	83.9 (0.32)
2017	7.2 (0.25)	11.6 (0.26)	82.5 (0.35)
2018	7.3 (0.22)	12.0 (0.28)	82.1 (0.36)
Unknown			
1997	21.6 (0.59)	13.2 (0.49)	66.7 (0.71)
2005	18.5 (0.48)	16.4 (0.48)	66.2 (0.68)
2010	22.7 (0.95)	21.0 (0.69)	57.3 (1.08)
2011	21.0 (0.64)	26.2 (0.95)	53.9 (1.09)
2012	20.4 (0.73)	28.8 (0.89)	52.1 (1.00)
2013	20.5 (0.76)	24.2 (0.94)	56.8 (1.24)
2014	15.0 (0.80)	22.2 (0.91)	64.1 (1.24)
2015	11.9 (0.80)	24.4 (1.16)	64.9 (1.20)
2016	13.2 (1.01)	27.0 (1.04)	61.6 (1.26)
2017	12.1 (0.92)	28.2 (1.24)	61.0 (1.39)
2018	14.9 (1.10)	31.7 (1.53)	55.1 (1.63)

[1]FPL is federal poverty level, based on family income and family size, using the U.S. Census Bureau's poverty thresholds. "Poor" persons are defined as those with incomes below the poverty threshold; "near poor" persons have incomes of 100% to less than 200% of the poverty threshold; and "not poor" persons have incomes of 200% of the poverty threshold or greater. For more information on the "unknown" poverty status category, see Technical Notes. Estimates may differ from estimates that are based on both reported and imputed income.

[2]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan at the time of interview. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[3]Includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

[4]Includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of persons were covered by both public and private plans and were included in both categories.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 1997, 2005, and 2010–2018, Family Core component.

Table V. Percentages (and standard errors) of adults aged 18–64 who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by poverty status and selected years: United States, 1997–2018

Poverty status[1] and year	Uninsured[2] at time of interview	Public health plan coverage[3]	Private health insurance coverage[4]
Poor (< 100% FPL)			
1997	40.2 (0.88)	34.3 (0.93)	26.8 (1.09)
2005	38.5 (0.95)	35.6 (0.98)	26.8 (1.03)
2010	42.2 (0.99)	38.8 (0.97)	19.6 (0.89)
2011	40.1 (0.92)	39.6 (0.93)	21.2 (1.02)
2012	40.1 (0.90)	40.8 (0.94)	20.2 (1.09)
2013	39.3 (1.00)	42.4 (0.95)	19.0 (0.97)
2014	32.3 (0.93)	46.6 (0.95)	21.9 (0.92)
2015	25.2 (0.90)	51.7 (1.08)	24.3 (1.04)
2016	26.2 (1.31)	53.7 (1.29)	21.6 (0.92)
2017	24.4 (1.06)	50.2 (1.07)	26.5 (1.22)
2018	27.4 (1.32)	52.7 (1.37)	21.4 (1.20)
Near poor (≥ 100% and < 200% FPL)			
1997	34.9 (0.71)	14.6 (0.51)	52.6 (0.76)
2005	36.6 (0.73)	20.0 (0.61)	45.0 (0.85)
2010	43.0 (0.74)	23.7 (0.55)	34.7 (0.74)
2011	40.1 (0.72)	25.9 (0.69)	35.4 (0.75)
2012	39.2 (0.68)	25.2 (0.57)	37.2 (0.74)
2013	38.5 (0.84)	26.6 (0.78)	36.4 (0.78)
2014	30.9 (0.72)	29.6 (0.76)	41.2 (0.81)
2015	24.1 (0.62)	34.2 (0.80)	43.8 (0.79)
2016	23.2 (0.76)	38.5 (0.91)	40.3 (0.95)
2017	23.8 (0.67)	37.6 (1.07)	40.5 (0.85)
2018	25.1 (1.04)	37.8 (0.95)	39.3 (0.82)
Not poor (≥ 200% FPL)			
1997	9.9 (0.22)	5.0 (0.18)	87.1 (0.26)
2005	10.7 (0.24)	6.2 (0.20)	84.4 (0.29)
2010	12.6 (0.27)	8.1 (0.27)	80.8 (0.36)
2011	12.0 (0.28)	8.3 (0.23)	81.1 (0.35)
2012	11.4 (0.26)	8.7 (0.29)	81.3 (0.38)
2013	11.4 (0.27)	8.9 (0.26)	81.2 (0.37)
2014	8.9 (0.23)	8.5 (0.26)	83.9 (0.35)
2015	7.6 (0.22)	9.1 (0.27)	84.7 (0.33)
2016	7.2 (0.25)	9.6 (0.22)	84.6 (0.29)
2017	8.2 (0.26)	9.9 (0.24)	83.3 (0.35)
2018	8.3 (0.25)	10.1 (0.26)	83.1 (0.36)
Unknown			
1997	22.9 (0.58)	10.1 (0.41)	68.6 (0.65)
2005	21.2 (0.52)	11.3 (0.36)	68.7 (0.61)
2010	27.1 (1.10)	15.6 (0.63)	58.4 (1.11)
2011	25.6 (0.77)	17.6 (0.73)	58.1 (0.96)
2012	25.7 (0.88)	18.9 (0.76)	56.9 (0.92)
2013	24.3 (0.87)	17.6 (0.77)	59.5 (1.11)
2014	17.2 (0.88)	17.2 (0.81)	67.0 (1.20)
2015	13.8 (0.82)	19.6 (0.94)	67.7 (1.09)
2016	14.6 (0.90)	21.6 (0.91)	65.6 (1.03)
2017	14.7 (1.07)	21.9 (1.21)	64.6 (1.30)
2018	17.4 (1.14)	25.2 (1.38)	59.1 (1.47)

[1]FPL is federal poverty level, based on family income and family size, using the U.S. Census Bureau's poverty thresholds. "Poor" persons are defined as those with incomes below the poverty threshold; "near poor" persons have incomes of 100% to less than 200% of the poverty threshold; and "not poor" persons have incomes of 200% of the poverty threshold or greater. For more information on the "unknown" poverty status category, see Technical Notes. Estimates may differ from estimates that are based on both reported and imputed income.

[2]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan at the time of interview. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[3]Includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

[4]Includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of persons were covered by both public and private plans and were included in both categories.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 1997, 2005, and 2010–2018, Family Core component.

Table VI. Percentages (and standard errors) of children aged 0–17 years who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by poverty status and selected years: United States, 1997–2018

Poverty status[1] and year	Uninsured[2] at time of interview	Public health plan coverage[3]	Private health insurance coverage[4]
Poor (< 100% FPL)			
1997	22.4 (0.99)	62.1 (1.31)	17.5 (1.09)
2005	13.0 (0.92)	73.3 (1.32)	15.0 (1.10)
2010	10.2 (0.96)	82.0 (1.22)	9.2 (0.70)
2011	8.1 (0.62)	84.4 (0.87)	8.9 (0.72)
2012	7.5 (0.58)	85.9 (0.80)	8.8 (0.78)
2013	7.8 (0.62)	86.1 (0.88)	7.7 (0.69)
2014	5.9 (0.52)	87.3 (0.72)	8.0 (0.62)
2015	4.4 (0.47)	87.9 (0.86)	9.1 (0.81)
2016	6.5 (0.70)	88.0 (0.97)	7.4 (0.71)
2017	6.0 (0.59)	86.5 (0.95)	8.8 (0.81)
2018	6.4 (0.97)	86.5 (1.29)	8.8 (1.05)
Near poor (≥ 100% and < 200% FPL)			
1997	22.8 (0.96)	24.3 (0.93)	55.0 (1.15)
2005	14.7 (0.79)	47.3 (1.21)	40.0 (1.31)
2010	12.6 (0.73)	59.2 (1.16)	30.5 (1.18)
2011	11.5 (0.69)	60.8 (1.17)	29.9 (1.07)
2012	10.1 (0.70)	61.0 (1.30)	31.1 (1.18)
2013	10.6 (0.72)	64.4 (1.16)	27.3 (1.17)
2014	8.6 (0.65)	64.3 (1.23)	29.4 (1.19)
2015	6.7 (0.59)	66.4 (1.17)	29.8 (1.14)
2016	6.9 (0.62)	69.9 (1.11)	26.0 (1.01)
2017	7.5 (1.03)	67.9 (1.70)	26.6 (1.09)
2018	6.3 (0.65)	72.7 (1.35)	23.9 (1.40)
Not poor (≥ 200% FPL)			
1997	6.1 (0.33)	6.3 (0.32)	88.9 (0.43)
2005	4.6 (0.30)	10.7 (0.47)	85.6 (0.52)
2010	4.6 (0.29)	14.9 (0.57)	81.4 (0.61)
2011	4.0 (0.27)	15.0 (0.55)	82.1 (0.58)
2012	4.5 (0.31)	15.2 (0.62)	81.3 (0.64)
2013	4.0 (0.28)	15.6 (0.62)	81.2 (0.65)
2014	3.6 (0.28)	14.4 (0.56)	83.1 (0.58)
2015	3.3 (0.26)	15.5 (0.69)	82.1 (0.74)
2016	3.5 (0.27)	16.5 (0.52)	81.5 (0.58)
2017	3.8 (0.43)	17.2 (0.55)	80.1 (0.53)
2018	4.2 (0.31)	18.0 (0.54)	79.0 (0.56)
Unknown			
1997	18.3 (0.90)	21.4 (0.97)	61.7 (1.18)
2005	11.0 (0.66)	30.8 (1.05)	59.3 (1.16)
2010	8.8 (0.89)	38.1 (1.71)	53.7 (1.74)
2011	10.4 (0.76)	45.9 (1.70)	44.5 (1.66)
2012	8.2 (0.77)	51.8 (1.50)	41.2 (1.49)
2013	9.2 (1.00)	43.7 (2.16)	48.6 (2.20)
2014	8.0 (1.41)	37.9 (2.01)	54.8 (2.05)
2015	6.3 (1.36)	37.9 (2.33)	56.6 (2.24)
2016	8.9 (2.13)	43.6 (2.36)	49.3 (2.86)
2017	4.5 (0.95)	46.5 (2.24)	50.7 (2.48)
2018	7.6 (1.58)	50.7 (2.84)	43.3 (2.91)

[1]FPL is federal poverty level, based on family income and family size, using the U.S. Census Bureau's poverty thresholds. "Poor" persons are defined as those with incomes below the poverty threshold; "near poor" persons have incomes of 100% to less than 200% of the poverty threshold; and "not poor" persons have incomes of 200% of the poverty threshold or greater. For more information on the "unknown" poverty status category, see Technical Notes. Estimates may differ from estimates that are based on both reported and imputed income.

[2]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan at the time of interview. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[3]Includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

[4]Includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of persons were covered by both public and private plans and were included in both categories.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 1997, 2005, and 2010–2018, Family Core component.

Table VII. Percentages (and standard errors) of persons who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by age group and sex: United States, 2018

Age group and sex	Uninsured[1] at time of interview	Public health plan coverage[2]	Private health insurance coverage[3]
Age group (years)			
All ages	9.4 (0.27)	36.7 (0.38)	62.3 (0.46)
Under age 65	11.1 (0.30)	25.5 (0.42)	65.1 (0.51)
0–17	5.2 (0.25)	41.8 (0.82)	54.7 (0.83)
18–64	13.3 (0.39)	19.4 (0.34)	68.9 (0.46)
18–24	14.4 (0.68)	22.4 (0.69)	64.2 (0.99)
25–34	17.0 (0.62)	19.7 (0.59)	64.3 (0.73)
35–44	14.4 (0.56)	16.6 (0.61)	70.0 (0.76)
45–64	10.3 (0.33)	19.6 (0.41)	72.5 (0.47)
65 and over	0.8 (0.10)	95.6 (0.21)	47.9 (0.79)
19–25	15.1 (0.73)	20.3 (0.62)	65.8 (0.91)
Sex			
Male			
All ages	10.5 (0.30)	34.5 (0.44)	62.8 (0.49)
Under age 65	12.2 (0.34)	24.1 (0.47)	65.4 (0.56)
0–17	5.0 (0.30)	41.6 (0.96)	55.1 (0.92)
18–64	15.0 (0.46)	17.3 (0.38)	69.4 (0.50)
18–24	15.3 (0.97)	19.8 (0.77)	66.2 (1.08)
25–34	20.4 (0.91)	15.5 (0.65)	65.1 (0.97)
35–44	16.3 (0.69)	14.2 (0.71)	70.6 (0.89)
45–64	11.3 (0.38)	19.0 (0.47)	72.2 (0.52)
65 and over	0.8 (0.14)	94.9 (0.32)	47.8 (0.81)
19–25	16.5 (1.01)	17.1 (0.72)	67.5 (1.09)
Female			
All ages	8.4 (0.28)	38.8 (0.41)	61.9 (0.50)
Under age 65	10.0 (0.32)	26.9 (0.45)	64.7 (0.56)
0–17	5.3 (0.33)	41.9 (0.85)	54.3 (0.96)
18–64	11.6 (0.38)	21.5 (0.40)	68.5 (0.50)
18–24	13.6 (0.79)	25.1 (0.99)	62.2 (1.33)
25–34	13.7 (0.56)	23.8 (0.74)	63.6 (0.84)
35–44	12.7 (0.63)	19.0 (0.64)	69.3 (0.84)
45–64	9.4 (0.40)	20.2 (0.52)	72.8 (0.54)
65 and over	0.7 (0.11)	96.2 (0.25)	48.1 (0.88)
19–25	13.6 (0.82)	23.5 (0.85)	64.0 (1.16)

[1]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan at the time of interview. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[2]Includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

[3]Includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of persons were covered by both public and private plans and were included in both categories.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 2018, Family Core component.

Table VIII. Percentages (and standard errors) of persons under age 65 who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by race and ethnicity and year: United States, 2010–2018

Race and ethnicity and year	Uninsured[1] at time of interview	Public health plan coverage[2]	Private health insurance coverage[3]
Hispanic or Latino			
2010	31.9 (0.72)	32.0 (0.78)	36.6 (0.81)
2011	31.1 (0.68)	33.6 (0.74)	36.1 (0.82)
2012	30.4 (0.71)	34.0 (0.71)	36.4 (0.74)
2013	30.3 (0.66)	33.4 (0.62)	37.0 (0.76)
2014	25.2 (0.59)	34.6 (0.78)	41.2 (0.89)
2015	20.8 (0.56)	36.2 (0.84)	43.8 (0.81)
2016	19.3 (0.93)	37.1 (1.02)	44.9 (1.02)
2017	20.5 (0.77)	35.9 (1.23)	44.8 (1.37)
2018	20.1 (0.83)	36.0 (1.06)	45.1 (1.32)
Non-Hispanic white, single race			
2010	13.7 (0.30)	16.4 (0.42)	71.4 (0.57)
2011	13.0 (0.32)	17.1 (0.39)	71.4 (0.55)
2012	12.7 (0.28)	17.3 (0.39)	71.5 (0.51)
2013	12.1 (0.29)	17.9 (0.38)	71.6 (0.53)
2014	9.8 (0.25)	18.1 (0.41)	73.6 (0.50)
2015	7.4 (0.21)	18.9 (0.48)	75.4 (0.54)
2016	7.5 (0.24)	19.8 (0.40)	74.5 (0.42)
2017	7.5 (0.26)	18.9 (0.36)	75.2 (0.44)
2018	7.8 (0.26)	19.2 (0.37)	74.7 (0.45)
Non-Hispanic black, single race			
2010	20.8 (0.63)	36.3 (0.79)	44.6 (0.84)
2011	19.0 (0.51)	36.9 (0.83)	45.6 (0.85)
2012	17.9 (0.50)	38.2 (0.77)	45.4 (0.79)
2013	18.9 (0.51)	37.5 (0.92)	44.9 (1.01)
2014	13.5 (0.49)	40.3 (0.76)	47.7 (0.86)
2015	11.2 (0.48)	39.2 (1.01)	51.3 (1.02)
2016	11.7 (0.55)	40.0 (1.18)	50.1 (1.04)
2017	11.2 (0.41)	39.3 (1.20)	50.9 (1.28)
2018	12.2 (0.66)	37.8 (1.25)	52.2 (1.28)
Non-Hispanic Asian, single race			
2010	16.8 (0.76)	14.9 (0.98)	69.1 (1.17)
2011	16.0 (0.89)	17.6 (1.14)	67.0 (1.40)
2012	16.4 (0.93)	16.6 (0.85)	67.5 (1.24)
2013	13.8 (0.81)	17.5 (1.00)	69.4 (1.27)
2014	10.6 (0.61)	16.7 (0.86)	73.4 (1.01)
2015	6.7 (0.51)	18.0 (1.34)	75.9 (1.44)
2016	6.3 (0.60)	18.9 (1.26)	75.3 (1.18)
2017	6.7 (0.83)	17.9 (1.12)	75.8 (1.25)
2018	7.1 (0.78)	18.5 (1.74)	75.3 (1.86)
Non-Hispanic, other races and multiple races			
2010	22.4 (4.83)	30.3 (2.14)	48.7 (3.83)
2011	19.1 (1.78)	32.5 (1.60)	50.6 (1.89)
2012	16.4 (1.33)	35.8 (1.77)	50.8 (2.16)
2013	16.0 (1.17)	35.9 (1.75)	50.1 (1.97)
2014	12.8 (1.30)	36.2 (1.69)	52.7 (2.01)
2015	11.1 (1.00)	37.0 (1.86)	53.7 (1.99)
2016	12.6 (0.97)	37.3 (1.87)	52.7 (2.04)
2017	13.9 (1.33)	36.2 (2.03)	52.2 (2.30)
2018	15.4 (1.25)	36.1 (2.35)	50.4 (2.53)

[1]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[2]Includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

[3]Includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of persons were covered by both public and private plans and were included in both categories.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 2010–2018, Family Core component.

Table IX. Percentages (and standard errors) of adults aged 18–64 who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by race and ethnicity and year: United States, 2010–2018

Race and ethnicity and year	Uninsured[1] at time of interview	Public health plan coverage[2]	Private health insurance coverage[3]
Hispanic or Latino			
2010	43.2 (0.91)	16.3 (0.64)	41.1 (0.85)
2011	42.2 (0.89)	18.1 (0.63)	40.3 (0.82)
2012	41.3 (0.89)	19.0 (0.64)	40.4 (0.73)
2013	40.6 (0.88)	18.0 (0.62)	42.1 (0.70)
2014	33.7 (0.76)	20.6 (0.73)	46.4 (0.86)
2015	27.7 (0.72)	23.0 (0.84)	50.0 (0.85)
2016	25.0 (1.20)	24.9 (1.15)	51.4 (1.08)
2017	27.2 (0.99)	23.7 (0.96)	50.2 (1.27)
2018	26.7 (1.20)	23.3 (0.98)	50.8 (1.21)
Non-Hispanic white, single race			
2010	16.4 (0.35)	12.8 (0.34)	72.2 (0.52)
2011	15.6 (0.35)	13.4 (0.31)	72.5 (0.48)
2012	15.1 (0.31)	13.7 (0.33)	72.7 (0.46)
2013	14.5 (0.34)	14.4 (0.32)	72.7 (0.49)
2014	11.6 (0.29)	14.6 (0.36)	75.3 (0.47)
2015	8.7 (0.25)	15.7 (0.42)	77.3 (0.47)
2016	8.6 (0.25)	16.6 (0.34)	76.6 (0.38)
2017	8.5 (0.28)	15.8 (0.32)	77.2 (0.41)
2018	9.0 (0.28)	16.2 (0.34)	76.7 (0.43)
Non-Hispanic black, single race			
2010	27.2 (0.75)	25.3 (0.70)	49.3 (0.81)
2011	24.8 (0.65)	26.2 (0.75)	50.5 (0.79)
2012	23.6 (0.61)	27.0 (0.68)	50.8 (0.75)
2013	24.9 (0.62)	26.6 (0.80)	50.0 (0.91)
2014	17.7 (0.60)	30.5 (0.73)	53.4 (0.84)
2015	14.4 (0.57)	29.7 (0.84)	57.8 (0.90)
2016	15.0 (0.62)	29.9 (1.06)	56.7 (0.95)
2017	14.1 (0.63)	30.3 (0.85)	57.0 (0.99)
2018	15.2 (0.81)	29.0 (1.14)	57.9 (1.14)
Non-Hispanic Asian, single race			
2010	19.5 (0.92)	11.2 (0.72)	70.2 (1.05)
2011	18.8 (0.96)	13.6 (0.87)	68.0 (1.27)
2012	19.1 (0.92)	13.2 (0.83)	68.2 (1.15)
2013	16.3 (0.88)	14.1 (0.91)	70.4 (1.28)
2014	12.5 (0.65)	13.7 (0.84)	74.5 (1.01)
2015	7.9 (0.58)	15.5 (1.16)	77.2 (1.27)
2016	7.5 (0.67)	16.2 (1.19)	76.8 (1.07)
2017	7.6 (0.94)	15.4 (1.11)	77.3 (1.13)
2018	8.1 (0.96)	16.4 (1.76)	76.4 (1.87)
Non-Hispanic, other races and multiple races			
2010	32.8 (5.76)	20.6 (1.94)	48.5 (4.77)
2011	27.1 (2.01)	23.6 (1.53)	52.1 (2.17)
2012	24.9 (1.78)	26.1 (1.62)	52.0 (2.24)
2013	23.8 (1.66)	26.8 (1.84)	51.6 (2.26)
2014	19.5 (1.65)	25.2 (1.51)	56.9 (2.06)
2015	16.1 (1.42)	29.0 (1.76)	56.9 (1.88)
2016	17.6 (1.29)	28.9 (1.64)	55.5 (2.13)
2017	20.1 (1.62)	28.0 (2.33)	53.6 (2.45)
2018	20.9 (1.58)	28.2 (2.47)	52.9 (2.65)

[1]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[2]Includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

[3]Includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of persons were covered by both public and private plans and were included in both categories.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 2010–2018, Family Core component.

Table X. Percentages (and standard errors) of adults aged 18–64 who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by selected demographic characteristics: United States, 2018

Selected characteristic	Uninsured[1] at time of interview	Public health plan coverage[2]	Private health insurance coverage[3]
Race and ethnicity			
Hispanic or Latino	26.7 (1.20)	23.3 (0.98)	50.8 (1.21)
Non-Hispanic:			
White, single race	9.0 (0.28)	16.2 (0.34)	76.7 (0.43)
Black, single race	15.2 (0.81)	29.0 (1.14)	57.9 (1.14)
Asian, single race	8.1 (0.96)	16.4 (1.76)	76.4 (1.87)
Other races and multiple races	20.9 (1.58)	28.2 (2.47)	52.9 (2.65)
Region			
Northeast	7.7 (0.76)	21.6 (0.64)	72.7 (0.96)
Midwest	11.1 (0.58)	17.1 (0.51)	73.4 (0.71)
South	18.4 (0.72)	17.2 (0.53)	65.9 (0.78)
West	11.6 (0.51)	23.4 (0.82)	66.6 (1.06)
Education			
Less than high school	31.1 (1.16)	36.8 (1.05)	33.4 (0.94)
High school diploma or GED	17.9 (0.56)	25.4 (0.53)	58.6 (0.65)
More than high school	8.2 (0.29)	14.1 (0.32)	79.3 (0.39)
Employment status			
Employed	12.4 (0.39)	11.6 (0.26)	77.0 (0.43)
Unemployed	30.9 (1.47)	37.0 (1.31)	32.6 (1.36)
Not in workforce	13.1 (0.53)	44.2 (0.70)	46.9 (0.77)
Poverty status[4]			
< 100% FPL	27.4 (1.32)	52.7 (1.37)	21.4 (1.20)
≥ 100% and ≤ 138% FPL	28.1 (1.42)	45.3 (1.61)	28.7 (1.48)
> 138% and ≤ 250% FPL	21.2 (0.84)	27.6 (0.71)	53.2 (0.89)
> 250% and ≤ 400% FPL	12.1 (0.50)	14.4 (0.55)	75.2 (0.70)
> 400% FPL	4.8 (0.22)	6.2 (0.25)	90.5 (0.32)
Unknown	14.8 (0.92)	21.8 (1.15)	65.0 (1.28)
Marital status			
Married	9.9 (0.42)	13.7 (0.43)	78.1 (0.54)
Widowed	11.9 (1.49)	35.9 (1.88)	55.5 (2.15)
Divorced or separated	16.6 (0.71)	29.2 (0.78)	56.8 (0.97)
Living with partner	19.9 (0.86)	22.8 (0.91)	58.4 (1.11)
Never married	16.6 (0.57)	25.2 (0.47)	59.5 (0.62)

[1]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[2]Includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

[3]Includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of persons were covered by both public and private plans and were included in both categories.

[4]FPL is federal poverty level, based on family income and family size, using the U.S. Census Bureau's poverty thresholds. The percentage of respondents with "unknown" poverty status for this five-level categorization is 8.6%. This value is greater than the corresponding value for the three-level poverty categorization of poor, near poor, and not poor because of greater uncertainty when assigning individuals to more detailed poverty groups. For more information on poverty status, see Technical Notes. Estimates may differ from estimates that are based on both reported and imputed income.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 2018, Family Core component.

Table XI. Percentages (and standard errors) of persons under age 65 with private health insurance coverage who were enrolled in a high-deductible health plan, in a high-deductible health plan without a health savings account, in a consumer-directed health plan, and who were in a family with a flexible spending account for medical expenses, by year: United States, 2010–2018

Year	Enrolled in high-deductible health plan (HDHP)[1]	Enrolled in HDHP without health savings account (HSA)[2]	Enrolled in consumer-directed health plan (CDHP)[3]	In family with flexible spending account (FSA) for medical expenses
2010	25.3 (0.54)	17.6 (0.46)	7.7 (0.33)	20.4 (0.50)
2011	29.0 (0.54)	19.9 (0.41)	9.2 (0.35)	21.4 (0.53)
2012	31.1 (0.57)	20.3 (0.42)	10.8 (0.34)	21.6 (0.45)
2013	33.9 (0.68)	22.2 (0.48)	11.7 (0.43)	21.6 (0.48)
2014	36.9 (0.77)	23.6 (0.52)	13.3 (0.47)	21.2 (0.49)
2015	36.7 (0.68)	23.4 (0.50)	13.3 (0.42)	21.7 (0.51)
2016	39.4 (0.65)	23.9 (0.49)	15.5 (0.51)	22.1 (0.40)
2017	43.7 (0.64)	25.5 (0.52)	18.2 (0.38)	23.6 (0.40)
2018	45.8 (0.67)	25.4 (0.50)	20.4 (0.57)	23.9 (0.42)

[1]HDHP was defined in 2018 as a health plan with an annual deductible of at least $1,350 for self-only coverage and $2,700 for family coverage. The deductible is adjusted annually for inflation. Deductibles for previous years are included in the Technical Notes.

[2]HSA is a tax-advantaged account or fund that can be used to pay for medical expenses. It must be coupled with an HDHP.

[3]CDHP is an HDHP coupled with an HSA.

NOTES: The measures of HDHP enrollment, CDHP enrollment, and being in a family with an FSA for medical expenses are not mutually exclusive. Therefore, a person may be counted in more than one measure. The individual components of HDHPs may not add up to the total due to rounding. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 2010–2018, Family Core component.

Table XII. Percentages (and standard errors) of persons under age 65 with private health insurance coverage who were enrolled in a high-deductible health plan, by year and source of coverage: United States, 2010–2018

Year	Employment based[1]	Directly purchased[2]
2010	23.3 (0.54)	48.0 (1.48)
2011	26.9 (0.53)	52.4 (1.49)
2012	29.2 (0.60)	54.7 (1.61)
2013	32.0 (0.67)	56.4 (1.50)
2014	36.2 (0.73)	54.1 (1.43)
2015	36.6 (0.72)	50.9 (1.50)
2016	39.6 (0.69)	51.9 (1.38)
2017	44.1 (0.69)	55.3 (1.55)
2018	46.6 (0.73)	52.2 (1.54)

[1]Private insurance that was originally obtained through a present or former employer or union, or through a professional association.

[2]Private insurance that was originally obtained through direct purchase or other means not related to employment.

NOTES: For persons under age 65, approximately 8% of private health plans were directly purchased from 2010 through 2013. In 2014 through 2018, approximately 9% of private plans were directly purchased. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 2010–2018, Family Core component.

Table XIII. Percentages (and standard errors) of persons under age 65 who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by age group, state Medicaid expansion status, and year: United States, 2010–2018

Age group, state Medicaid expansion status, and year	Uninsured[1] at time of interview	Public health plan coverage[2]	Private health insurance coverage[3]
Under 65 years			
Medicaid expansion states[4]			
2010	16.4 (0.42)	21.8 (0.54)	63.1 (0.70)
2011	15.3 (0.35)	23.1 (0.56)	62.9 (0.72)
2012	15.0 (0.34)	23.1 (0.50)	63.3 (0.63)
2013	14.9 (0.40)	24.1 (0.48)	62.3 (0.68)
2014	10.9 (0.29)	25.6 (0.49)	64.9 (0.59)
2015	8.2 (0.23)	26.7 (0.57)	66.4 (0.64)
2016	7.8 (0.24)	27.7 (0.53)	66.3 (0.60)
2017	7.6 (0.27)	26.9 (0.53)	67.0 (0.60)
2018	8.3 (0.30)	27.0 (0.61)	66.4 (0.65)
Non-Medicaid expansion states[5]			
2010	20.3 (0.48)	22.1 (0.51)	59.0 (0.76)
2011	19.6 (0.50)	22.7 (0.50)	59.1 (0.78)
2012	19.2 (0.45)	24.0 (0.55)	58.3 (0.75)
2013	18.4 (0.48)	23.4 (0.51)	59.6 (0.80)
2014	16.0 (0.44)	23.2 (0.52)	62.1 (0.76)
2015	14.0 (0.41)	23.2 (0.58)	64.4 (0.78)
2016	14.7 (0.56)	23.9 (0.58)	62.8 (0.84)
2017	15.7 (0.47)	22.8 (0.60)	62.7 (0.74)
2018	15.4 (0.47)	23.2 (0.57)	63.0 (0.83)
0–17 years			
Medicaid expansion states[4]			
2010	6.7 (0.46)	38.2 (1.05)	56.5 (1.06)
2011	5.9 (0.33)	40.2 (1.11)	55.4 (1.09)
2012	5.3 (0.32)	40.4 (1.00)	55.9 (1.07)
2013	5.6 (0.33)	41.3 (0.86)	54.5 (0.95)
2014	4.3 (0.33)	41.0 (0.84)	56.2 (0.88)
2015	3.8 (0.28)	41.1 (0.99)	56.7 (1.00)
2016	4.1 (0.33)	42.0 (0.92)	56.1 (0.97)
2017	3.5 (0.41)	40.4 (1.09)	57.7 (0.95)
2018	4.0 (0.34)	40.5 (1.23)	57.2 (1.17)
Non-Medicaid expansion states[5]			
2010	9.0 (0.47)	41.7 (0.99)	50.7 (1.08)
2011	8.3 (0.46)	42.0 (1.02)	50.9 (1.11)
2012	8.0 (0.46)	43.9 (1.11)	49.4 (1.07)
2013	7.5 (0.40)	43.1 (1.12)	50.5 (1.23)
2014	6.7 (0.43)	43.5 (1.06)	51.0 (1.11)
2015	5.5 (0.42)	43.7 (1.27)	52.0 (1.26)
2016	6.7 (0.52)	44.4 (1.02)	50.3 (1.20)
2017	7.3 (0.79)	42.8 (1.19)	50.8 (1.04)
2018	6.9 (0.36)	43.7 (1.16)	51.0 (1.27)

See footnotes at end of table.

Table XIII. Percentages (and standard errors) of persons under age 65 who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by age group, state Medicaid expansion status, and year: United States, 2010–2018—Con.

Age group, state Medicaid expansion status, and year	Uninsured[1] at time of interview	Public health plan coverage[2]	Private health insurance coverage[3]
18–64 years			
Medicaid expansion states[4]			
2010	20.1 (0.47)	15.5 (0.40)	65.6 (0.62)
2011	18.9 (0.41)	16.6 (0.41)	65.8 (0.61)
2012	18.5 (0.39)	16.7 (0.38)	66.0 (0.53)
2013	18.4 (0.49)	17.7 (0.44)	65.2 (0.65)
2014	13.3 (0.34)	19.9 (0.46)	68.1 (0.56)
2015	9.8 (0.28)	21.5 (0.49)	70.0 (0.56)
2016	9.2 (0.25)	22.5 (0.41)	70.0 (0.49)
2017	9.1 (0.33)	21.9 (0.36)	70.4 (0.50)
2018	9.9 (0.35)	22.1 (0.44)	69.7 (0.57)
Non-Medicaid expansion states[5]			
2010	24.8 (0.58)	14.4 (0.45)	62.2 (0.70)
2011	24.1 (0.60)	15.1 (0.42)	62.3 (0.71)
2012	23.7 (0.54)	16.1 (0.44)	61.8 (0.69)
2013	22.7 (0.59)	15.6 (0.41)	63.2 (0.69)
2014	19.6 (0.54)	15.3 (0.41)	66.5 (0.69)
2015	17.5 (0.52)	14.9 (0.44)	69.4 (0.67)
2016	17.9 (0.69)	15.7 (0.50)	67.8 (0.78)
2017	19.0 (0.50)	15.0 (0.42)	67.3 (0.66)
2018	18.7 (0.61)	15.1 (0.46)	67.7 (0.73)

[1]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[2]Includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

[3]Includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of persons were covered by both public and private plans and were included in both categories.

[4]For 2010 through 2014, states moving forward with Medicaid expansion included: AZ, AR, CA, CO, CT, DE, DC, HI, IL, IA, KY, MD, MA, MI, MN, NV, NJ, NM, NY, ND, OH, OR, RI, VT, WA, and WV (as of October 31, 2013). Beginning with 2015, three additional states were included as expansion states: IN, NH, and PA. Beginning with 2016, three additional states were included as expansion states: AK, LA, and MT.

[5]For 2010 through 2014, states not moving forward with Medicaid expansion included: AL, AK, FL, GA, ID, IN, KS, LA, ME, MS, MO, MT, NE, NH, NC, OK, PA, SC, SD, TN, TX, UT, VA, WI, and WY (as of October 31, 2013). Beginning with 2015, three states have been removed from this grouping: IN, NH, and PA. Beginning with 2016, three additional states have been removed from this grouping: AK, LA, and MT.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 2010–2018, Family Core component.

Table XIV. Percentages (and standard errors) of persons under age 65 who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by age group, state Health Insurance Marketplace type, and year: United States, 2010–2018

Age group, state Health Insurance Marketplace type, and year	Uninsured[1] at time of interview	Public health plan coverage[2]	Private health insurance coverage[3]
Under 65 years			
State-based Marketplace states[4]			
2010	16.3 (0.46)	21.6 (0.66)	63.2 (0.80)
2011	15.9 (0.46)	23.6 (0.70)	61.8 (0.88)
2012	15.2 (0.43)	24.2 (0.66)	61.8 (0.83)
2013	15.2 (0.48)	25.0 (0.56)	61.0 (0.83)
2014	11.1 (0.38)	26.4 (0.63)	63.7 (0.78)
2015	7.7 (0.30)	28.1 (0.80)	65.4 (0.92)
2016	7.3 (0.27)	28.4 (0.70)	65.9 (0.72)
2017	7.2 (0.35)	28.0 (0.87)	66.2 (1.00)
2018	7.8 (0.30)	28.9 (0.91)	65.0 (0.99)
Partnership Marketplace states[5]			
2010	14.7 (0.87)	22.5 (1.15)	64.8 (1.73)
2011	14.3 (0.71)	22.7 (1.28)	64.5 (1.72)
2012	14.1 (0.70)	20.8 (1.12)	66.7 (1.53)
2013	14.2 (0.83)	21.8 (1.07)	65.6 (1.42)
2014	10.2 (0.57)	24.4 (1.06)	67.2 (1.28)
2015	8.0 (0.59)	26.1 (1.20)	67.7 (1.42)
2016	7.0 (0.48)	26.3 (1.27)	68.8 (1.66)
2017	7.0 (0.66)	25.3 (1.15)	69.8 (1.46)
2018	7.9 (0.43)	24.2 (1.19)	69.5 (1.12)
Federally Facilitated Marketplace states[6]			
2010	20.1 (0.48)	22.1 (0.50)	59.1 (0.70)
2011	18.8 (0.45)	22.6 (0.47)	60.0 (0.71)
2012	18.6 (0.41)	23.6 (0.50)	59.3 (0.67)
2013	17.9 (0.44)	23.3 (0.49)	60.2 (0.74)
2014	15.3 (0.40)	23.3 (0.50)	62.8 (0.69)
2015	12.8 (0.33)	23.4 (0.54)	65.3 (0.66)
2016	13.1 (0.45)	24.8 (0.51)	63.6 (0.69)
2017	13.6 (0.37)	23.7 (0.53)	64.1 (0.60)
2018	13.7 (0.43)	23.6 (0.50)	64.3 (0.70)
0–17 years			
State-based Marketplace states[4]			
2010	6.7 (0.50)	38.0 (1.32)	56.4 (1.31)
2011	6.4 (0.47)	40.9 (1.43)	54.2 (1.39)
2012	5.4 (0.43)	42.2 (1.37)	53.9 (1.46)
2013	5.7 (0.37)	42.8 (1.05)	52.6 (1.18)
2014	4.2 (0.40)	42.0 (1.11)	54.9 (1.13)
2015	3.1 (0.34)	42.4 (1.32)	55.8 (1.41)
2016	3.6 (0.38)	42.7 (1.19)	55.8 (1.26)
2017	2.9 (0.29)	41.2 (1.68)	57.0 (1.62)
2018	3.1 (0.32)	42.4 (1.80)	56.2 (1.72)
Partnership Marketplace states[5]			
2010	4.1 (0.78)	40.7 (2.21)	57.9 (2.31)
2011	4.2 (0.53)	39.6 (2.44)	58.0 (2.39)
2012	3.6 (0.69)	38.5 (2.20)	59.9 (2.26)
2013	4.2 (0.53)	38.4 (1.95)	59.2 (2.08)
2014	3.2 (0.51)	40.8 (1.88)	58.4 (1.99)
2015	4.3 (0.73)	40.3 (2.53)	57.5 (2.34)
2016	2.0 (0.40)	40.4 (2.54)	60.5 (2.49)
2017	2.0 (0.44)	40.6 (2.86)	60.3 (2.77)
2018	3.2 (0.73)	37.5 (2.50)	60.6 (2.61)

See footnotes at end of table.

Table XIV. Percentages (and standard errors) of persons under age 65 who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by age group, state Health Insurance Marketplace type, and year: United States, 2010–2018—Con.

Age group, state Health Insurance Marketplace type, and year	Uninsured[1] at time of interview	Public health plan coverage[2]	Private health insurance coverage[3]
0–17 years—Con.			
Federally Facilitated Marketplace states[6]			
2010	9.2 (0.48)	40.7 (0.91)	51.3 (0.97)
2011	8.0 (0.40)	41.4 (0.93)	51.8 (1.01)
2012	7.9 (0.41)	42.7 (1.00)	50.8 (0.98)
2013	7.5 (0.39)	42.6 (1.02)	51.3 (1.11)
2014	6.6 (0.41)	42.6 (0.94)	52.0 (1.00)
2015	5.3 (0.35)	42.4 (1.06)	53.6 (1.04)
2016	6.6 (0.45)	43.6 (0.87)	51.5 (0.97)
2017	6.8 (0.66)	41.5 (0.96)	52.9 (0.81)
2018	6.7 (0.41)	42.1 (1.03)	52.8 (1.04)
18–64 years			
State-based Marketplace states[4]			
2010	19.9 (0.52)	15.3 (0.48)	65.9 (0.68)
2011	19.5 (0.53)	17.1 (0.52)	64.7 (0.75)
2012	18.8 (0.50)	17.7 (0.49)	64.7 (0.69)
2013	18.7 (0.60)	18.4 (0.52)	64.1 (0.80)
2014	13.6 (0.45)	20.6 (0.57)	67.0 (0.75)
2015	9.4 (0.37)	22.9 (0.69)	68.9 (0.81)
2016	8.6 (0.30)	23.4 (0.58)	69.5 (0.58)
2017	8.7 (0.45)	23.2 (0.58)	69.5 (0.79)
2018	9.5 (0.40)	24.0 (0.64)	68.2 (0.80)
Partnership Marketplace states[5]			
2010	18.9 (1.12)	15.3 (0.90)	67.6 (1.59)
2011	18.4 (0.92)	15.9 (0.87)	67.1 (1.52)
2012	18.1 (0.85)	13.9 (0.79)	69.3 (1.36)
2013	17.9 (0.98)	15.7 (0.91)	68.0 (1.29)
2014	12.8 (0.68)	18.2 (0.98)	70.5 (1.22)
2015	9.4 (0.74)	20.8 (0.95)	71.5 (1.26)
2016	8.8 (0.59)	21.3 (0.88)	71.8 (1.41)
2017	8.9 (0.81)	19.6 (0.84)	73.3 (1.20)
2018	9.5 (0.52)	19.5 (0.86)	72.6 (0.83)
Federally Facilitated Marketplace states[6]			
2010	24.5 (0.56)	14.7 (0.43)	62.2 (0.66)
2011	23.0 (0.54)	15.1 (0.39)	63.3 (0.64)
2012	22.8 (0.48)	16.1 (0.41)	62.7 (0.61)
2013	22.0 (0.54)	15.9 (0.41)	63.6 (0.64)
2014	18.6 (0.49)	15.8 (0.41)	66.9 (0.63)
2015	15.7 (0.42)	16.0 (0.43)	69.9 (0.57)
2016	15.7 (0.54)	17.4 (0.46)	68.5 (0.63)
2017	16.2 (0.38)	16.7 (0.42)	68.4 (0.55)
2018	16.4 (0.53)	16.5 (0.41)	68.7 (0.65)

[1]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[2]Includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

[3]Includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of persons were covered by both public and private plans and were included in both categories.

[4]State-based Marketplace states include: CA, CO, CT, DC, HI, ID, KY, MD, MA, MN, NV, NM, NY, OR, RI, VT, and WA (as of October 31, 2013).

[5]Partnership Marketplace states include: AR, DE, IL, IA, MI, NH, and WV (as of October 31, 2013).

[6]Federally Facilitated Marketplace states include: AL, AK, AZ, FL, GA, IN, KS, LA, ME, MS, MO, MT, NE, NJ, NC, ND, OH, OK, PA, SC, SD, TN, TX, UT, VA, WI, and WY (as of October 31, 2013).

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 2010–2018, Family Core component.

Table XV. Percentages (and standard errors) of persons who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by age group and expanded region: United States, 2018

Age group and expanded region[1]	Uninsured[2] at time of interview	Public health plan coverage[3]	Private health insurance coverage[4]
All ages			
All regions	9.4 (0.27)	36.7 (0.38)	62.3 (0.46)
New England	4.7 (0.59)	36.8 (1.76)	69.3 (2.18)
Middle Atlantic	5.6 (0.60)	37.0 (1.01)	67.1 (0.81)
East North Central	7.9 (0.52)	34.8 (0.66)	67.2 (0.72)
West North Central	8.3 (0.78)	31.5 (0.87)	71.3 (1.55)
South Atlantic	12.2 (0.54)	37.9 (0.98)	58.1 (0.84)
East South Central	11.4 (1.03)	41.5 (1.54)	54.8 (1.87)
West South Central	16.1 (1.00)	33.6 (0.96)	56.6 (1.57)
Mountain	10.2 (0.49)	35.6 (1.70)	61.5 (1.78)
Pacific	7.4 (0.38)	40.2 (1.20)	59.4 (1.36)
Under 65 years			
All regions	11.1 (0.30)	25.5 (0.42)	65.1 (0.51)
New England	5.6 (0.71)	24.5 (1.68)	72.3 (2.41)
Middle Atlantic	6.6 (0.69)	25.2 (1.11)	69.8 (0.90)
East North Central	9.3 (0.61)	23.1 (0.68)	69.0 (0.60)
West North Central	9.9 (0.95)	18.4 (0.93)	73.7 (1.79)
South Atlantic	14.5 (0.60)	25.6 (0.90)	61.5 (1.06)
East South Central	13.5 (1.17)	30.4 (1.34)	57.4 (1.76)
West South Central	18.5 (1.12)	23.5 (0.84)	59.4 (1.67)
Mountain	11.6 (0.51)	25.9 (1.68)	64.6 (1.89)
Pacific	8.6 (0.42)	30.5 (1.51)	62.3 (1.74)
0–17 years			
All regions	5.2 (0.25)	41.8 (0.82)	54.7 (0.83)
New England	1.8 (0.56)	34.6 (4.01)	66.0 (3.96)
Middle Atlantic	3.2 (0.64)	37.1 (2.45)	61.1 (2.32)
East North Central	5.0 (0.76)	36.6 (1.52)	59.8 (1.39)
West North Central	4.3 (0.59)	30.8 (1.29)	66.9 (1.92)
South Atlantic	6.2 (0.53)	47.1 (1.48)	48.0 (1.57)
East South Central	5.6 (1.58)	52.3 (2.50)	42.9 (2.84)
West South Central	8.6 (0.67)	45.8 (1.91)	47.5 (2.21)
Mountain	6.9 (0.92)	37.7 (2.89)	57.9 (2.94)
Pacific	3.4 (0.42)	45.9 (2.87)	52.3 (2.82)
18–64 years			
All regions	13.3 (0.39)	19.4 (0.34)	68.9 (0.46)
New England	6.9 (0.97)	21.2 (1.29)	74.3 (1.99)
Middle Atlantic	7.8 (0.84)	21.2 (0.69)	72.8 (1.00)
East North Central	10.7 (0.66)	18.5 (0.64)	72.1 (0.59)
West North Central	11.9 (1.17)	14.0 (0.77)	76.1 (1.79)
South Atlantic	17.8 (0.81)	17.3 (0.81)	66.7 (1.00)
East South Central	16.4 (1.20)	22.3 (1.42)	62.8 (1.53)
West South Central	22.5 (1.41)	14.3 (0.75)	64.2 (1.55)
Mountain	13.7 (0.66)	20.6 (1.61)	67.5 (1.75)
Pacific	10.6 (0.61)	24.7 (0.96)	66.1 (1.35)

[1]The New England region includes: CT, ME, MA, NH, RI, and VT. The Middle Atlantic region includes: DE, DC, MD, NJ, NY, and PA. The East North Central region includes: IL, IN, MI, OH, and WI. The West North Central region includes: IA, KS, MN, MO, NE, ND, and SD. The South Atlantic region includes: FL, GA, NC, SC, VA, and WV. The East South Central region includes: AL, KY, MS, and TN. The West South Central region includes: AR, LA, OK, and TX. The Mountain region includes: AZ, CO, ID, MT, NV, NM, UT, and WY. The Pacific region includes: AK, CA, HI, OR, and WA.

[2]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[3]Includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

[4]Includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of persons were covered by both public and private plans and were included in both categories.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 2018, Family Core component.

Table XVI. Percentages (and standard errors) of persons who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by age group and selected states: United States, 2017–2018

Age group and selected states[1]	Uninsured[2] at the time of interview		Public health plan coverage[3]		Private health insurance coverage[4]	
	2017	2018	2017	2018	2017	2018
All ages						
All states[5]	9.1 (0.21)	9.4 (0.20)	36.2 (0.35)	36.7 (0.37)	62.6 (0.42)	62.3 (0.43)
California	6.8 (0.42)	7.7 (0.48)	41.0 (1.26)	40.0 (1.00)	58.0 (1.33)	58.2 (1.17)
Florida	14.0 (1.06)	13.6 (0.97)	37.8 (1.09)	40.1 (1.36)	53.6 (1.40)	53.8 (1.88)
Georgia	14.5 (0.95)	14.5 (1.21)	33.1 (1.70)	34.7 (2.30)	58.1 (2.13)	56.9 (2.35)
Illinois	7.1 (0.85)	7.7 (0.80)	31.2 (1.60)	30.2 (1.64)	70.8 (1.85)	69.9 (1.92)
Indiana	8.8 (1.24)	7.6 (1.21)	34.1 (1.99)	36.4 (2.44)	68.6 (2.34)	67.7 (2.76)
Massachusetts	4.1 (0.99)	3.9 (0.91)	37.5 (2.31)	37.1 (2.52)	68.6 (2.65)	71.1 (2.75)
Michigan	5.3 (0.89)	6.7 (0.76)	41.7 (1.65)	40.7 (2.14)	65.5 (1.94)	64.6 (2.11)
New Jersey	7.6 (1.31)	6.3 (1.09)	33.0 (2.24)	32.0 (2.32)	69.4 (2.63)	71.3 (2.62)
New York	4.9 (0.53)	4.7 (0.51)	38.9 (1.30)	43.6 (1.72)	63.3 (1.40)	60.3 (1.90)
North Carolina	12.0 (1.03)	11.9 (1.28)	35.2 (1.31)	36.1 (3.06)	58.9 (1.94)	59.8 (2.76)
Ohio	7.4 (1.15)	10.0 (1.10)	37.8 (1.76)	35.2 (1.49)	65.3 (1.80)	64.5 (1.92)
Pennsylvania	5.6 (1.07)	6.2 (1.23)	33.1 (1.71)	34.2 (1.33)	71.4 (1.90)	70.8 (1.79)
Tennessee	9.5 (1.42)	10.6 (1.46)	37.4 (2.25)	38.9 (2.57)	59.5 (2.73)	57.9 (3.02)
Texas	19.3 (1.21)	18.1 (1.12)	29.4 (1.32)	29.1 (1.29)	55.8 (2.03)	57.9 (2.08)
Virginia	9.7 (1.20)	7.5 (1.08)	31.8 (1.82)	38.4 (2.21)	67.4 (2.19)	64.4 (2.53)
Washington	5.3 (1.04)	6.2 (1.04)	37.4 (2.16)	39.3 (2.34)	67.7 (2.50)	63.9 (2.67)
Wisconsin	6.0 (1.07)	6.6 (1.06)	34.3 (2.05)	32.7 (2.22)	72.0 (2.32)	70.3 (2.52)
Under 65 years						
All states[5]	10.7 (0.25)	11.1 (0.24)	25.3 (0.39)	25.5 (0.39)	65.4 (0.47)	65.1 (0.47)
California	7.9 (0.49)	8.9 (0.56)	31.1 (1.50)	30.6 (1.17)	61.7 (1.56)	61.8 (1.34)
Florida	16.9 (1.27)	16.7 (1.20)	24.2 (1.40)	26.2 (1.42)	59.6 (1.69)	58.2 (2.14)
Georgia	16.6 (1.04)	16.5 (1.39)	23.4 (1.81)	25.7 (2.40)	61.3 (2.48)	59.0 (2.49)
Illinois	8.2 (0.91)	8.7 (0.91)	20.5 (1.73)	20.5 (1.61)	72.5 (2.18)	71.7 (1.91)
Indiana	10.4 (1.43)	9.1 (1.45)	22.0 (2.18)	24.6 (2.53)	69.5 (2.70)	68.3 (3.01)
Massachusetts	4.7 (1.15)	4.5 (1.08)	26.3 (2.67)	24.8 (2.62)	70.2 (3.09)	73.5 (2.95)
Michigan	6.4 (1.08)	8.1 (0.96)	29.9 (1.77)	27.9 (1.99)	66.6 (2.11)	66.1 (2.20)
New Jersey	8.7 (1.51)	7.3 (1.28)	21.8 (2.48)	20.0 (2.29)	70.4 (3.06)	73.4 (2.79)
New York	5.6 (0.60)	5.6 (0.63)	29.1 (1.48)	32.6 (1.89)	67.0 (1.62)	63.6 (2.00)
North Carolina	13.9 (1.21)	14.1 (1.46)	24.7 (2.04)	23.7 (3.08)	62.2 (2.44)	64.1 (3.11)
Ohio	8.6 (1.31)	11.8 (1.29)	26.4 (1.91)	23.3 (1.60)	67.0 (2.04)	66.2 (1.95)
Pennsylvania	6.5 (1.26)	7.5 (1.52)	20.8 (1.50)	20.9 (1.43)	74.2 (2.06)	74.0 (1.98)
Tennessee	11.2 (1.63)	12.4 (1.72)	27.4 (2.58)	28.2 (2.73)	63.3 (3.11)	60.5 (3.28)
Texas	21.6 (1.33)	20.5 (1.24)	20.9 (1.41)	19.6 (1.27)	58.4 (2.16)	60.7 (2.23)
Virginia	11.3 (1.38)	9.0 (1.30)	21.0 (1.99)	24.9 (2.29)	69.4 (2.51)	68.6 (2.71)
Washington	6.2 (1.21)	7.2 (1.22)	25.3 (2.45)	29.6 (2.50)	71.1 (2.85)	65.6 (2.87)
Wisconsin	7.1 (1.25)	7.6 (1.25)	21.6 (2.24)	20.2 (2.21)	73.6 (2.67)	73.2 (2.68)

See footnotes at end of table.

Table XVI. Percentages (and standard errors) of persons who lacked health insurance coverage, had public health plan coverage, and had private health insurance coverage at the time of interview, by age group and selected states: United States, 2017–2018 —Con.

Age group and selected states[1]	Uninsured[2] at the time of interview		Public health plan coverage[3]		Private health insurance coverage[4]	
	2017	2018	2017	2018	2017	2018
0–17 years						
All states[5]	5.0 (0.32)	5.2 (0.28)	41.4 (0.74)	41.7 (0.76)	55.0 (0.74)	54.8 (0.77)
California	3.1 (0.49)	3.5 (0.59)	46.8 (2.28)	47.5 (2.03)	51.0 (2.18)	50.8 (2.14)
Florida	7.6 (1.58)	8.1 (1.23)	49.4 (2.86)	50.6 (2.82)	43.6 (2.67)	42.3 (3.18)
Georgia	7.6 (1.19)	6.2 (1.45)	45.0 (3.54)	51.7 (4.31)	48.0 (3.30)	42.3 (3.83)
Illinois	*	*3.7 (1.15)	34.8 (4.09)	34.4 (3.10)	66.2 (4.00)	62.2 (3.16)
Indiana	9.9 (2.39)	*3.0 (1.43)	35.4 (4.09)	42.9 (5.04)	56.1 (4.25)	56.0 (5.11)
Massachusetts	*	*3.2 (1.54)	29.5 (4.89)	28.8 (4.82)	68.9 (4.97)	72.9 (4.78)
Michigan	*2.4 (0.84)	*3.0 (0.96)	43.8 (3.29)	40.2 (3.87)	58.1 (3.21)	59.6 (4.04)
New Jersey	*	*	34.7 (4.81)	34.0 (4.66)	66.4 (4.77)	64.8 (4.75)
New York	*1.2 (0.53)	*1.6 (0.67)	43.2 (2.65)	45.0 (3.40)	56.9 (2.75)	54.7 (3.35)
North Carolina	4.7 (1.07)	6.1 (1.56)	49.1 (3.96)	43.8 (5.10)	46.4 (3.63)	52.2 (4.97)
Ohio	*6.4 (2.50)	9.1 (2.71)	39.0 (3.51)	34.4 (3.62)	56.5 (3.82)	57.6 (3.45)
Pennsylvania	*4.6 (2.13)	*5.0 (1.83)	32.5 (3.30)	33.3 (3.29)	65.0 (3.26)	64.0 (3.61)
Tennessee	*4.0 (1.81)	7.6 (2.25)	44.0 (4.93)	48.9 (5.14)	53.8 (4.94)	44.0 (5.15)
Texas	10.4 (1.30)	9.6 (1.13)	43.2 (2.60)	42.0 (3.09)	47.3 (3.09)	49.2 (3.32)
Virginia	9.2 (2.17)	*2.9 (1.23)	32.9 (3.78)	39.3 (4.32)	58.5 (3.96)	60.2 (4.38)
Washington	*	*	33.1 (4.69)	39.1 (4.36)	66.8 (4.69)	60.3 (4.42)
Wisconsin	*	*4.0 (1.53)	41.2 (4.60)	34.5 (4.51)	59.1 (4.59)	63.0 (4.63)
18–64 years						
All states[5]	12.8 (0.27)	13.3 (0.28)	19.3 (0.32)	19.4 (0.31)	69.3 (0.41)	68.9 (0.42)
California	9.7 (0.60)	10.9 (0.69)	25.3 (1.28)	24.3 (0.96)	65.7 (1.41)	65.8 (1.20)
Florida	20.1 (1.28)	20.0 (1.38)	15.5 (1.05)	17.0 (1.03)	65.2 (1.61)	64.2 (1.94)
Georgia	20.3 (1.51)	20.9 (1.61)	14.7 (1.39)	14.8 (1.39)	66.6 (2.28)	66.0 (2.07)
Illinois	10.5 (1.10)	10.4 (1.04)	15.7 (1.47)	15.8 (1.24)	74.7 (1.90)	75.0 (1.68)
Indiana	10.6 (1.50)	11.2 (1.69)	16.4 (1.78)	18.3 (1.95)	75.0 (2.36)	72.6 (2.63)
Massachusetts	5.4 (1.23)	4.9 (1.20)	25.3 (2.33)	23.5 (2.19)	70.6 (2.77)	73.7 (2.67)
Michigan	8.1 (1.33)	9.8 (1.17)	24.3 (1.42)	23.7 (1.94)	70.1 (2.02)	68.4 (2.19)
New Jersey	11.8 (1.78)	9.3 (1.53)	16.8 (2.03)	14.9 (1.75)	72.0 (2.76)	76.5 (2.44)
New York	7.1 (0.77)	6.8 (0.72)	24.3 (1.36)	28.7 (1.58)	70.4 (1.51)	66.4 (1.80)
North Carolina	17.7 (1.50)	17.2 (1.88)	14.8 (1.24)	16.1 (2.44)	68.6 (1.97)	68.6 (2.70)
Ohio	9.4 (1.10)	12.7 (1.24)	22.1 (1.54)	19.4 (1.24)	70.7 (1.60)	69.2 (1.80)
Pennsylvania	7.3 (1.10)	8.5 (1.57)	16.3 (1.16)	16.3 (1.25)	77.7 (1.83)	77.7 (1.70)
Tennessee	13.8 (1.82)	14.3 (1.97)	21.4 (2.13)	20.4 (2.12)	66.7 (2.77)	66.8 (2.91)
Texas	26.4 (1.57)	25.0 (1.57)	11.3 (1.18)	10.5 (0.76)	63.2 (1.96)	65.4 (1.93)
Virginia	12.2 (1.48)	11.4 (1.56)	16.0 (1.63)	19.3 (1.82)	73.9 (2.21)	71.9 (2.43)
Washington	7.5 (1.34)	9.5 (1.51)	22.7 (2.09)	25.4 (2.10)	72.5 (2.53)	68.0 (2.63)
Wisconsin	8.8 (1.40)	8.8 (1.43)	14.6 (1.72)	15.5 (1.71)	78.8 (2.26)	76.6 (2.34)

* Estimates are considered unreliable. Data preceded by an asterisk have a relative standard error (RSE) greater than 30% and less than or equal to 50% and should be used with caution. Estimates not shown have an RSE greater than 50%.

[1]Estimates are presented for fewer than 50 states and the District of Columbia due to considerations of sample size and precision.

[2]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care.

[3]Includes Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

[4]Includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, or purchased through local or community programs. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of persons were covered by both public and private plans and were included in both categories.

[5]Includes all 50 states and the District of Columbia.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

SOURCE: NCHS, National Health Interview Survey, 2017−2018, Family Core component.

By Ryan M. McKenna, Jessie Kemmick Pintor, and Mir M. Ali

Insurance-Based Disparities In Access, Utilization, And Financial Strain For Adults With Psychological Distress

Ryan M. McKenna (rmm448@drexel.edu) is an assistant professor of health management and policy at the Drexel University Dornsife School of Public Health, in Philadelphia, Pennsylvania.

Jessie Kemmick Pintor is an assistant professor of health management and policy at the Drexel University Dornsife School of Public Health.

Mir M. Ali is an economist at the Office of the Assistant Secretary for Planning and Evaluation, Department of Health and Human Services, in Washington, D.C.

ABSTRACT Limited provider participation within Medicaid and narrow provider networks on health insurance Marketplaces pose potential barriers to accessing and using the health care system for people with behavioral health needs. We compared employer-sponsored insurance, Medicaid, and Marketplace coverage for people with psychological distress across three domains of health care: access, utilization, and financial strain. We found evidence that adults with psychological distress reported greater difficulty accessing health care relative to those without such distress, regardless of insurance source. Among adults with psychological distress, Medicaid enrollees were more likely to use care and less likely to experience health-related financial strain than those enrolled in employer-sponsored insurance were. However, people with Marketplace coverage were more likely to experience barriers across all domains, relative to people with the other two coverage sources. Policy makers should be cognizant of the participation of providers within Medicaid and the Marketplaces and work to make network breadth more transparent.

T he implementation of the Affordable Care Act (ACA) resulted in the reduction of the number of uninsured people in the United States by approximately twenty million.[1] This was accomplished primarily through the expansion of eligibility for Medicaid, the establishment of health insurance Marketplaces, and the young adult coverage provision. In conjunction with the insurance expansion, the combination of ten essential health benefits, consumer protections, and restrictions on how premiums can be set has reduced barriers to accessing the health care system. These provisions have translated into improved access to health care, reductions in health care financial strain, improvements in medication use and adherence, and improved health outcomes.[2–8] Moreover, the ACA has resulted in significant improvements for people with behavioral health care

needs.[3,9–11] The essential health benefits mandate coverage of behavioral health services in Medicaid and all exchange-qualified health plans, and the ACA extended the protections in the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008 to the individual and small-group insurance markets. This has led to increases in coverage for people with behavioral health needs and has reduced barriers to accessing the health care system.[3,10,11]

However, despite the gains that have been achieved for people with behavioral health needs, challenges remain in the post-ACA era. Several barriers to care persist, and disparities remain.[10,12] For example, of the 44.7 million adults with a mental illness, only 43.1 percent had received mental health treatment in the past year in 2016.[13] In conjunction with a shortage of mental and behavioral health specialists, recent research has noted several potential barriers to

access to and use of health care, such as the prevalence of narrow provider networks within exchange-qualified health plans and Medicaid.[14] Relative to employer-sponsored insurance, Marketplace plans had 10.6 percent lower availability of primary care appointments, and Medicaid plans had 25.1 percent lower availability.[14] This narrowing is particularly concerning for people with behavioral health needs, given the growing role of primary care providers as the gateway to mental and behavioral health care.[15] This limited provider availability is compounded by the fact that people with behavioral and mental health care needs already experience difficulty navigating the health care system, compared to those without such needs.[11,16]

Mental and behavioral health specialist participation in the Marketplaces and Medicaid is considerably lower than primary care provider participation. While the participation of mental and behavioral health specialists within all types of insurance, including employer sponsored, is limited, recent research has indicated that this shortage may be even more pronounced for Medicaid and Marketplace enrollees. The low rate of mental health specialists is partially due to the lower reimbursement rates within these plans, which leaves people in need of treatment with out-of-pocket spending—and that in turn creates a barrier to care, especially for low-income people.[17] Additionally, the ACA's limitations on how premiums may be set has prompted the growth of narrow provider networks in the Marketplaces, which can result in limited specialist participation or create longer travel times for enrollees to access in-network providers.[17] While the ACA has expanded insurance, the limited rates of behavioral health provider participation within the Marketplaces and Medicaid present a potential barrier to access and use of health care.[18]

Given that relative to people without mental and behavioral health needs, those with such needs are already more likely to be lower income[19] and to have lower insurance literacy, as well as being at greater risk for fragmented care, any additional barriers could work to exacerbate existing disparities. This is particularly concerning as people in good mental health are more likely to be employed and covered by employer-sponsored insurance, compared to those with mental health needs—who will be most affected by the expansion of Medicaid and the Marketplaces.

In this study we sought to identify barriers to general and mental health care access and utilization for people with any psychological distress by insurance type in the post-ACA era. Given the importance of this population and the fact that any future health insurance reforms are likely to affect the Marketplaces and Medicaid, this work will carry policy import going forward.

Study Data And Methods

DATA The population of interest for this study was nonelderly (ages 18–64) adults with psychological distress who were covered by employer-sponsored insurance, Marketplace coverage, or Medicaid in the post-ACA era. To identify this population, we relied upon the 2014–17 waves of the National Health Interview Survey (NHIS). The NHIS is a nationally representative study of health and health care along with socioeconomic and demographic characteristics of the civilian noninstitutionalized population in the US.

First, to identify people with psychological distress, we used Kessler 6 (K6) scores—standardized scores for assessing psychological well-being.[20] The K6 is a clinically reliable, accurate, and widely used measure that consists of six questions. We followed past studies in using this measure to identify people in need of behavioral and mental health treatment.[10–12] Each of the six questions begins by asking the respondent, "During the past thirty days, about how often did you feel…" and goes on to query the respondent about the following six domains: nervous, hopeless, restless or fidgety, so depressed nothing could cheer you up, that everything was an effort, and worthless. The respondent records answers using frequency scales that range from 0 ("none of the time") to 4 ("all of the time"). These responses are then summed for a total score ranging from 0 to 24. People with scores ranging from 0 to 4 are classified as having no or low psychological distress, those with scores of 5–12 are classified as having moderate psychological distress, and those with scores of 13–24 are classified as having severe psychological distress.[12,21,22] These questions are asked of all adults in the NHIS, and we used these responses to limit our sample to people with either moderate or severe psychological distress (those with K6 scores higher than 4).

Second, we limited our sample to nonelderly adults enrolled in employer-sponsored insurance, Medicaid, or an exchange-qualified health plan purchased on a state or federal Marketplace. While the NHIS relies upon self-report of insurance, the National Center for Health Statistics conducts a lengthy follow-up and adjudication process to reconcile any conflicting information and to ensure that the data accurately reflect insurance coverage. More information on the procedures by which the NHIS classifies and categorizes insurance is presented elsewhere.[23] Our sample consisted of 14,005 nonelderly adults with moderate or severe psychologi-

cal distress.

OUTCOMES, CONCEPTUAL MODEL, AND CONTROL VARIABLES We assessed differences across insurance types for outcomes grouped into the following three domains: barriers to health care access, health care utilization, and health care financial strain. It should be noted that our focus on access was not constrained to mental and behavioral health care specialists. Given the importance of primary care as a gateway to the health care system for people with behavioral health needs, we focused on a general definition of health care access.[15]

Our measures of barriers to health care access included a provider's office not accepting the respondent as a new patient, a provider's office not accepting the respondent's insurance, and the respondent having had trouble finding a provider, all in the past twelve months. Our measures of health care utilization included having had a provider visit, an emergency department (ED) visit, and a visit to a specialist mental health provider—again, all in the past twelve months. It should be noted that the NHIS considers psychiatrists, psychologists, psychiatric nurses, and clinical social workers to be mental health providers. Our measures of health care financial strain included the respondent needing and being unable to afford the following in the past twelve months: medical care, specialty care, mental health care, and prescription medication. All of these measures have been used in previous studies to assess health care access, utilization, and financial strain.[4,8,24]

To guide the selection of covariates included in the study we relied upon the Andersen behavioral model of health care utilization.[6] This framework categorizes the factors affecting use of health care across three domains: predisposing, enabling, and need. The predisposing factors in the model consisted of sex, age, race/ethnicity (Latino, non-Latino white, non-Latino black, or non-Latino other), and marital status (married or not married). In addition to type of insurance, the enabling factors consisted of education level (less than high school, high school, some college, bachelor's degree, or advanced degree), income as a share of the federal poverty level (0–99 percent, 100–199 percent, 200–399 percent, or 400 percent or more), if anyone in the household received benefits from the Supplemental Nutritional Assistance Program (formerly known as food stamps), and US Census region (Northeast, Midwest, South, or West). Self-reported health (excellent, very good, good, fair, or poor), reporting having at least one functional limitation, and level of psychological distress (moderate or severe) were the need factors in the model. Additionally, we included year dummies to account for time fixed effects.

STATISTICAL ANALYSIS All analyses were conducted using Stata, version 14. They also used both sampling and design variables to account for the complex survey design of the NHIS and participant nonresponse and to make the estimates nationally representative. We first compared access to the health care system for adults with and those without psychological distress, stratified by source of insurance. Second, we examined associations between our covariates and type of insurance, using chi-square analyses. Third, we repeated the analysis above to assess the associations between our outcomes and type of insurance. Fourth, we conducted multivariable logistic regression analyses to estimate odds ratios for each of the outcomes. These models were adjusted for the predisposing, enabling, and need factors, with type of insurance serving as the main covariate of interest. Given its relatively more generous and inclusive networks, employer-sponsored insurance served as the reference category in the main analyses.[25]

Additionally, to be able to compare differences in the odds between Medicaid and Marketplace enrollees, we conducted post hoc tests in which the initial regressions were run again, but Medicaid served as the reference group. Lastly, as a robustness check, we limited our sample to people with severe psychological distress, as they were more likely to have immediate mental health needs, and we then repeated the multivariable analyses. These results are available in online appendix exhibit 3.[26]

LIMITATIONS Our study's findings should be viewed in the context of some limitations. First, we were unable to control for insurance plan characteristics, such as type of plan or metal tier. However, the definitions we used in this study have been used elsewhere to study these categories of the insurance market, and the NHIS is one of the few nationally representative data sources available to make these comparisons.[10,12,23,27]

Second, while we controlled for financial need, it is possible that there was still unmeasured financial need among enrollees. This may be particularly true among Marketplace enrollees, who may have had fewer financial resources and were likely to face larger deductibles.

Third, from appendix exhibit 1, it appears that Medicaid enrollees were more likely to experience psychological distress, relative to people with employer-sponsored and Marketplace coverage.[26] While we controlled for a variety of health-related factors, this unmeasured health need likely biased our results. This sorting—in which people without psychological distress (or with less severe distress) select into employer-sponsored insurance and those with relatively

more severe psychological distress sort into Medicaid—could impart a bias that would inflate the magnitude of our results, as people with employer coverage require less care. Thus, our results that, conditional on mental health needs, Marketplace enrollees and Medicaid beneficiaries have trouble accessing care are still valid but may be inflated by this unmeasured health need.

Fourth, we utilized a repeated cross-section study design, which prevented us from tracking individual respondents over time.

Fifth, like other surveys, the NHIS relies upon self-report of outcomes, which rendered our sample's responses susceptible to recall bias.

Lastly, the study used the publicly available NHIS files, which do not contain state identifiers. This did not allow us to control for state-level fixed effects, Medicaid expansion status, or whether the state had a federal or state-based Marketplace. Specifically, the ACA has changed the composition and supply of the health care workforce, and the supply of health care providers has grown differentially across states—with larger changes in expansion states.[28–30] The underlying changes in supply of the health care workers could be a source of bias in the analysis.

Study Results

Across all three outcomes and across all insurance categories, adults with psychological distress reported greater difficulty relative to those without distress, regardless of insurance source (exhibit 1). For all three outcomes, Marketplace enrollees reported the most difficulty accessing the health care system and people with employer-sponsored insurance the least. For adults with psychological distress, 11.26 percent of Marketplace enrollees and 9.31 percent of people with Medicaid reported having had trouble finding a provider in the past twelve months, while the share for people with employer coverage was 4.65 percent. Similarly, Marketplace (11.42 percent) and Medicaid (8.89 percent) enrollees were more likely not be have been accepted as a new patient, relative to people with employer coverage (4.1 percent). The largest disparity was observed for not having had insurance accepted by a provider's office: 16.22 percent of people covered by Marketplace plans and 12.19 percent of those covered by Medicaid reported not having had their insurance accepted, relative to 4.68 percent of people with employer coverage.

Exhibit 2 presents the results of the chi-square analyses between each of the predisposing, enabling, and need factors and type of insurance. People with Medicaid and Marketplace coverage were more likely to be female, older, and either

Latino or non-Latino black, relative to people with employer-sponsored insurance. People covered through Medicaid or the Marketplace had lower levels of education relative to people with employer coverage, who were the most likely to have an income of at least 400 percent of poverty. People with Medicaid and Marketplace coverage were more likely to report being in poor health, relative to people with employer coverage. And people with Medicaid were the most likely to have severe psychological distress (26.77 percent), while people with employer coverage were the least likely (10.60 percent).

Significant variations were found across all outcome measures. Specifically, people covered by Marketplace insurance were the most likely to report that they had not been accepted as a new patient by a provider's office (11.42 percent), that their insurance had not been accepted by a provider's office (24.90 percent), and that they had had trouble finding a provider (11.26 per-

Percent of nonelderly adults with and without psychological distress who faced barriers to accessing care in the past 12 months, by insurance type, 2014–17
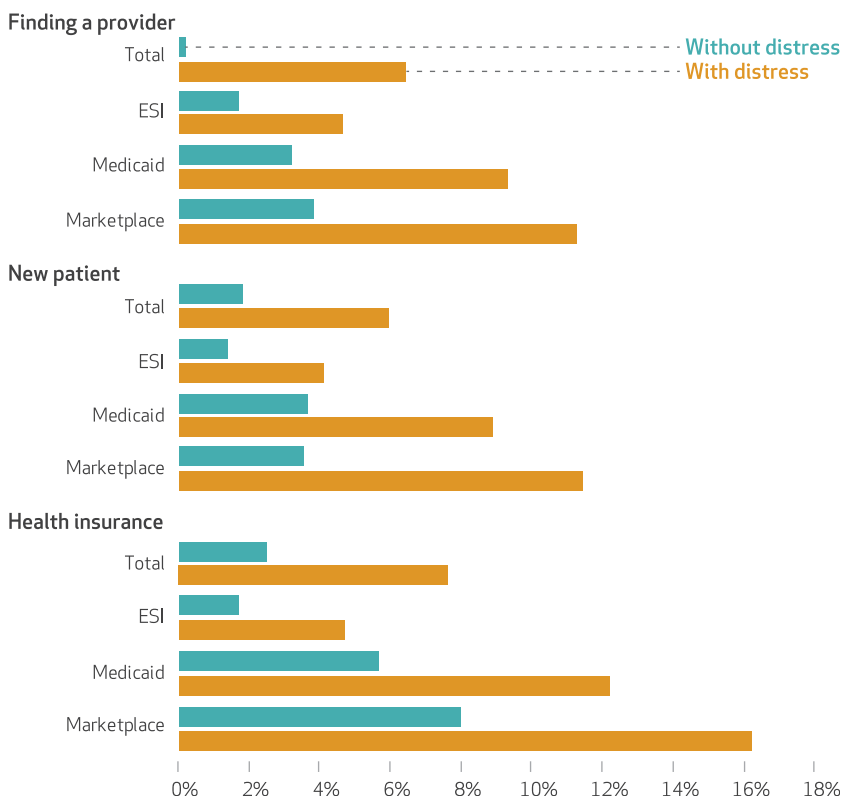
EXHIBIT 2

Characteristics of nonelderly adults with moderate or severe psychological distress, by insurance type, 2014–17

	ESI (n = 8,617)	Medicaid (n = 4,510)	Marketplace (n = 878)	Total (N = 14,005)
PREDISPOSING FACTORS				
Sex				
Female	55.35%	65.48%	59.48%	58.62%
Age (years)				
18–34	40.90	38.86	32.46	39.76
35–44	20.39	19.70	15.60	19.88
45–54	21.56	21.30	21.93	21.50
55–64	17.15	20.14	30.01	18.86
Race/ethnicity				
Latino	12.41	20.08	17.87	15.03
Non-Latino white	71.44	56.26	64.38	66.49
Non-Latino black	9.70	18.74	10.09	12.41
Non-Latino other	6.45	4.92	7.66	6.07
Marital status				
Married	50.61	25.36	42.80	42.63
ENABLING FACTORS				
Education				
Less than high school	6.22%	27.01%	9.52%	12.59%
High school	20.67	32.23	27.41	24.52
Some college	37.42	33.22	36.85	36.14
Bachelor's degree	22.58	6.13	19.39	17.50
Advanced degree	13.12	1.40	6.84	9.24
Income as percent of FPL				
0–99%	7.70	50.68	13.31	20.80
100–199%	13.21	33.16	34.19	20.47
200–399%	32.99	12.54	34.04	26.99
400% or more	46.10	3.62	18.46	31.74
SNAP receipt[a]	6.73	62.57	17.80	23.99
Region				
Northeast	17.12	19.71	16.88	17.87
Midwest	25.97	23.94	18.31	24.88
South	31.61	27.96	41.31	31.15
West	25.29	28.40	23.50	26.10
NEED FACTORS				
Psychological distress				
Moderate	89.40%	73.23%	85.30%	84.34%
Severe	10.60	26.77	14.70	15.66
Self-reported health				
Excellent	21.87	12.08	19.49	18.82
Very good	34.01	16.17	24.82	28.14
Good	31.02	29.10	33.89	30.64
Fair	10.43	27.44	15.04	15.77
Poor	2.66	15.21	6.76	6.64
At least 1 functional limitation	43.77	66.66	50.60	51.00

SOURCE Authors' analysis of data for 2014–17 from the National Health Interview Survey. **NOTES** Differences across insurance types were significant ($p < 0.001$) for all categories, as measured by chi-square analyses. Moderate and severe distress are explained in the text. ESI is employer-sponsored insurance. FPL is federal poverty level. [a]At least one person in the family has received benefits from the Supplemental Nutrition Assistance Program (SNAP; formerly known as food stamps) in the past twelve months.

were the most likely to have experienced a financial barrier to care, for all of our financial strain outcomes.

Exhibit 4 shows the results of multivariable logistic regressions for adults with psychological distress. Both Medicaid and Marketplace enrollees with psychological distress had significantly higher odds of not being accepted as a new patient by a provider's office (odds ratios: 1.73 and 2.98, respectively) or of having a provider's office not accept their insurance (OR: 2.17 and 3.72, respectively), relative to those with employer-sponsored insurance. Marketplace enrollees had 2.49 times greater odds of experiencing difficulty finding a provider, while Medicaid enrollees had 1.41 greater odds, relative to employer coverage enrollees. For the health care utilization outcomes, Marketplace enrollees had 0.72 time the odds of having had a provider visit in the past twelve months, relative to employer coverage enrollees, while no significant difference was observed for Medicaid enrollees. People with Medicaid had 1.57 greater odds of having had an ED visit and 1.29 greater odds of having visited a mental health provider in the past twelve months, relative to people with employer coverage. For the health care financial strain outcomes, Marketplace enrollees had 2.54 greater odds of needing but not getting medical care due to costs, while people with Medicaid had 0.64 time the odds, relative to people with employer coverage. Marketplace enrollees also had greater odds of needing and not getting mental health care due to costs (OR: 1.72) and needing but not getting specialty care due to costs (OR: 2.19). No significant differences in these outcomes were detected for people covered by Medicaid.

Of note, when Medicaid was the reference group, Marketplace enrollees had significantly higher odds of a provider's office not accepting them as a new patient (OR: 1.72) and not accepting their insurance (OR: 1.71) and of experiencing difficulty finding a provider (OR: 1.77). Conversely, people with employer-sponsored insurance uniformly had lower odds of having a provider's office not accept them as a new patient (OR: 0.58) and not accept their insurance (OR: 0.46) and of having trouble finding a provider (OR: 0.71). Marketplace enrollees had significantly lower odds across all of the utilization measures relative to Medicaid enrollees and had approximately 30 percent lower odds of having visited a mental health provider in the past twelve months.

Large disparities between Medicaid and Marketplace enrollees were observed for our health care financial strain measures. No significant differences between people with employer-sponsored insurance and Medicaid were detected for

cent) (exhibit 3). Marketplace enrollees were the least likely to have had a provider visit (84.26 percent) or a mental health provider visit (18.13 percent). Lastly, people on Marketplace insurance

EXHIBIT 3

Outcomes in the past 12 months for nonelderly adults with moderate or severe psychological distress, by insurance type, 2014–17

Outcome	ESI	Medicaid	Marketplace	Total
ACCESS BARRIER				
Provider's office did not accept:				
Respondent as a new patient	4.10%	8.89%	11.42%	5.99%
Respondent's health insurance	9.25	11.70	24.90	10.98
Respondent had trouble finding a provider	4.65	9.31	11.26	6.45
UTILIZATION (AT LEAST ONE VISIT)				
General				
To a provider	87.90%	88.15%	84.26%	87.74%
To the emergency department	23.08	47.88	25.16	30.56
Mental or behavioral				
To a mental health provider	20.37	29.97	18.13	23.07
DUE TO COSTS, NEEDED AND DID NOT GET:				
Medical care	14.31%	12.85%	30.86%	14.93%
Mental health care	5.40	7.96	9.68	6.43
Specialty care	7.03	10.70	16.93	8.75
Prescription medication	9.94	17.68	21.47	12.97

SOURCE Author's analysis of data for 2014–17 from the National Health Interview Survey. **NOTES** Sample sizes are in exhibit 2. Differences across insurance types were significant with p values <0.001 for all categories, as measured by chi-square analyses, with one exception: differences for "had at least one provider visit" had p values <0.05. Moderate and severe distress are explained in the text. ESI is employer-sponsored insurance.

EXHIBIT 4

Odds of outcomes occurring in the past 12 months for nonelderly adults with moderate or severe psychological distress, by insurance type, 2014–17

Outcome	Ref: ESI		Ref: Medicaid	
	Medicaid	Marketplace	ESI	Marketplace
ACCESS BARRIER				
Provider's office did not accept:				
Respondent as a new patient	1.733****	2.983****	0.577****	1.721***
Respondent's health insurance	2.174****	3.717****	0.460****	1.710***
Had trouble finding a provider	1.407*	2.491****	0.711**	1.771***
UTILIZATION (AT LEAST ONE VISIT)				
General				
To a provider	0.995	0.727**	1.005	0.730**
To the emergency department	1.566****	0.938	0.639****	0.599****
Mental or behavioral				
To a mental health provider	1.287***	0.894	0.777***	0.695***
DUE TO COSTS, NEEDED AND DID NOT GET:				
Medical care	0.641****	2.542****	1.559****	3.963****
Mental health care	0.984	1.719***	1.016	1.746***
Specialty care	0.953	2.192****	1.050	2.301****
Prescription medication	0.826	1.877****	1.210	2.272****

SOURCE Authors' analysis of data for 2014–17 from the National Health Interview Survey. **NOTES** $N = 14{,}005$. The exhibit shows odds ratios from multivariate logistic regressions. The regressions were run twice, first using people with employer-sponsored insurance (ESI) as the reference group, and a second time using people with Medicaid as the reference group. All results were adjusted for sex, age, race, education, marital status, income as a percentage of the federal poverty level, self-reported health, functional limitation status, receipt of benefits from the Supplemental Nutrition Assistance Program, US census region, and survey year. Moderate and severe distress are explained in the text. *$p < 0.10$ **$p < 0.05$ ***$p < 0.01$ ****$p < 0.001$

having visited a provider's office. However, people with employer coverage had lower odds of having had an ED visit (OR: 0.64) and having had a mental health provider visit in the past twelve months (OR: 0.78). Notably, Marketplace enrollees had roughly four times the odds of needing but not getting medical care due to costs. Marketplace enrollees also had greater odds of needing but not getting mental health care due to costs (OR: 1.75) and needing but not getting specialty care due to costs (OR: 2.30). The only significant difference among the health care financial strain measures for people with employer-sponsored insurance was having greater odds of needing but not getting medical care due to costs (OR: 1.56).

Analyses in the appendix show the results when the sample was restricted to only people with severe psychological distress (K6 scores of 13 or more) and we repeated the analyses in exhibit 4.[26] The results largely mirrored those of exhibit 4, with a few exceptions.

Discussion

This study provides preliminary evidence on the magnitude of disparities in access, utilization, and health care financial strain by source of health insurance for adults with psychological distress in the post-ACA era. Of note, regardless of the source of insurance, people with psychological distress reported more difficulties accessing health care (both mental health and general health care), compared to people without such distress. This is reflective of the results of previous research that found that people with mental and behavioral health needs face greater barriers to care and are more likely to experience difficulty navigating a health plan.[11,16,31] Additionally, whether or not they had psychological distress, employer-sponsored insurance enrollees were the least likely to report barriers to access, and Marketplace enrollees were the most likely. This could be reflective of the relatively broader networks that prevail in employer plans relative to Marketplace plans, which have less generous cost sharing and in which narrow provider networks are more prevalent.[14,32–34]

When we focused only on adults with psychological distress, our results suggest that Marketplace enrollees were more likely to face barriers in access to and use of both general and mental health care, when compared to employer coverage and Medicaid enrollees. In a similar manner, Medicaid enrollees faced barriers in access to both general and mental health care relative to people enrolled in employer coverage. Additionally, our results suggest that Marketplace enrollees with psychological distress were more likely

This study provides evidence of barriers that exist across insurance types for people with psychological distress.

to face health care financial strain, relative to employer coverage or Medicaid enrollees.

The facts that Medicaid and Marketplace enrollees were more likely not to be accepted as a new patient or not to have their insurance accepted by a provider's office could reflect the lower provider reimbursement rates offered through Medicaid and Marketplace plans.[18] Marketplace enrollees were also found to be less likely to have had a provider visit, when compared to either employer coverage or Medicaid enrollees, and were less likely to have had a visit with a mental health care provider, relative to Medicaid enrollees. However, Medicaid enrollees were more likely to use health care than either employer coverage or Marketplace enrollees. Medicaid enrollees were also less likely to experience health-related financial barriers in accessing care relative to Marketplace enrollees, which could partially explain the differences in the use of care between these two groups. This is unsurprising, given the deductibles and cost-sharing structures in Marketplace plans and the fact that Medicaid beneficiaries have very little, if any, cost sharing.

If networks are more likely to be narrow on the Marketplaces, this could force enrollees to decide between paying out of pocket for out-of-network specialists or forgoing mental health treatment.[18] Most plan purchasing decisions in the Marketplaces are based on premiums alone, with little or no information provided about network breadth.[32,33,35] This lack of information could cause enrollees to select plans with inadequate specialist participation, resulting in the payment of both a premium and out-of-network fees for people seeking treatment.

One way to make plans more transparent would be the development of a plan quality and network breadth metric, akin to Medicare's Star Rating System.[36] This metric would be available when the enrollment decision was made and would allow consumers to better understand

the trade-off between premiums and network breadth. Since this increase in transparency would be the result of improved information, it would not come at the expense of increasing reimbursements. This would allow people who desired broader networks to identify a more generous plan at a higher premium, instead of mistakenly enrolling in an insufficient plan and bearing the brunt of out-of-pocket spending. Improved sorting of enrollees into plans could work to alleviate some of the financial strain measures reflected in our results for Marketplace enrollees.

While the above network breadth metric would help people enrolling on the Marketplaces make more informed decisions, it would not work to alleviate the underlying lack of provider participation in insurance plans. One method to improve provider participation without increasing reimbursements would be to simplify administrative processes. This could be accomplished for Medicaid through engaging in organizational processes that speed up reimbursements to physicians and reduce the cost of physician participation in Medicaid.[37]

Of note, addressing the problem of provider participation from the payer side would largely be a state-level policy issue because of the 2017 Market Stabilization final rule, which shifts network oversight from the federal government to the states.[38–40] As of 2014, nearly every state had some form of network qualitative adequacy law, but fewer than half had a quantitative standard, often relying on self-policing from insurers.[40,41]

While self-policing may have been more practical with broader networks, it may no longer be a viable option as narrow provider networks become more prevalent or insurers understaff certain specialties to avoid high-cost enrollees.[41] Yet rigid quantitative standards may result in insurers raising premiums or exiting certain markets.[41] While the costs and benefits of both qualitative and quantitative standards must be carefully considered, legislators should strive to create up-to-date, user-friendly metrics of network breadth to help consumers select an appropriate plan.

Conclusion

Overall, this study provides evidence of remaining barriers that exist across insurance types for people with psychological distress. While such people covered by Medicaid faced barriers to access, they still were more likely to use health care services, relative to people with Marketplace coverage. However, people with psychological distress and Marketplace coverage faced both insurance-based and financial barriers to access and were found to be less likely to use care compared to people covered by Medicaid or employer-sponsored insurance. Policy makers should be cognizant of the participation of providers within Medicaid and the Marketplaces and work to make network breadth more transparent, so that enrollees can select a plan that will allow them to access adequate health care. ∎

NOTES

1 Carman KG, Eibner C, Paddock SM. Trends in health insurance enrollment, 2013–15. Health Aff (Millwood). 2015;34(6):1044–8.
2 Sommers BD, Gunja MZ, Finegold K, Musco T. Changes in self-reported insurance coverage, access to care, and health under the Affordable Care Act. JAMA. 2015;314(4):366–74.
3 McKenna RM. Treatment use, sources of payment, and financial barriers to treatment among individuals with opioid use disorder following the national implementation of the ACA. Drug Alcohol Depend. 2017;179:87–92.
4 McKenna RM, Langellier BA, Alcalá HE, Roby DH, Grande DT, Ortega AN. The Affordable Care Act attenuates financial strain according to poverty level. Inquiry. 2018;55: 46958018790164.
5 Chen J, Vargas-Bustamante A, Mortensen K, Ortega AN. Racial and ethnic disparities in health care access and utilization under the Affordable Care Act. Med Care. 2016; 54(2):140–6.
6 Andersen RM. Revisiting the behavioral model and access to medical care: does it matter? J Health Soc Behav. 1995;36(1):1–10.
7 Shartzer A, Long SK, Anderson N. Access to care and affordability have improved following Affordable Care Act implementation; problems remain. Health Aff (Millwood). 2016; 35(1):161–8.
8 Miller S, Wherry LR. Health and access to care during the first 2 years of the ACA Medicaid expansions. N Engl J Med. 2017;376(10):947–56.
9 Ali MM, Teich J, Woodward A, Han B. The implications of the Affordable Care Act for behavioral health services utilization. Adm Policy Ment Health. 2016;43(1):11–22.
10 Novak P, Anderson AC, Chen J. Changes in health insurance coverage and barriers to health care access among individuals with serious psychological distress following the Affordable Care Act. Adm Policy Ment Health. 2018;45(6):924–32.

11 Creedon TB, Cook BL. Access to mental health care increased but not for substance use, while disparities remain. Health Aff (Millwood). 2016;35(6):1017–21.

12 Sherrill E, Gonzales G. Recent changes in health insurance coverage and access to care by mental health status, 2012–2015. JAMA Psychiatry. 2017;74(10):1076–9.

13 National Institute of Mental Health. Mental illness [Internet]. Bethesda (MD): NIMH; [last updated 2017 Nov; cited 2019 Mar 20]. Available from: https://www.nimh.nih.gov/health/statistics/mental-illness.shtml

14 Polsky D, Candon MK, Chatterjee P, Chen X. Scope of primary care physicians' participation in the health insurance Marketplaces. Health Aff (Millwood). 2018;37(8):1252–6.

15 Health Resources and Services Administration. Behavioral health and primary care integration [Internet]. Rockville (MD): HRSA; [last reviewed 2019 Feb; cited 2019 Mar 20]. Available from: https://bphc.hrsa.gov/qualityimprovement/clinicalquality/behavioralhealth/index.html

16 Dixon LB, Holoshitz Y, Nossel I. Treatment engagement of individuals experiencing mental illness: review and update. World Psychiatry. 2016;15(1):13–20.

17 Mark TL, Olesiuk W, Ali MM, Sherman LJ, Mutter R, Teich JL. Differential reimbursement of psychiatric services by psychiatrists and other medical providers. Psychiatr Serv. 2018;69(3):281–5.

18 Cummings JR. Rates of psychiatrists' participation in health insurance networks. JAMA. 2015;313(2):190–1.

19 Cunningham PJ, Green TL, Braun RT. Income disparities in the prevalence, severity, and costs of co-occurring chronic and behavioral health conditions. Med Care. 2018;56(2):139–45.

20 Kessler RC, Andrews G, Colpe LJ, Hiripi E, Mroczek DK, Normand SL, et al. Short screening scales to monitor population prevalences and trends in non-specific psychological distress. Psychol Med. 2002;32(6):959–76.

21 Prochaska JJ, Sung HY, Max W, Shi Y, Ong M. Validity study of the K6 scale as a measure of moderate mental distress based on mental health treatment need and utilization. Int J Methods Psychiatr Res. 2012;21(2):88–97.

22 Cohen RA, Zammitti EP. Access to care among adults aged 18–64 with serious psychological distress: early release of estimates from the National Health Interview Survey, 2012–September 2015 [Internet]. Hyattsville (MD): National Center for Health Statistics; 2016 May [cited 2019 Mar 20]. Available from: https://www.cdc.gov/nchs/data/nhis/earlyrelease/ER_SPD_Access_2015_F_AUER.pdf

23 National Center for Health Statistics. Evaluation and editing of health insurance data [Internet]. Hyattsville (MD): NCHS; [last updated 2018 Jun 14; cited 2019 Mar 20]. Available from: https://www.cdc.gov/nchs/nhis/health_insurance/hi_eval.htm

24 Wherry LR, Miller S. Early coverage, access, utilization, and health effects associated with the Affordable Care Act Medicaid expansions: a quasi-experimental study. Ann Intern Med. 2016;164(12):795–803.

25 Karakus M, Riley J, Goldman H. Federal policies and programs to expand employment services among individuals with serious mental illnesses. Adm Policy Ment Health. 2017;44(3):339–44.

26 To access the appendix, click on the Details tab of the article online.

27 Hempstead K. The off-exchange individual market and small group market: new HIX Compare data. Health Affairs Blog [blog on the Internet]. 2016 Oct 24 [cited 2019 Mar 20]. Available from: https://www.healthaffairs.org/do/10.1377/hblog20161024.057190/full/

28 Antonisse L, Garfield R, Rudowitz R, Artiga S. The effects of Medicaid expansion under the ACA: findings from a literature review [Internet]. Washington (DC): Kaiser Commission on Medicaid and the Uninsured; 2016 Jun [cited 2019 Mar 20]. (Issue Brief). Available from: http://www.nationaldisabilitynavigator.org/wp-content/uploads/news-items/KFF_Effects-of-Medicaid-Expansion_June-2016.pdf

29 Parente ST, Feldman R, Spetz J, Dowd B, Baggett EE. Wage growth for the health care workforce: projecting the Affordable Care Act impact. Health Serv Res. 2017;52(2):741–62.

30 Serakos M, Wolfe B. The ACA: impacts on health, access, and employment. Forum Health Econ Policy. 2016;19(2):201–59.

31 Kim J, Braun B, Williams AD. Understanding health insurance literacy: a literature review. Fam Consum Sci Res J. 2013;42(1):3–13.

32 Polsky D, Cidav Z, Swanson A. Marketplace plans with narrow physician networks feature lower monthly premiums than plans with larger networks. Health Aff (Millwood). 2016;35(10):1842–8.

33 Polski D, Weiner J, Zhang Y. Narrow networks on the individual marketplace in 2017. LDI Issue Brief. 2017;21(8):1–6.

34 Zhu JM, Zhang Y, Polsky D. Networks in ACA Marketplaces are narrower for mental health care than for primary care. Health Aff (Millwood). 2017;36(9):1624–31.

35 Dafny LS, Hendel I, Marone V, Ody C. Narrow networks on the health insurance Marketplaces: prevalence, pricing, and the cost of network breadth. Health Aff (Millwood). 2017;36(9):1606–14.

36 Reid RO, Deb P, Howell BL, Shrank WH. Association between Medicare Advantage plan star ratings and enrollment. JAMA. 2013;309(3):267–74.

37 Long SK. Physicians may need more than higher reimbursements to expand Medicaid participation: findings from Washington State. Health Aff (Millwood). 2013;32(9):1560–7.

38 Centers for Medicare and Medicaid Services. Patient Protection and Affordable Care Act; HHS notice of benefit and payment parameters for 2017. Final rule. Fed Regist. 2016;81(45):12203–352.

39 Wishner JB, Marks J. Ensuring compliance with network adequacy standards: lessons from four states [Internet]. Washington (DC): Urban Institute; 2017 Mar [cited 2019 Mar 20]. Available from: https://www.urban.org/sites/default/files/publication/88946/2001184-ensuring-compliance-with-network-adequacy-standards-lessons-from-four-states_0.pdf

40 Hall M, Brandt C. Network adequacy under the Trump administration. Health Affairs Blog [blog on the Internet]. 2017 Sep 14 [cited 2019 Mar 20]. Available from: https://www.healthaffairs.org/do/10.1377/hblog20170914.061958/full/

41 Hall MA, Ginsburg PB. A better approach to regulating provider network adequacy [Internet]. Washington (DC): Center for Health Policy at Brookings; 2017 Sep [cited 2019 Mar 20]. Available from: https://www.brookings.edu/wp-content/uploads/2017/09/regulatory-options-for-provider-network-adequacy.pdf

By Hugh Alderwick, Carlyn M. Hood-Ronick, and Laura M. Gottlieb

Medicaid Investments To Address Social Needs In Oregon And California

Hugh Alderwick (hugh
.alderwick@health.org.uk) is
assistant director of policy at
the Health Foundation, in
London, United Kingdom. He
carried out the research for
this article when he was a
Harkness Fellow and visiting
scholar in the Center for
Health and Community,
University of California
San Francisco.

Carlyn M. Hood-Ronick is the
senior manager, health equity,
at the Oregon Primary Care
Association, in Portland.

Laura M. Gottlieb is an
associate professor in the
Department of Family and
Community Medicine,
University of California
San Francisco.

ABSTRACT Health care organizations across the US are developing new approaches to addressing patients' social needs. Medicaid programs are uniquely placed to support these activities, given their central role in supporting low-income Americans. Yet little evidence is available to guide Medicaid initiatives in this area. We used qualitative methods to examine how Medicaid funding was used to support social interventions in sites involved in payment reforms in Oregon and California. Investments were made in direct services—including care coordination, housing services, food insecurity programs, and legal supports—as well as capacity-building programs for health care and community-based organizations. A mix of Medicaid funding sources was used to support these initiatives, including alternative models and savings. We identified several factors that influenced program implementation, including the local health system context and wider community factors. Our findings offer insights to health care leaders and policy makers as they develop new approaches to improving population health.

ealth care organizations across the US are increasingly experimenting with ways to address patients' social needs, such as housing and food insecurity, in an attempt to improve health and control costs.[1] This reflects growing awareness of the social determinants of health and the major role they play in shaping health outcomes.[2–4] At the same time, the growth of accountable care organizations and other value-based payment models has created new opportunities to use health care funding flexibly to improve population health.[5]

State Medicaid programs are uniquely positioned to support activities that address patients' social needs. Medicaid is the largest health insurer for low-income Americans, who disproportionately experience socioeconomic barriers to health.[2] The Affordable Care Act extended Medicaid coverage to previously ineligible populations, such as childless adults, with high rates of housing instability and other social needs.[6] These social needs can increase health care use and costs.[7,8]

Under current Medicaid regulations, all states have the option to pay health care organizations to connect patients with basic social supports, such as food or housing resources. For example, state plan amendments can be used to cover case management services, including assessing patients' social needs and making referrals to nonmedical services.[9] Medicaid managed care organizations may also provide additional social supports not covered under state contracts—for example, "in-lieu-of" services (cost-effective alternatives to covered services) or value-added services (extra supports that will improve care quality or reduce costs).[10]

Policy makers in several states—including California, Colorado, and Oregon—have also used Section 1115 waivers to extend Medicaid's role in addressing patients' social needs beyond

the level of support in many other states, including by supporting health and social service partnerships and providing greater flexibility to fund social interventions.[11] The long-term benefits of these efforts could be significant, given evidence that greater investment in social services at the state and county levels is associated with better health outcomes.[12,13] Early evaluations of Medicaid reforms in Oregon and Colorado have pointed to some successes in improving quality, controlling costs, and reducing disparities.[14,15] Yet these studies have not focused specifically on the social needs–related components of each state's reform programs. Under these and related initiatives, little is known about how Medicaid dollars are used in practice to fund social interventions and the service models developed to implement them. The same is true across the US health system: Data on the funding, structure, and impact of health care interventions to address social needs are limited.[1,16]

To provide new insights in this area, we conducted qualitative research with communities involved in Medicaid payment and delivery system reforms in California and Oregon to understand how Medicaid funding was used to address patients' social needs. We selected California and Oregon because both states have introduced reforms that offer new flexibility to address social needs—including paying for social supports not usually covered under Medicaid. In Oregon, coordinated care organizations (CCOs) were established under a Medicaid waiver in 2012 to purchase and provide health care for Medicaid patients, with flexibility to direct funding toward health-related social services.[17,18] For example, CCOs may use their capitation payments to cover more extensive care coordination supports than would otherwise be covered under state plan benefits, as well as one-time nonmedical expenses that could improve patients' health (such as air conditioners for asthma patients). At the same time, an alternative payment methodology was introduced for federally qualified health centers that shifted reimbursement from the per visit prospective payment system to a per member per month rate.[19] In California, Whole Person Care Pilots—partnerships of county health departments, managed care plans, hospitals, and community partners—were created in 2016 (also under a Section 1115 waiver) to coordinate health care and behavioral health and social services for California's most vulnerable Medicaid beneficiaries, and the pilots were provided with up to $1.5 billion federal funding through 2021.[20] This funding could cover new infrastructure or interventions to improve care for high-risk groups, such as data sharing systems or housing-related supports.

Study Data And Methods

DESIGN AND SAMPLE We conducted qualitative research with communities involved in Medicaid reforms in California and Oregon to understand how social interventions were funded and delivered. Our sample included fifty-five representatives from Medicaid payers, provider organizations, local governments, and community-based organizations in six regions across the two states.

We identified a purposive sample of communities involved in each state's reforms. In Oregon we focused on CCO areas with community health centers that used the state's alternative payment methodology. In California we focused on counties involved in the Whole Person Care Pilots program. We reviewed publicly available documents and contacted relevant organizations to identify a smaller number of those communities that used Medicaid funding flexibility to support social interventions. We selected three CCOs in Oregon and three counties in California to be involved in the study, chosen to ensure diversity of geographical region, rural versus urban areas, and population size. We undertook site visits and conducted in-depth interviews with representatives from Medicaid payers (including CCOs and managed care organizations), provider organizations (such as federally qualified health centers), local government agencies (particularly in California, given their role in Medicaid reforms), and community-based organizations (such as housing agencies). Interviewees were typically organization leaders and managers of relevant initiatives, but they also included clinicians and community health workers. Participants were identified through web-based research and recommendations from state experts, followed by snowball sampling.[21]

We defined social needs as patients' social and economic barriers to health, such as housing instability or food insecurity. We focused on the range of ways each region used Medicaid dollars to address social needs—including state reform initiatives but also any other relevant efforts by Medicaid payers and providers.

DATA COLLECTION AND ANALYSIS We used a semistructured interview guide with questions about the content of social interventions, how they were structured and funded, and the contextual factors that influenced implementation (see online appendix 1).[22] Interviews were typically carried out in person at the participant's place of work, lasted about 45–60 minutes, and took place in March–May 2018. All interviews were recorded and professionally transcribed. We asked interviewees to share relevant documents (such as project reports) when they referred to them in their responses.

We analyzed the data using the constant comparative method of qualitative analysis.[21] We reviewed interview transcripts line by line to identify key themes. Two of the authors (Hugh Alderwick and Laura Gottlieb) reviewed all transcripts and worked collaboratively to develop the code structure. We conducted our analysis in parallel with site visits and revised the code structure as new themes emerged. We used an integrated approach to develop the code structure[23] based on themes identified in the data and the domains covered in our interview guide. After a coding structure was stabilized, one author (Alderwick) coded the remaining transcripts. We used Dedoose, version 8.0.44, to facilitate the analysis of the data.

LIMITATIONS Our study had three important limitations. First, our sampling strategy involved selecting communities that were involved in Medicaid reforms to address social needs. Our findings are not representative of all efforts to do so across California and Oregon. Instead, our findings show how advanced communities in each state used Medicaid funding to address social needs.

Second, our unit of analysis—counties in California and CCOs in Oregon—was too large for us to interview representatives from every organization involved in delivering Medicaid-supported services in each site. Rather, we interviewed organization representatives who could provide an overview of relevant initiatives and others involved in program implementation. As a result, our data do not provide an exhaustive account of all efforts to address social needs under Medicaid in each region.

Third, our data were from professionals involved in designing and delivering services—not from patients. Though we conducted interviews with community-based organizations to understand programs from a social services perspective, this work did not incorporate patients' views on the interventions delivered. This could weaken the interpretation of our findings.

Study Results

All sites used Medicaid funding to invest in social interventions. We describe the content of these interventions, followed by how Medicaid dollars were used to support them. We then describe the contextual factors influencing their implementation.

INTERVENTIONS TO ADDRESS SOCIAL NEEDS Medicaid funding was used to support two categories of interventions to address social needs: direct services and capacity building. Service interventions focused on identifying and responding to patients' social needs by providing direct

services—for example, screening patients for unmet needs and helping them access resources. Capacity-building activities focused on strengthening health care and social services' ability to collaborate and deliver social interventions—for example, investment in data sharing or new team members.

DIRECT SERVICES

▶ **CARE COORDINATION FOR MULTIPLE SOCIAL NEEDS:** The most common intervention across both states was care coordination to help patients access social services, such as housing, legal supports, and income assistance. The approach and target population for care coordination varied from general, low-intensity supports to intensive case management for target populations. In Oregon, for example, community health workers coordinated health and social services for patients in clinics and community settings. In one federally qualified health center, the workers—funded through the clinic's alternative payment methodology—worked with patients to access, as a clinic supervisor told us, "money for their food, resources for child care, bus passes—you name it." The workers could also apply to the CCO for flexible services funds (described below) to make one-time payments for nonmedical items, such as heaters and temporary accommodation for homeless patients after treatment.

More intensive care coordination had been established for specific groups, such as homeless patients and people leaving jails. In California, all sites used Section 1115 waiver funding to implement care coordination for homeless patients. In one county, housing navigators connected with homeless patients daily to explore housing options, communicate with landlords, access income support, and find employment. Across all sites, care coordination typically began with an assessment of patients' social needs (approaches varied) and regularly involved referrals to targeted social interventions.

▶ **HOUSING:** A range of targeted housing interventions had been developed in both states. In Oregon, one rural CCO invested a proportion of Medicaid savings in a project to develop around twenty tiny homes for homeless people. In California, counties used Section 1115 waiver funding to invest in medical respite facilities for homeless patients, on-site supportive housing services, and tenancy-sustaining services—such as helping residents manage their money and shop for groceries. In one county, waiver dollars were used to pay formerly homeless patients' first and last months' rent. In another, housing coordinators had access to flexible funds that could cover patients' utility bills or other housing expenses—"you know, to replace the screen

door that you kicked your foot through so your sister won't let you come back," as the program director told us. Two counties in California also reinvested local savings from Section 1115 waiver programs in flexible housing pools, used to fund rental subsidies for supportive housing and new housing units.

▶ FOOD INSECURITY: All sites described food insecurity as a barrier to patients' health and had developed various approaches to address it. In one site in Oregon, the CCO invested in a vegetable prescription program delivered by a community health center and community-based organization. Patients were screened for food insecurity during clinic visits and offered available resources. This included a $20 token, funded by the CCO and renewed monthly, to spend at the community-based organization's on-site food stand or local farmers markets.

▶ LEGAL NEEDS: Some care coordination programs included referrals to legal services, but several sites also supported legal services directly through Medicaid. One county in California established a clinic-based medical-legal partnership and remote legal services under its Section 1115 waiver. After a referral from community health workers or other staff members, attorneys helped patients prevent evictions, appeal benefits denials, expunge criminal records, and more.

▶ TARGET POPULATIONS: The target population for these interventions varied based on program requirements and focuses. Common target populations included high health care utilizers, high utilizers of multiple services, homeless clients, and behavioral health patients.

CAPACITY BUILDING As mentioned above, capacity-building activities focused on strengthening health care and social services' ability to collaborate and deliver social interventions to specific populations. Here we describe a variety of these activities carried out in California and Oregon.

▶ STAFF TRAINING: Staff training was a key area for investment in both states. In California, one county was investing $2.4 million of Section 1115 waiver funding in each year of the pilot to train staff members from health care and social services in information sharing, teamwork, and coordinated entry (a process used to determine and provide access to housing supports and assistance for people experiencing homelessness). Another hired and trained peer navigators to work with vulnerable patients. In Oregon, one CCO used savings to fund training for community health workers and health equity workshops for clinicians.

▶ COMMUNITY-BASED ORGANIZATIONS: Health care organizations also invested in strengthening the capacity of community-based organizations that delivered social services. In some cases, this involved contributing to operating costs or existing programs. In Oregon, for example, one CCO supported a homeless shelter and family relief nursery. Other interventions focused on building community-based organizations' capabilities. As part of its Section 1115 waiver, one county in California worked with landlords to improve accommodation standards for low-income patients and created an operators association for owners of board and care homes. Another provided administrative support to help community-based organizations manage grants and contracts.

▶ COMMUNITY ENGAGEMENT: Medicaid reforms since 2012 in Oregon had created several opportunities for community engagement—for example, requiring CCOs to conduct community health assessments. In one site, the CCO established a health council responsible for reinvesting CCO savings in community health projects—many focused on influencing social determinants. Sites in California also focused on improved understanding of community needs. One county used Section 1115 waiver funding to establish a community engagement unit, which hired eight full-time advocates—"hardcore advocates[,]...not government people," in the words of a program director—to work with local communities to understand upstream health issues, identify gaps in services, and support health care and community-based organizations to help fill them.

▶ DATA AND TECHNOLOGY: Finally, sites in California invested Section 1115 waiver funding in data and information technology infrastructure to improve their ability to identify patients who required support, coordinate care, and track the use of services between sectors. One county invested in a data repository that combined information from health care, criminal justice, social services, and housing. The system was used to identify high users of multiple systems to be targeted for care coordination.

MEDICAID FUNDING OPTIONS Sources of Medicaid funding used to support these interventions fell into three categories: conventional options, alternative models, and savings (exhibit 1). Funding from multiple categories was often combined and added to other federal and local dollars to cover additional costs or intervention components restricted under Medicaid.

▶ CONVENTIONAL OPTIONS: Some interventions were supported using funding traditionally available under Medicaid (for example, through managed care or fee-for-service contracts). Examples include Medicaid payments for case management and care coordination (benefits under

EXHIBIT 1

Medicaid funding for social needs interventions in Oregon and California, by funding category

Examples of funding sources	Examples of social needs interventions
CONVENTIONAL OPTIONS	
Covered services such as care coordination and case management	Medical transportation services and referrals to social services
Medicaid administrative claiming such as Medicaid administrative activities	Connecting behavioral health patients with housing, employment, or income support
FQHC rate adjustments to incorporate social interventions	On-site legal supports in FQHCs
ALTERNATIVE MODELS	
Alternative payment methodology for FQHCs in Oregon	Community health workers supporting patients with social needs
CCO flexible service spending for individual patients	Clothes, heaters, shoes, air filters, and temporary accommodation
Incentive payments—Section 1115 waiver funding in California	Care coordination for successful transitions from jail to the community
Bundled payments—Section 1115 waiver dollars in California	Intensive case management for homeless patients, and data and analytics infrastructure development
SAVINGS	
Savings from CCOs and managed care contracts	On-site food bank and vouchers for low-income patients and contributing to family relief nursery operating costs
Savings from Section 1115 waiver contracts in California	Reinvestment in flexible housing pool, used to cover rental subsidies and supportive housing development

SOURCE Authors' analysis of study data. **NOTES** FQHC is federally qualified health center. CCO is coordinated care organization.

managed care), Medicaid administrative claiming dollars (used to fund administrative activities such as care coordination), and funding for defined social supports covered under state plans (such as medical transportation). Some sites used nontraditional organizations to deliver these services. In Oregon, one CCO helped community-based organizations—including a family relief nursery and housing provider—obtain National Provider Identifiers from the Centers for Medicare and Medicaid Services (CMS) to enable Medicaid reimbursement for care coordination. Others were exploring how the costs of social interventions could be covered through rate adjustments. For example, one federally qualified health center in California was seeking to include legal costs (to help homeless patients access benefits) within their prospective payment system rate. While these conventional options were constrained by Medicaid regulations and sometimes involved high administrative burden, they offered a relatively stable route to fund limited social interventions for patients.

▶ **ALTERNATIVE MODELS:** Sites in both states also used alternative models for funding to support social interventions. In California, county health departments received Section 1115 waiver funding from the state, which they used to construct per member per month bundled payments for defined social interventions covered under the waiver (such as housing-related supports). One county also used incentive payments to support care coordination in settings usually excluded by Medicaid. The county created a payment model that rewarded successful transitions to

community settings for patients leaving jails and institutions for mental disease. To achieve successful transitions—including by connecting patients with social supports—teams must coordinate care before patients' discharge or release. But since Medicaid payments are not allowed while patients are institutionalized, the county receives payments only when patients are enrolled in Medicaid after they leave those settings.

In Oregon, three main alternative funding sources could be used to support social interventions. First, alternative payment models freed up funding for provider organizations to invest in social supports. For example, federally qualified health centers in our Oregon sites operated under the state's alternative payment methodology—a capitated payment covering Medicaid primary care medical services. The centers submit claims data to the state, including on care touches (such as social needs screening) outside the scope of traditional medical visits, and receive additional payments if their revenue falls below prospective payment system rates. Some centers used this new flexibility to expand their nonmedical services—for example, increasing the number of community health workers who supported patients with social needs. Second, the state's Section 1115 waiver in 2012 introduced flexible services spending, which allowed CCOs to purchase one-time, noncovered services on the basis that they would improve members' health. Flexible services target individual patients, must be related to medical diagnoses, and are generally small sums of money (as little as $20). CCOs described challenges in freeing up funding for flexible services when these

expenditures were treated as administration costs for rate setting. (Flexible services recently became allowable as medical expenses in CCOs' medical loss ratios, and they now fall under a broader category of health-related services spending.) Third, annual quality payments from the state to CCOs provided additional opportunities for investment in social interventions. In practice, however, these investments often focused on achieving state quality measures around clinical priorities.

▶ SAVINGS: A final approach to translating Medicaid dollars into investment in social interventions was through savings. In both states, CCOs and managed care organizations invested a proportion of savings from Medicaid contracts (such as CCOs' global budgets) in programs to address social needs. In California, county health departments also shared a proportion of savings from Section 1115 waiver programs—for example, savings made within prospectively defined bundled payments for services. Savings became county funds and not subject to Medicaid rules. In one site, several million dollars of local savings were being invested in a flexible housing pool, used to pay rental subsidies for patients in supportive housing. In another, savings were combined with other local funding to invest in permanent supportive housing units. While savings were typically seen as the most flexible source of funding for social interventions, health care leaders were uncertain about their ability to accrue them in the future.

CONTEXTUAL FACTORS INFLUENCING IMPLEMENTATION While each state's reforms had made it possible to use Medicaid funding for an array of social interventions, the implementation of these programs was heavily shaped by local context. This included factors relating to health care system context, community context, and interactions between the two (see appendix 2).[22]

Within the health care system, growing awareness of the impact of social determinants of health, the backing of senior leaders, and the mission and culture of organizations serving low-income patients all encouraged investment in social interventions. Simultaneously, efforts were constrained by underdeveloped systems and processes for identifying and addressing social needs, ambiguity around what could be covered by Medicaid (and how costs would be treated in rate setting and medical loss ratio rules), and professional opposition to new interventions (for example, clinicians feeling uncomfortable asking patients about social needs without having a solution to address them). Outside the health care system, the political context, extent of collaboration between health care and community-based organizations, and communi-

ty attitudes toward social interventions all influenced program implementation. For example, in California the commitment to address homelessness from county boards of supervisors created a supportive political context for the Whole Person Care Pilots program.

Above all, however, interviewees described how implementation depended on the availability of services in the community to address social needs. In all sites, the scale of Medicaid patients' unmet social needs—for housing, food, income, and more—outstripped the resources available to address them. Interviewees described how additional Medicaid investments in social supports, while welcome, could reach only a small number of high-risk patients and were insufficient compared with the scale of unmet social needs in their communities. One interviewee noted, "If we spent our entire Medicaid budget on housing, we still wouldn't have enough."

Discussion

Interest in health care interventions to address patients' social needs has outpaced the sector's knowledge of what works, when, and for whom. Our study provides new insights into how social interventions have been funded and delivered under Medicaid reforms in Oregon and California, as well as the contextual factors shaping their implementation. While previous work[9,10] has described options for states to use Medicaid funding to support social services, little evidence is available on how the funding is used in practice. When organizations were given greater flexibility over spending, we found that health care leaders made investments in a range of services to address housing, food, legal, and other social needs, as well as capacity-building interventions to strengthen health care and community-based organizations' ability to respond to these needs. Sites used a mix of Medicaid funding to support social interventions, including conventional options, alternative models, and savings.

Our findings have several implications. First, Medicaid reforms in both states have blurred traditional funding boundaries between health care and social services, raising questions about whether current Medicaid rules make sense in the context of providing care to patients with significant socioeconomic barriers to health. The clearest example is housing, where Medicaid can cover some housing-related services but not direct housing costs or rent. Under the Section 1115 waiver in California, however, Medicaid dollars were used to cover patients' first month's rent and other housing expenses, and local savings from waiver programs contributed to rental

subsidies and new housing units.

Should these kinds of investments become the norm for Medicaid? Some health care leaders in our study hoped that data from their reform efforts could make the case for redrawing some Medicaid funding boundaries in the future—for example, expanding the scope of housing-related services covered under state plans. Others, however, worried about the risk of medicalizing social needs and the health care sector's lack of skills and resources to solve complex social issues, such as homelessness, that face low-income communities. An alternative approach, of course, would be for policy makers to invest in housing and other social services directly, instead of channeling funding through Medicaid—particularly given the imbalance of spending between health care and social services in the US compared to other countries in the Organization for Economic Cooperation and Development.[24] Given the paucity of evidence on the impacts of health care interventions to address social needs,[1] targeted evaluation of the initiatives currently under way in California and Oregon—if focused on the specific social needs components of each state's reforms—would at least help policy makers better understand the outcomes and costs associated with Medicaid spending on social supports. Evaluation of the social needs components of these programs could also help local leaders better target their diverse investments in this area.

Second, leaders in both states were concerned about their ability to sustain Medicaid investments in social supports. Funding for California's Whole Person Care Pilots expires in 2021. And in both states, savings from Medicaid revenue—currently used flexibly by CCOs, managed care organizations, and counties to invest in social supports—are not guaranteed in the future, particularly given current efforts to reduce federal Medicaid spending. The recently expanded definition of *supplemental benefits* in Medicare Advantage[25] suggests that CMS may allow greater spending on social services over time. But even under more flexible payment models, investment in social interventions ultimately depends on the choices of health care leaders about the proportion of Medicaid revenue they are willing to direct toward nonmedical services. Our study did not assess levels of spending on social services in each site. One recent analysis[26] suggested that in 2015, CCOs in Oregon documented spending less than 0.1 percent of their total annual budgets on flexible services, which includes health-related social supports (but excludes spending on social supports using savings)—though documentation of this spending is variable. Recontracting for CCOs is cur-

rently under way, and policy options for new contracts under review include requirements for increased spending on social determinants and new financial incentives to address targeted social needs.[27] It is worth noting, however, that CCO spending is only one component of health care financing for social needs in Oregon. Federally qualified health centers, for example, have long invested in social supports for vulnerable populations using a mix of local, state, and federal funding sources.

Finally, our findings illustrate the central role played by community-based organizations in delivering social interventions. In both states, health care organizations had developed partnerships with community-based organizations to deliver care coordination, housing supports, food programs, and more. Positive relationships between health care and community-based organizations were commonly identified as a supportive factor that shaped program implementation. Yet we also uncovered challenges for community-based organizations when partnering with health care, including differences in language and approaches to supporting low-income patients, limited capacity and capabilities to manage large service contracts, and challenges recruiting and retaining staff.

Given that many health care interventions to address social needs rely on referrals to community-based organizations and other social services,[16] our findings suggest that health care leaders should consider the potential tensions and unintended consequences of these partnerships for community-based organizations and how to mitigate them. For example, health care organizations in our study made capacity-building investments in community-based organizations. These considerations are particularly important given the growth of multisector partnerships focused on population health in the US.[28]

Conclusion

Health care organizations across the US are experimenting with interventions to address patients' social needs. Policy makers are testing new approaches to incentivize these activities. In California and Oregon, sites involved in Medicaid reforms invested in service interventions to respond to patients' social needs directly and in capacity-building activities to strengthen health care and community-based organizations' ability to collaborate and deliver social interventions. These investments blur traditional boundaries between the funding and delivery of health care and social services. ∎

NOTES

1 Gottlieb LM, Wing H, Adler NE. A systematic review of interventions on patients' social and economic needs. Am J Prev Med. 2017;53(5):719–29.

2 Adler NE, Stewart J. Health disparities across the lifespan: meaning, methods, and mechanisms. Ann N Y Acad Sci. 2010;1186:5–23.

3 Stringhini S, Sabia S, Shipley M, Brunner E, Nabi H, Kivimaki M, et al. Association of socioeconomic position with health behaviors and mortality. JAMA. 2010;303(12):1159–66.

4 McGinnis JM, Williams-Russo P, Knickman JR. The case for more active policy attention to health promotion. Health Aff (Millwood). 2002;21(2):78–93.

5 Fraze T, Lewis VA, Rodriguez HP, Fisher ES. Housing, transportation, and food: how ACOs seek to improve population health by addressing nonmedical needs of patients. Health Aff (Millwood). 2016;35(11):2109–15.

6 Vickery KD, Bodurtha P, Winkelman TNA, Hougham C, Owen R, Legler MS, et al. Cross-sector service use among high health care utilizers in Minnesota after Medicaid expansion. Health Aff (Millwood). 2018;37(1):62–9.

7 Raven MC, Billings JC, Goldfrank LR, Manheimer ED, Gourevitch MN. Medicaid patients at high risk for frequent hospital admission: real-time identification and remediable risks. J Urban Health. 2009;86(2):230–41.

8 Bandara SN, Huskamp HA, Riedel LE, McGinty EE, Webster D, Toone RE, et al. Leveraging the Affordable Care Act to enroll justice-involved populations in Medicaid: state and local efforts. Health Aff (Millwood). 2015;34(12):2044–51.

9 Bachrach D, Guyer J, Levin A. Medicaid coverage for social interventions: a road map for states [Internet]. New York (NY): Milbank Memorial Fund; 2016 Jul [cited 2019 Mar 1]. (Issue Brief). Available from: https://www.milbank.org/wp-content/uploads/2016/09/MMF-NYS-Health-Issue-Brief-FINAL.pdf

10 Machledt D. Addressing the social determinants of health through Medicaid managed care [Internet]. New York (NY): Commonwealth Fund; 2017 Nov 29 [cited 2019 Mar 1]. Available from: https://www.commonwealthfund.org/publications/issue-briefs/2017/nov/addressing-social-determinants-health-through-medicaid-managed

11 Hinton E, Musumeci M, Rudowitz R, Antonisse L, Hall C. Section 1115 Medicaid demonstration waivers: the current landscape of approved and pending waivers [Internet]. San Francisco (CA): Henry J. Kaiser Family Foundation; 2019 Feb 12 [cited 2019 Mar 1]. Available from: https://www.kff.org/medicaid/issue-brief/section-1115-medicaid-demonstration-waivers-the-current-landscape-of-approved-and-pending-waivers/

12 Bradley EH, Canavan M, Rogan E, Talbert-Slagle K, Ndumele C, Taylor L, et al. Variation in health outcomes: the role of spending on social services, public health, and health care, 2000–09. Health Aff (Millwood). 2016;35(5):760–8.

13 McCullough JM, Leider JP. Government spending in health and non-health sectors associated with improvement in county health rankings. Health Aff (Millwood). 2016;35(11):2037–43.

14 McConnell KJ, Renfro S, Chan BK, Meath TH, Mendelson A, Cohen D, et al. Early performance in Medicaid accountable care organizations: a comparison of Oregon and Colorado. JAMA Intern Med. 2017;177(4):538–45.

15 Muoto I, Luck J, Yoon J, Bernell S, Snowden JM. Oregon's coordinated care organizations increased timely prenatal care initiation and decreased disparities. Health Aff (Millwood). 2016;35(9):1625–32.

16 Alderwick HAJ, Gottlieb LM, Fichtenberg CM, Adler NE. Social prescribing in the U.S. and England: emerging interventions to address patients' social needs. Am J Prev Med. 2018;54(5):715–8.

17 McConnell KJ. Oregon's Medicaid coordinated care organizations. JAMA. 2016;315(9):869–70.

18 Oregon Health Authority. Transformation Center: health-related services [Internet]. Salem (OR): OHA; [cited 2019 Mar 1]. Available from: https://www.oregon.gov/oha/HPA/dsi-tc/Pages/Health-Related-Services.aspx

19 Angier H, O'Malley JP, Marino M, McConnell KJ, Cottrell E, Jacob RL, et al. Evaluating community health centers' adoption of a new global capitation payment (eCHANGE) study protocol. Contemp Clin Trials. 2017;52:35–8.

20 California Department of Health Care Services. Whole Person Care Pilots [Internet]. Sacramento (CA): DHCS; c 2019 [cited 2019 Mar 1]. Available from: http://www.dhcs.ca.gov/services/Pages/WholePersonCarePilots.aspx

21 Patton MQ. Qualitative research and evaluation methods. 3rd ed. Thousand Oaks (CA): Sage Publications; 2002.

22 To access the appendix, click on the Details tab of the article online.

23 Bradley EH, Curry LA, Devers KJ. Qualitative data analysis for health services research: developing taxonomy, themes, and theory. Health Serv Res. 2007;42(4):1758–72.

24 Bradley EH, Elkins BR, Herrin J, Elbel B. Health and social services expenditures: associations with health outcomes. BMJ Qual Saf. 2011;20(10):826–31.

25 CMS.gov. Details for title: HPMS memo [Internet]. Baltimore (MD): Centers for Medicare and Medicaid Services; [cited 2019 Mar 1]. Available for download from: https://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/HPMS/HPMS-Memos-Archive-Weekly-Items/SysHPMS-Memo-2018-Week4-Apr-23-27.html

26 Kushner J, McConnell J. Oregon's CCOs: what do we know so far? Paper presented at: Annual Meeting of the Oregon Primary Care Association; 2018 Aug 16; Lebanon, OR.

27 Oregon Health Authority. CCO 2.0: the future of coordinated care [Internet]. Salem (OR): OHA; [cited 2019 Mar 1]. Available from: https://www.oregon.gov/oha/OHPB/Pages/CCO-2-0.aspx

28 Siegel B, Erickson J, Milstein B, Pritchard KE. Multisector partnerships need further development to fulfil aspirations for transforming regional health and well-being. Health Aff (Millwood). 2018;37(1):30–7.

POLICY PRINCIPLES
to Guide Health Care's
Role in Social Interventions

COMMUNITY CATALYST

Social and Economic Drivers of Health

The social, environmental, and economic factors that shape our lives —and the policies that create those conditions—play a crucial role in our health.

What do access to healthy, affordable food and housing; safe, clean environments; reliable transportation; and good schools and jobs have in common? All of them impact how long people live and how healthy they are while they are alive. Yet in many communities, access to these critical resources is limited or uneven. In particular, historic and current patterns of racial and ethnic discrimination mean that Alaska Natives/American Indians, Native Hawaiians/Pacific Islanders, and people of color often live in neighborhoods that have fewer resources, receive lower public and private investments, and face higher barriers to health and well-being. This contributes to higher rates of sickness and premature death among these communities that are further compounded by discrimination based on other social factors - gender, sex and sexual orientation, disability, class, age, and others - and the ways in which these identities intersect. Because of these inequities, addressing the social and economic determinants of poor health is critical to achieve health justice.

Health systems and policy makers are increasingly looking for ways to use health system levers, such as Medicaid, Medicare and hospital community benefit requirements, to address social determinants of health. But more work remains to ensure patients and communities benefit from new approaches. For example, policies aimed at directing health care resources to address social determinants must set appropriate guard rails that protect patient and community data. They must ensure sufficient funding for both health care and social services, rather than sacrificing one for the other, and balance longer-term pay-offs for one sector with immediate needs in another. These are thorny issues, further complicated by having many complex sectors - housing, food, transportation - at the table. The following policy principles attempt to balance these challenges and opportunities in ways that elevate and support patients and communities.

PRINCIPLE 1

The health care system should address the social determinants of health.

Research shows that social factors play an outsized role in health outcomes. Health care strategies that address the social drivers of poor health are key to ensuring that patients and community members have the best opportunities to thrive. They are also key to spending health care dollars effectively, and improving health outcomes for everyone. Thus, the health care system should proactively support social interventions that improve health. This includes finding appropriate ways to use health care resources and strategies to directly address social determinants of health in clinical practice and community settings.

PRINCIPLE 2

"First, do no harm" - Ensure access to comprehensive, high-quality health care and public health services.

Affordable, accessible, comprehensive and high-quality health care is critical to health. Efforts to address social determinants should build on a strong foundation of health care access and quality, and should not undermine these fundamental and necessary building blocks for health. Policy initiatives that seek to use health care resources to improve or address social determinants should add to - not replace or divert - resources that support core health care and public health functions and expand access to quality health care.

PRINCIPLE 3
Involve patients and communities in identifying problems, naming solutions and defining the terms of success.

Community buy-in and support is key to addressing the social determinants of health. Plan and use community engagement strategies that support inclusive, meaningful participation from patients and community residents as policy solutions are developed, implemented and evaluated. This includes providing support for community residents and community-based organizations to participate and share decision-making roles when planning, implementing and evaluating interventions.

PRINCIPLE 4
Make reducing health disparities a core goal of efforts to address social determinants of health.

The social and economic resources necessary for good health are distributed unevenly across individuals and communities, contributing to marked disparities in health based on factors such as race, disability, income, gender identity, education and neighborhood. As communities, policymakers and health systems work together to implement approaches to address social determinants, reducing disparities in health outcomes should be a core goal. This includes identifying critical health disparities, designing and implementing strategies to reduce them, and measuring the impact of interventions.
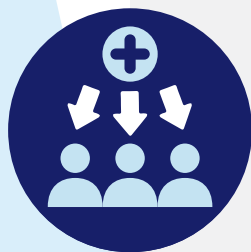
PRINCIPLE 5
Provide sustainable and sufficient financing to address patients' social needs and connect them to meaningful levels of services.

Health system investments in social services must be adequately and appropriately funded. This includes adequately funding social services to avoid the "bridge to nowhere" problem, where the health sector is identifying patients' social needs but other sectors - like housing or food - lack the resources to meet those needs. This also means ensuring payments to health systems are adjusted appropriately to account for their patients' level of social needs. Additionally, advocates and policymakers should work with health care organizations to ensure that health plans and providers who invest heavily in social services and thus decrease the need for traditional medical services are not penalized when it comes to payment.

Match the social intervention with financing strategies that align in terms of scale, purpose and timeline.

When considering how to use health care dollars to support a social intervention that improves health, choose financing approaches in which the source and scale of funding, and the timing for expected return on investment, appropriately match the intervention. For example, health systems interested in creating sustainable, long-term improvements in the local economy should use their own purchasing power to support inclusive, local hiring and source from locally-owned businesses. By contrast, smaller-scale financing strategies that can absorb a delayed or reduced return on investment - such as direct grantmaking and capital investments - might support one-off social interventions that meet pressing community needs, such as investing affordable or healthy housing units. Health care payment innovations - such as value-based payments - can provide consistent financing for time-sensitive social services that meet patients' immediate needs. Tools already exist to help health care providers and community-based social service organizations develop financial arrangements that support social needs interventions for high-need patients. Finally, public financing mechanisms - including public expenditures, taxes and public health assessments - might be most appropriate in situations where investments lead to real, short-term improvements in one social sector, but the impact on health outcomes and costs take longer to realize.

Involve multiple sectors in shaping social interventions to improve health.

Social interventions to improve health should be developed with input from multiple sectors and community partners. This will help create shared incentives, build on strengths of multiple sectors and avoid duplication where community resources already exist. We encourage strategies that create communities of practice among providers, payers, public agencies and community partners from sectors such as health care, transportation, housing, public health, environmental health and food security.

Appropriately limit how patient and community data is collected, shared and used.

Good data is essential to addressing social determinants of health effectively. However, patient and community data can be incorrectly interpreted and used to promote policies that limit access to services, or applied in ways that exacerbate disparities. To avoid misuse, establish a limited scope for how data will be collected, shared and used with robust input from patients and communities, clear opt-out options and safeguards to protect personal privacy, and intensive education for staff, patients and communities.
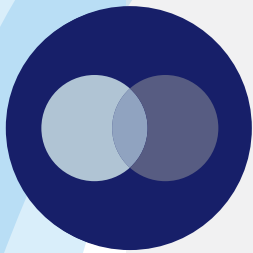
Maximize transparency.

In clinical settings, clearly communicate the availability of benefits to address social needs, as well as appeals and grievance processes. Efforts to promote broader social interventions to improve health should clearly indicate why a particular issue and strategy were selected, what the anticipated cost and impact will be, and what role the community can play in providing information and influencing decisions. In all cases, information should be shared in ways that are culturally, linguistically and physically accessible to all.

Address structural racism as a social driver of poor health.

Structural racism refers to public policies, institutional practices, racialized narratives and beliefs that permeate our culture and impose greater barriers on Alaska Natives/American Indians, Native Hawaiians/Pacific Islanders and people of color. Structural racism reinforces the racial disparities that exist in almost every sector of American life, including housing, employment, education, transportation and criminal justice. Addressing structural racism means developing policies and practices that explicitly acknowledge and counteract the historical legacies and present-day realities of racism across the social determinants of health. It also means using a strengths-based approach to social interventions that includes patients and communities impacted by structural racism in decision-making. A "strengths-based approach" treats patients and community residents as experts in their own lives and experiences. It acknowledges the impact that social identity and trauma - including trauma from racism, poverty and other forms of discrimination - have on health. It develops interventions that support the strategies, networks and assets these communities have already built that have enabled them to thrive.

By Douglas Keith Branham and Thomas DeLeire

Zero-Premium Health Insurance Plans Became More Prevalent In Federal Marketplaces In 2018

Douglas Keith Branham
(dkeithbranham@icloud.com)
is a research analyst at the
Centers for Medicare and
Medicaid Services, in
Baltimore, Maryland. He
conducted research for this
article while he was a public
health analyst in the
Department of Health and
Human Services, in
Washington, D.C.

Thomas DeLeire is a
professor in the McCourt
School of Public Policy,
Georgetown University, in
Washington, D.C.

ABSTRACT The Affordable Care Act established two federally funded subsidies—cost-sharing reductions and premium tax credits—available in the health insurance Marketplaces. In 2018 federal payments to insurers for cost-sharing reductions were terminated. Insurers responded by increasing plan premiums to account for the loss of these payments. Premiums for silver plans were increased more than those for other metal tiers because cost-sharing reductions are available only in silver plans, while premium tax credits can be applied across different metal tiers. One consequence of greater premium increases for silver plans was the increased availability and selection of plans with zero premiums for consumers. We examined the magnitude of this issue using plan selections through the federal Marketplaces during the open enrollment periods before (2017) and after (2018) the termination of payments. We found that zero-premium plan availability increased by 18.3 percentage points, selection increased by 7.9 percentage points, and selection conditional on having a zero-premium plan available increased by 8.8 percentage points. Were federal cost-sharing reduction payments to be restored, a reduction in availability and selection of zero-premium plans would likely occur, and more consumers could lose access to the plans.

The Affordable Care Act (ACA) established two subsidies, cost-sharing reductions and premium tax credits, to lower consumer costs for plans available in the health insurance Marketplaces. Premium tax credits reduce monthly premium costs for all Marketplace plans, while cost-sharing reductions reduce out-of-pocket expenses—deductibles, copayments, coinsurance, and out-of-pocket spending maximums—for silver-tier Marketplace plans only.

In 2016 a federal district court ruled that federal payments to reimburse insurers for cost-sharing reductions were unconstitutional because funds were not appropriated by Congress.[1,2] In October 2017 the federal government announced that it would terminate cost-sharing reduction payments based on this ruling.[3]

While insurers are no longer reimbursed for cost-sharing reductions, they are still required to offer them to eligible enrollees. As a result of this requirement, most insurers attempted to compensate for the expected loss in cost-sharing reduction payments by increasing Marketplace plan premiums in the 2018 open enrollment period, a practice referred to as "premium loading." Many insurers increased premiums of silver plans more than those of plans in other metal tiers, known as "silver loading."[4]

Silver loading was attractive to insurers because of the difference in how premium tax credits and cost-sharing reductions are provided to consumers. Premium tax credits are benchmarked to the premiums of the second-lowest-cost silver plan but can be applied to a plan on

any metal tier, while cost-sharing reductions are restricted to silver plans. As a result, silver loading increased the amount of tax credits available to some consumers and widened gaps in premiums between benchmark and lower-cost plans.[5]

Consequently, silver loading led to increased access to plans with no monthly premium payment due from the consumer; we refer to these as a "zero-premium plans." Zero-premium plans are available when the amount of premium tax credit an enrollee is eligible for equals or exceeds their selected plan premium.

Larger premium tax credits and greater access to zero-premium plans resulted in an increase in federal spending on premium tax credits. According to the Congressional Budget Office (CBO), termination of federal payments for cost-sharing reductions resulted in a net increase in federal expenditures. Additionally, the CBO estimated that 2018 silver plan premiums would be 20 percent higher than they would have been if cost-sharing payments had continued and silver loading had not occurred.[6,7]

There are some estimates of zero-premium plan availability from public sources, but estimates of selection of these plans are sparse.[8,9] In this article we examine the impact of terminating cost-sharing reduction payments and subsequent premium and silver loading by estimating both the availability and selection of zero-premium plans. We compare plan availability and selections during the open enrollment periods in the years before (2017) and after (2018) the policy change for the thirty-nine states that used the federal Marketplace's HealthCare.gov platform. We also compare characteristics of enrollees who had zero-premium plans available and those of enrollees who selected such plans. Additional background on the ACA subsidy structure and silver loading is in the online appendix.[10]

Study Data And Methods

DATA We obtained individual-level data on plan selections, demographic characteristics, insurer, and geographic region for consumers enrolled in plans through the Marketplaces from the Multidimensional Insurance Data Analytics System (MIDAS) of the Centers for Medicare and Medicaid Services (CMS). We merged these data with county-level data on plan availability from the Qualified Health Plan files submitted by insurers to MIDAS for the open enrollment periods for coverage years 2017 and 2018.[11,12] Only the thirty-nine states using HealthCare.gov in 2017 and 2018 were included in our analysis because information for the remaining states is not included in the CMS data.

METHODS We defined a consumer as having selected a zero-premium plan if the individual premium for the plan they selected was less than or equal to their allocated premium tax credit. We defined a consumer as having a zero-premium plan available if the premium for the lowest-cost plan offered in their county, according to CMS data, was less than or equal to their allocated premium tax credit.[13] We defined the percentage of enrollees who selected a zero-premium plan conditional on availability as the percentage of those with a zero-premium plan available who selected such a plan (that is, selection divided by availability).

For 2017 and 2018 we calculated the proportions of all Marketplace consumers who had a zero-premium plan available to them, selected a zero-premium plan, and selected a zero-premium plan conditional on having one available to them. We also calculated estimates for 2015 and 2016, but these did not differ notably from those for 2017.

Additionally, we estimated availability, selection, and selection conditional on availability of zero-premium plans for three metal tiers: bronze, silver, and gold. Since preliminary estimates indicated that platinum zero-premium plans were effectively nonexistent, we did not examine them separately.

We also calculated zero-premium plan availability, selection, and selection conditional on availability by consumer age, numbers of insurers and plans, rural status, categories of income as a percentage of the federal poverty level, and state premium-loading approach (defined below). We defined rural status based on the definition used by the Health Resources and Services Administration and included as a variable in the CMS data.[14] Certain consumers with incomes under 100 percent of poverty are eligible to receive premium tax credits under certain circumstances. Therefore, we grouped enrollees with incomes under 100 percent of poverty who were shown to be eligible for premium tax credits in the data with enrollees with incomes of 100–150 percent of poverty.

We defined the state premium-loading approach as the approach each state allowed insurers to use to account for loss of federal payments for cost-sharing reductions, including silver loading. While twenty-seven federal Marketplace states allowed silver loading, fourteen of them also effectively allowed insurers to increase the premiums of Marketplace silver plans differentially from those of individual-market plans offered outside the Marketplace (off-Marketplace plans). Five HealthCare.gov states allowed for premium adjustment in response to the termination of cost-sharing reduction payments but

required a "broad" adjustment across plans in all metal tiers. Only one HealthCare.gov state did not allow any loading at all. In six HealthCare.gov states, different insurers employed mixed approaches to premium loading.[15]

LIMITATIONS The study had several limitations. Our methods were limited in two primary ways. First, a consumer's premium tax credit, as determined on their tax return, may differ from their allocated premium tax credit if their realized taxable income differs from their projected taxable income when they select a plan during open enrollment. Thus, some plans that are defined as zero-premium plans as of open enrollment will not be zero-premium plans upon tax filing (and vice versa).

Second, when calculating the availability and selection of zero-premium plans, we considered only consumers who selected a Marketplace plan. We did not factor into our estimates those consumers who were eligible to participate in the Marketplace but did not select a plan through it.

In addition, the drivers of nonparticipation among Marketplace-eligible enrollees may be differentially influenced by factors such as subsidy eligibility, plan options, and perceived health status. Therefore, our conclusions are not generalizable to the wider Marketplace-eligible population.

Study Results

Zero-premium plans became more common from 2017 to 2018, with availability increasing by 18.3 percentage points, selection increasing by 7.9 percentage points, and selection conditional on availability increasing by 8.8 percentage points (exhibit 1). Estimates calculated for 2015 and 2016 did not differ notably from those for 2017 and are not shown.

Bronze zero-premium plans were the most commonly available, with more than one-third of all federal Marketplace consumers having bronze zero-premium plans available to them in 2017—a share that increased to more than half in 2018 (exhibit 2). Even though silver zero-premium plans were available to fewer consumers in both years, selection and selection conditional on availability were highest in silver zero-premium plans (3.3 percent and 56.5 percent, respectively, in 2017 and 7.0 percent and 64.6 percent, respectively, in 2018). Gold zero-premium plans were nearly nonexistent in 2017 and were available to only 3.3 percent all federal Marketplace consumers in 2018. In that year only 0.3 percent of consumers selected a gold zero-premium plan, and 9.5 percent selected one conditional on availability. Across all metal tiers, availability and selection of zero-premium plans increased from 34.3 percent and 6.1 per-

cent, respectively, in 2017 to 52.6 percent and 13.9 percent, respectively, in 2018. Similarly, selection conditional on availability increased from 17.7 percent in 2017 to 26.5 percent in 2018.

Availability and selection of zero-premium plans increased with consumer age in both years, with 43 percent of those ages fifty-five and older having zero-premium plans available to them in 2017—a share that increased to 60 percent in 2018 (exhibit 3). Additionally, availability and selection decreased as the number of plans to choose from increased, with approximately 13 percent of consumers with fewer than ten zero-premium plans available selecting one in 2017, compared to 26 percent in 2018. Furthermore, in 2017 the availability of zero-premium plans was most common for enrollees with one insurer (45 percent), while in 2018 it was most common among enrollees with three or more insurers (57 percent)—double the percentage in 2017 (28 percent).

Availability and selection of zero-premium plans were greatest for those with incomes of 100–150 percent of poverty (69 percent and 13 percent in 2017, respectively, and 80 percent and 21 percent in 2018, respectively). Both avail-

ability and selection decreased as income increased among those eligible for a subsidy. However, selection conditional on availability was highest for those in the highest income category (251–400 percent of poverty) for both years, increasing from 24 percent in 2017 to 33 percent in 2018. Additionally, availability did not differ substantially in either year by rural status, while selection and selection conditional on availability were higher in rural areas.

Finally, overall availability and selection did not differ much by state premium-loading approach in 2017, as would be expected since that approach was applied in 2018. In 2018 availability was lowest for the state with no premium-loading approach (25 percent) and highest for states with silver loading for on-Marketplace plans only (58 percent). In the same year selection was also lowest in the state with no loading (3 percent), but it was highest in states with broad loading (23 percent).

State-specific calculations of the availability, selection, and selection conditional on availability are presented for 2017 and 2018 in appendix exhibit A1.[10] We include these for reference and transparency; discussion of these estimates is beyond the scope of this article.

Discussion

The availability and selection of zero-premium health insurance plans in the federal Marketplaces increased from the 2017 open enrollment period to the 2018 period. Bronze zero-premium plans were the most common in 2018 (available to 52 percent of all federal Marketplace consumers). In the same year silver zero-premium plans, while less frequently available, were selected at very high rates (65 percent) when available.

Zero-premium plans are more likely to be available to consumers when benchmark premiums (based on the second-lowest-cost silver plan) are high relative to the premiums of plans at other metal tiers or the lowest-cost silver plan. Two factors in 2018 likely contributed to greater increases in benchmark premiums relative to those for other plans.

First, termination of federal cost-sharing reduction payments to insurers led many insurers to silver load. Increased benchmark premiums can be costly to the federal government because they increase premium tax credits; however, insurers have no incentive to factor in federal costs when setting premiums. Nonetheless, insurers were incentivized in 2018 to move consumers eligible for cost-sharing reductions out of silver plans to avoid providing unreimbursed cost-sharing reductions to these consumers. In theory, insurers could alter the characteristics of sil-

EXHIBIT 2

Zero-premium plans in the federal health insurance Marketplaces, by selection, availability, and metal tier, 2017–18

	2017	2018	Change[a]
ANY ZERO-PREMIUM PLAN			
Available	34.3%	52.6%	18.3
Selected	6.1	13.9	7.9
Selected conditional on availability	17.7	26.5	8.8
BRONZE ZERO-PREMIUM PLAN			
Available	34.2%	52.4%	18.3
Selected	2.7	6.7	3.9
Selected conditional on availability	8.0	12.7	4.7
SILVER ZERO-PREMIUM PLAN			
Available	5.9%	10.8%	4.9
Selected	3.3	7.0	3.6
Selected conditional on availability	56.5	64.6	8.1
GOLD ZERO-PREMIUM PLAN			
Available	<0.5%	3.3%	3.3
Selected	<0.5	0.3	0.3
Selected conditional on availability	1.3	9.5	8.2

SOURCE Authors' analysis of data from the Multidimensional Insurance Data Analytics System (MIDAS) of the Centers for Medicare and Medicaid Services on noncanceled plan selections as of the end of the open enrollment periods for 2017 and 2018. **NOTES** "Available," "Selected," and "Selected conditional on availability" are described in the text. Bronze, silver, and gold levels are based on actuarial values of insurers paying approximately 60 percent, 70 percent, and 80 percent, respectively, of enrollees' health care costs, on average. In 2017, 9.2 million people selected a plan. In 2018, 8.7 million people did, representing a decline of 0.5 million. Percentage-point changes might not be exact because of rounding. [a] Percentage points.

ver plans beyond premiums and cost sharing to make them less attractive to consumers—for example, by reducing network size, eliminating out-of-network coverage, or adding referral requirements—while increasing the attractiveness of nonsilver plans to the same consumers by doing the reverse. This could draw more consumers to nonsilver plans.

Second, many Marketplaces had fewer insurers in 2018 than in previous open enrollment periods, and the resulting lack of competition may have contributed to an increase in benchmark premiums relative to premiums of lower-cost silver and bronze plans. Strategic pricing is easier when fewer insurers operate—and, in particular, when a single insurer operates—in a county. Given the incentive described above, when an insurer was the only insurer in a county, it had greater ability to set the benchmark premium to benefit it the most and offer attractive nonsilver plans.

Zero-premium plan availability was found to increase with consumer age. This is a factor of how consumer age interacts with premiums and expected premium contribution. Premiums increase with age because of the ACA's 3:1 age rating provision, which allows insurers to increase premiums with age but sets an upper bound on increases—with a premium for a sixty-four-year-

EXHIBIT 3

Zero-premium plans in the federal health insurance Marketplaces, by selected characteristics, 2017–18

Characteristic	Available			Selected			Selected conditional on availability		
	2017	2018	Change[a]	2017	2018	Change[a]	2017	2018	Change[a]
CONSUMER AGE (YEARS)									
Younger than 18	17%	34%	17	2%	8%	6	14%	24%	10
18–34	30	49	19	5	13	8	16	25	9
35–54	35	54	19	6	13	7	17	25	8
55 or older	43	60	17	9	18	9	20	30	10
PLANS									
Fewer than 10	48%	60%	12	13%	26%	13	27%	43%	16
10–19	44	51	7	9	16	6	21	31	10
20 or more	29	51	21	4	9	5	14	18	4
INSURERS									
1	45%	50%	5	11%	21%	9	25%	41%	16
2	40	49	9	9	15	6	24	32	8
3 or more	28	57	28	3	9	6	10	15	6
INCOME AS PERCENT OF FEDERAL POVERTY LEVEL									
Less than 100%[b]	0%	0%	0	0%	0%	0	0%	0%	0
100–150%	69	80	11	13	21	8	19	26	8
151–200%	31	62	31	4	14	10	13	23	10
201–250%	14	46	32	2	13	11	18	29	11
251–400%	4	25	21	1	8	7	24	33	9
More than 400%	0	0	0	0	0	0	0	0	0
RURAL STATUS									
Rural	38%	54%	17	9%	19%	10	24%	35%	11
Urban	34	52	19	5	13	7	16	25	8
STATE PREMIUM-LOADING APPROACH[c] (NUMBER OF STATES)									
None (1)	31%	25%	−5	4%	3%	−2	15%	12%	−3
Broad (5)	34	37	3	5	23	18	15	62	47
Silver (13)	37	49	12	7	16	9	19	34	14
Silver Marketplace (14)	35	58	23	6	13	7	17	23	6
Mixed (6)	31	50	19	5	11	6	17	22	5

SOURCE Authors' analysis of data from the Multidimensional Insurance Data Analytics System (MIDAS) of the Centers for Medicare and Medicaid on noncanceled plan selections as of the end of the open enrollment periods for 2017 and 2018. **NOTES** "Available," "Selected," and "Selected conditional on availability" are described in the text. Percentage-point changes might not be exact because of rounding. [a]Percentage points. [b]Consumers with incomes below 100 percent of poverty who are eligible for premium tax credits are considered to have incomes of 100 percent of poverty. [c]State premium-loading approaches to account for nonpayment of cost-sharing reductions are defined as follows: "None" means no approach taken; "broad" is to increase premiums across all plans offered; "silver" is to increase premiums across all silver plans offered; "silver Marketplace" is to increase premiums across only the silver plans on the Marketplace; and "mixed" is a combination of approaches.

old being no more than three times that for a twenty-one-year-old. A consumer's expected premium contribution increases with income but not with age. As a result, when two consumers have the same characteristics other than age, the older person is more likely to have benchmark premiums above the maximum expected premium contribution and, therefore, to be eligible for premium tax credits. When benchmark plan premiums are increased by a greater rate than those for other plans, the effect is enhanced.

People receiving cost-sharing reductions lose the subsidy if they select a nonsilver zero-premium plan, and, consistent with our findings, selection conditional on availability would be expected to be higher among people receiving premium tax credits but not cost-sharing reductions (for example, people with incomes of 251–400 percent of poverty), compared to those eligible for both forms of assistance.

Finally, state differences in premium-loading approaches appeared to follow expected patterns, with states that allowed premium loading having greater availability of zero-premium plans. Selection of zero-premium plans, however, appeared to be greatest in states that implemented a broad premium-loading approach.

Conclusion

As a result of the termination of federal cost-sharing reduction payments and subsequent sil-

ver loading by insurers, the selection, availability, and selection conditional on availability of zero-premium plans increased substantially in the federal Marketplaces from the 2017 open enrollment period to the 2018 period, with notable variation across states and by enrollee characteristics. Were federal cost-sharing reduction payments to be restored, or if additional insurers were to enter markets where there is little competition, we would expect to see a reduction in benchmark premiums and a subsequent decrease in availability of zero-premium plans.

The implications of the termination of cost-sharing reduction payments—including in-creased access to zero-premium plans, increased federal spending on premium tax credits, and disparities in access to affordable premiums among consumers—warrant additional research to inform policy decisions for stabilizing the individual market. To understand the effects of zero-premium plans on consumer choice and underlying enrollee characteristics in the Marketplaces, future studies should examine factors that influence the types of plans available to consumers, how these vary geographically, and how consumers select (or choose not to select) one plan over another. ■

NOTES

1 *United States House of Representatives v. Burwell*, Civil Action No. 2014-1967 (D.D.C. 2016).

2 Jost T. Judge rules against administration in cost-sharing reduction payment case. Health Affairs Blog [blog on the Internet]. 2016 May 12 [cited 2019 Mar 6]. Available from: https://www.healthaffairs.org/do/10.1377/hblog20160512.054852/full/

3 HHS.gov [Internet]. Washington (DC): Department of Health and Human Services; 2017. Press release, Trump administration takes action to abide by the law and Constitution, discontinue CSR payments; 2017 Oct 12 [cited 2019 Mar 6]. Available from: https://www.hhs.gov/about/news/2017/10/12/trump-administration-takes-action-abide-law-constitution-discontinue-csr-payments.html

4 Jost T. Administration's ending of cost-sharing reduction payments likely to roil individual markets. Health Affairs Blog [blog on the Internet]. 2017 Oct 13 [cited 2019 Mar 4]. Available from: https://www.healthaffairs.org/do/10.1377/hblog20171022.459832/full/

5 Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation. Health plan choice and premiums in the 2019 federal health insurance exchange [Internet]. Washington (DC): ASPE; 2017 Oct 30 [cited 2019 Mar 6]. Available from: https://aspe.hhs.gov/system/files/pdf/258456/Landscape_Master2018_1.pdf

6 Congressional Budget Office. The effects of terminating payments for cost-sharing reductions [Internet]. Washington (DC): CBO; 2017 Aug [cited 2019 Mar 4]. Available from: https://www.cbo.gov/system/files?file=115th-congress-2017-2018/reports/53009-costsharing reductions.pdf

7 Hall K. Re: appropriation of cost-sharing reduction subsidies [Internet]. Washington (DC): Congressional Budget Office; 2018 Mar 19 [cited 2019 Mar 6]. Available from: https://www.cbo.gov/system/files/115th-congress-2017-2018/reports/53664-costsharingreduction.pdf

8 Pearson CF, Sloan C, Carpenter E. Most counties will have free 2018 exchange plans for low-income enrollees [Internet]. Washington (DC): Avalere; 2017 Nov 2 [cited 2019 Mar 6]. Available from: http://avalere.com/expertise/managed-care/insights/most-counties-will-have-free-2018-exchange-plans-for-low-income-enrollees

9 Semanskee A, Claxton G, Levitt L. How premiums are changing in 2018 [Internet]. San Francisco (CA): Henry J. Kaiser Family Foundation; 2017 Nov 29 [cited 2019 Mar 6]. Available from: https://www.kff.org/health-reform/issue-brief/how-premiums-are-changing-in-2018/

10 To access the appendix, click on the Details tab of the article online.

11 CMS.gov. The Center for Enrollee Information and Insurance Oversight: consumer information and insurance oversight [Internet]. Baltimore (MD): Centers for Medicare and Medicaid Services; [cited 2019 Mar 6]. Available from: https://www.cms.gov/cciio/index.html

12 HealthCare.gov. FFM QHP landscape files: health and dental datasets for researchers and issuers [Internet]. Baltimore (MD): Centers for Medicare and Medicaid Services; [cited 2019 Mar 4]. Available from: https://www.healthcare.gov/health-and-dental-plan-datasets-for-researchers-and-issuers/

13 Certain Marketplace plans, such as catastrophic plans, cannot be zero-premium plans to any consumer because of the structure of the ACA. Catastrophic plans have lower premiums and higher deductibles than bronze plans do and are available only to consumers younger than age thirty or eligible for a hardship exemption—for example, for being homeless or filing for bankruptcy. Additionally, plans with coverage beyond essential health benefits, such as certain elective services not considered essential for the prevention or treatment of illness by the ACA, cannot be zero-premium plans because premium tax credits can be applied only to the essential health benefit portion of a plan's premium. Similarly, certain consumers—including those without a premium tax credit allocated or with incomes above 400 percent of the federal poverty level—cannot have a zero-premium plan available or selected, because they will always have a nonzero amount of premium due.

14 Health Resources and Services Administration. Federal Office of Rural Health Policy (FORHP) data files [Internet]. Rockville (MD): HRSA; [last reviewed 2018 Dec; cited 2019 Mar 6]. Available from: https://www.hrsa.gov/rural-health/about-us/definition/datafiles.html

15 Keith K. Insurers can continue silver loading for 2019. Health Affairs Blog [blog on the Internet]. 2018 Jun 13 [cited 2019 Mar 6]. Available from https://www.healthaffairs.org/do/10.1377/hblog20180613.293356/full/

IMPACT!
HOW CONSUMERS HAVE SHAPED HEALTH SYSTEM DELIVERY REFORM

APRIL 2019

CENTER FOR **CONSUMER ENGAGEMENT**
in **health innovation**
A better way to better health. For everyone.

Table of Contents

Author

Andi Mullin, *Project Manager, State Advocacy*

Acknowledgments

INTRODUCTION

We are at a crossroads in American health care. The significant gains in coverage made under the Affordable Care Act created a solid foundation that have allowed policy makers and stakeholders to pursue changes in the health care system to improve efficiency and person-centeredness in the delivery of care. In this moment of innovation, we have a once-in-a-generation opportunity to reorient the health care system to be more person-centered, but this opportunity will only be successful if we incorporate consumer input into this realignment.

The Center for Consumer Engagement in Health Innovation (the Center) is strongly committed to actively and meaningfully engaging consumers in every aspect of health system transformation. We have long sought to demonstrate that the guiding philosophy of the disability rights movement – "nothing about us, without us" – should be the standard in health system redesign. Advocating for structures for meaningful consumer engagement is the Center's top policy priority, and this requires consumer engagement at three levels – in the clinical setting, in health care organizations and in policymaking. This paper focuses on the health care organization and policymaking levels, where strong consumer representation is critically important in the governance and quality improvement activities of health care organizations, including health care delivery systems, hospitals, practices and health plans. At the policymaking level, consumers must also have a seat on stakeholder advisory bodies, working groups and in "ad hoc" meetings.

A growing body of evidence suggests that consumer engagement may result in better health outcomes and reduced costs.[1] Given that there is general, at least theoretical, recognition of the importance of meaningful consumer engagement, why doesn't it happen all of the time? The answer is that it takes time, expertise and resources to make meaningful and sustained consumer engagement work. In particular, consumers with complex health and social needs who seek to participate in a meaningful way on a policymaking body face a set of barriers that stem from a reality that has been historically challenging for hospitals, health plans and state governments to address. Namely, unlike someone participating on an advisory body as *part of their job*, consumers are generally on that same body as *volunteers*. This means they must juggle this volunteer work with managing their own health needs, as well as any employment or family responsibilities without the benefit of a salary or an employer's support. Consistent participation under these circumstances often requires a heroic effort on the part of the consumer. Given this reality, the barriers that consumers, particularly those with complex health and social needs, face in participating on these types of advisory bodies include:

- **Lack of Institutional Support** – Consumers often need help with transportation to get to meetings, child care and a stipend for their time.

- **Inaccessibility** – Meeting forums must be made accessible to people with mobility, visual, auditory and other disabilities.

- **Unequal Power Dynamics** – It is intimidating to express your opinions in a room full of hospital administrators, physicians and others who often speak in jargon that is incomprehensible to lay people. To be effective, consumers need training, accessible materials distributed in advance, time to ask questions and learn, allies at the table and people they can talk to before and after meetings.

- **No Feedback Loop** – Consumers need a consistent feedback loop that demonstrates that their input results in change.

---

[1] Frampton, Susan et al, *Harnessing Evidence and Experience to Change Culture: A Guiding Framework for Patient and Family Engaged Care*, National Academy of Medicine, January 31, 2017.

What the Center has found is that health care organizations and governmental agencies that want genuine consumer input would be wise to partner with state and local advocacy groups. These groups regularly engage with consumers with complex health and social needs and thus have a unique ability to reach out to, recruit and support consumer leaders. They have strategies to reach consumers, identify potential leaders, move leaders up a pyramid of engagement, present a broad array of opportunities to provide input and support consumers as they participate throughout the process. It is particularly important to note that these advocacy organizations are not just identifying single consumers, but are growing a constituency[2]. They can, with resources, build a base to draw on over time, thereby building a powerful and effective consumer voice.

THE CENTER'S ROLE

Over the past six years, we have partnered with advocates in states and local communities to support just this kind of work. The Center has provided these advocacy organizations with strategic assistance, tools, and funding to build strong grassroots networks and increase the impact of consumer feedback. We have helped state and local advocates understand the intricacies of health system change, and used our tested advocacy model to build advocates' skills and power to establish and sustain an effective consumer voice at all levels of the health care system.

This paper highlights examples of how consumers with complex health and social needs, organized and supported by the Center's state and local advocacy partners, have shaped policy and practice in delivery reform initiatives. With our technical assistance and funding, these organizations have built structures for meaningful consumer engagement and then organized and built the skill and knowledge base of consumer leaders who now participate in those structures and effect consumer-driven change.

COMMUNITY CATALYST SYSTEM OF ADVOCACY
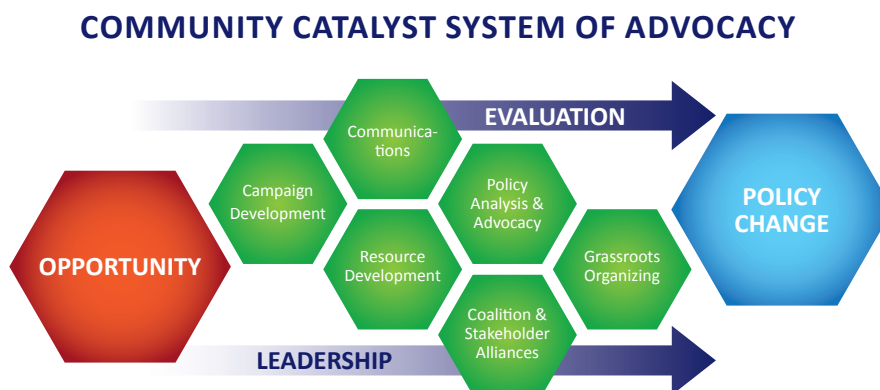
[2] For more information about organizing grassroots consumers around complex delivery reform issues, please see Center publication *Where the Magic Happens*.

A FRAMEWORK FOR UNDERSTANDING CONSUMER IMPACT

In the six states featured in this brief, we have found that the examples of consumers having a positive impact on the health system tend to fall into one of three categories:

Process Impacts – Process impacts involve consumers impacting the **way in which an advisory or other policymaking body operates** so as to make participation by consumers easier and more realistic to sustain. For example, changes in when a body meets or how it presents material are examples of process impacts.

Communications Impacts – Consumers can have a significant impact on **how a health plan, the state or other entity communicates with its members or enrollees**. Consumers have successfully advocated for changes to wording, formatting and presentation style, and they have also convinced policymakers to alter the medium used for communicating with consumers in the first place.

Policy Impacts – Consumers have successfully pushed states and health systems to **change policies and practices** to orient them toward the true needs of consumers.

Advocates in the states highlighted on the following pages have demonstrated the kind of impact that engaged, empowered consumers can have in each of these categories of change.

ALABAMA

The state of Alabama has been back and forth over the past five years on Medicaid reform proposals. In 2013, the state Legislature overwhelmingly approving a Regional Care Organization (RCO) structure modeled on Oregon's Coordinated Care Organization approach, only to scrap it a few years later. The state is now pursuing a somewhat scaled-back, but still potentially significant, reform program grounded in the existing health home structure, scheduled to go live in October 2019. Even as the state equivocated about delivery reform, however, consumer advocates in Alabama continued to doggedly build a cadre of educated consumers prepared to provide feedback on implementation of reform programs. One result of this ongoing work is that the private sector entities in Alabama – managed care organizations, insurers, the state nursing home association and others – are today even more receptive to robust consumer engagement than public sector organizations.

Photo courtesy of Alabama Arise

Even though the RCOs never quite made it out of the starting gate, consumer input through the fledgling RCO Consumer Advisory Board in 2016 did result in changes at the health home level that are likely to remain in effect as the state implements its new reform program, the Alabama Coordinated Health Network (ACHN). These changes include:

- The Consumer Advisory Committee (CAC) of one health home entity expressed concerns about communication with members and the entity incorporated this feedback into the design plan for their ACHN website. Changes include text written at a more appropriate reading level and access to languages other than English. They are also exploring the use of pictures and symbols in addition to text for non-readers.

- Consumer input on the need for transportation support prompted this same entity to host a transportation forum with members of the community. As a direct result, the health home augmented its transportation assistance services by purchasing bus tickets in bulk for members in Jefferson County, one of the few places in Alabama with an extensive public transit system. The organization also began coordinating with other health providers to ensure that rehabilitation consumers were transported *with* their motorized wheelchairs rather than without them, which had previously been a common practice. This health home will likely form the core of the region's ACHN, so this consumer-driven emphasis on transportation assistance should continue.

In Maryland, advocates have focused on getting consumers appointed to statewide policymaking bodies. For example, in 2017 advocates placed a consumer on the state's Health Information Exchange Policy Board, which develops policies that ensure a high level of privacy and security protections for health information exchanges in Maryland. Since her appointment, that consumer has successfully advocated for a variety of process changes in how the board operates that make it more accessible to non-industry insiders.

- About a year after the consumer joined the Policy Board, the Exchange developed – at the consumer's urging – an orientation webinar that they now conduct annually to orient new members to the body. They've also put the slides and a recording of the presentation on their website, where anyone can access it.

- Additionally, the whole approach of the Policy Board staff has changed. As staff members have gotten to know the consumer they've learned to anticipate her consumer-related questions, much like they do with other long-serving members of the Board. Consequently, staff members arrive at meetings having already completed the research needed to answer the questions that the consumer representative is likely to ask.

- The consumer on the Policy Board also alerted consumer advocates in Maryland to a piece of legislation they would not otherwise have noticed. As a result, the advocates were able to weigh in on that bill using the consumer's newly-developed expertise in the content area. The bill in question subsequently passed and was signed into law. *In other words, advocates built consumer power in the state by working in collaboration with the consumer they trained and supported.*

In mid-2018, the Health Services Cost Review Commission (HSCRC), which sets all hospital rates in the state under Maryland's global budgeting waiver, set up a Potentially Avoidable Utilization Sub-Committee filled with many industry stakeholders to look at reducing unnecessary hospitalizations. The HSCRC agreed to allow a staff person from a consumer advocacy organization on the committee and this advocate in turn pushed for the addition of an actual consumer. There was some resistance, but ultimately the HSCRC agreed to appoint a consumer to the sub-committee as well. These two individuals then worked together to raise consumer concerns about Emergency Room misdiagnosis, with the staff person presenting focus group results and the consumer demanding action.

Photo courtesy of Maryland Citizens' Health Initiative

MASSACHUSETTS[3]

Photo credit: Kristin Chalmers

In response to vigorous advocacy, Massachusetts agreed to develop an Implementation Council with a 51 percent consumer majority to provide meaningful consumer input on its One Care program, the state's demonstration project for people eligible for both Medicare and Medicaid (dually eligible individuals). The Council successfully advocated for a variety of process changes that made Council meetings more accessible to consumers and enhanced the ability of consumers to participate:

- In response to consumer suggestions, the Council agreed to include a public comment session at each meeting to hear from individual enrollees about their experiences with the One Care program. Over time, this practice resulted in non-Council consumers participating throughout Council meetings, not just during the public comment section.

- At the suggestion of consumers, the Council organized virtual Town Halls, which allowed people with travel challenges to provide feedback and engage with the Council.

- When a Council member with an intellectual disability left in frustration after not being able to participate meaningfully, Council members sought to slow down the meeting process, follow written agendas more closely and minimize the use of technical terms and acronyms to improve accessibility.

These strategies greatly enhanced consumer input into the One Care program, and in turn resulted in a number of communications and policy changes:

- Consumer feedback uncovered the need for additional provider and enrollee education about the role of and access to the Long-Term Supports Coordinator, the individual on the care team responsible for finding resources and services in the community that can support a consumer's wellness, independence and recovery goals. In response, the One Care program enhanced consumer education about this role.

- At the urging of consumers, questions about sexual orientation and sexual/ reproductive health were added to the comprehensive assessment completed at the time of enrollment in the One Care program.

- Consumers shared their concerns with federal policymakers that the One Care program's design was not financially sustainable, and helped to convince CMS to provide $43 million in funding to enhance the program's financial stability.

[3] For more information about the success of the Massachusetts One Care Implementation Council, please refer to the Center's publication, *One Care Implementation Council: Stakeholder Engagement Within a Duals Demonstration Initiative*.

PENNSYLVANIA

Advocates in Pennsylvania have achieved remarkable results by supporting meaningful consumer engagement in the development and implementation of the state's Community HealthChoices (CHC) program, a mandatory managed care program for dually eligible individuals and Medicaid beneficiaries with long-term care needs. In addition to helping instigate changes in the CHC program itself, this consumer engagement has also increased the focus of state officials on addressing the social determinants of health.

The CHC program seeks to better coordinate medical care and to create a more person-centered approach to providing Long-Term Services and Supports (LTSS). Pennsylvania launched the program in January 2018 in the Pittsburgh area, but by then advocates had been providing input to the state on the design of the program for well over a year. One significant focus of the advocates' work was to build in structures that would provide feedback directly from consumers to both the state and the Managed Care Organizations (MCOs) contracted to provide services in the CHC program. CHC has now been fully implemented in southwestern Pennsylvania and it was launched in the Philadelphia area in January 2019. The advocates' efforts to find ways to include consumer voices in the program have paid dividends throughout, with both the state and MCOs making process, communications and policy changes in response to consumer feedback.

For example, consumers insisted on hearing directly from state officials themselves about how managed care would work and whether or not it would effectively reduce their benefits. At one meeting in the southwestern part of the state, over 80

Photo credit: Kristin Chalmers

consumers showed up and shared their stories. The meeting not only allowed for resolution of individual problems, but it also helped state officials to understand concretely what they were missing without direct consumer input. MCOs also changed how they conducted their Consumer Advisory Committees (CACs) in response to consumer feedback. These changes included:

- Asking advisory committee members in advance for topics for the agenda rather than having staff set the entire agenda.

- Having a staff person call CAC members to remind them of upcoming meetings.

- Helping consumers to arrange transportation to and from the meeting.

- Providing consumers with the meeting schedule for the entire year rather than setting up meetings with a week's notice.

On the communications front, consumer feedback fundamentally altered how the state talked to consumers about CHC. The first educational presentations by state officials were difficult to understand and not consumer-friendly. After consumer feedback, presentations were revised to include more pictures, graphics and far less text. Consumer feedback also resulted in concrete changes to the printed materials the state provided on the CHC program. For example:

- Consumers expressed great anxiety about potential changes to Medicare, so the state added information reassuring consumers about their Medicare benefits.

- The state's original materials about CHC included only a short paragraph about behavioral health benefits. After consumer feedback, the state added considerable information about how the CHC program would address behavioral health. The behavioral health section of the materials is now far more robust and comparable to the physical health section.

- Consumers expressed great confusion about who to call if they had questions – their doctor, the MCO, the state, etc. On every page of their printed materials the state now includes information about who a consumer should call first if they have questions.

But it is in the policy and practice area that consumers in Pennsylvania – always with the support and guidance of consumer advocates – have achieved impressive changes that have affected not only the CHC program, but also other health care programs in Pennsylvania. Advocates convinced the state to conduct weekly calls with consumers as the CHC program rolled out in the Pittsburgh area. Through these calls, advocates were able to keep the consumer experience at the forefront of the rollout and to expedite policy and practice changes that reduced confusion and removed barriers to care. For example, in response to consumer feedback from Medicaid-only enrollees, the state removed the requirement that MCOs list a primary care physician on the CHC membership card. Prior to this change, Medicaid-only enrollees were receiving cards with a randomly assigned primary care physician listed. While it was convenient for the MCOs to issue the same type of card to everyone, inserting a randomly chosen physician's name caused widespread confusion for the Medicaid-only consumers. Changing this practice helped to better align the CHC program with the needs of consumers, rather than those of the health plans, in mind.

PENNSYLVANIA

Another area where consumer feedback had a tremendous impact was in the selection of an enrollment broker for the CHC and other waiver programs across the state. Consumer stories illustrated how dysfunctional the entry point to applying for LTSS was, particularly for non- or limited-English speakers. In response, the broker implemented a new cultural competency training around language access and agreed to address the frequency of dropped calls when using telephonic interpretation. Despite these improvements, in August 2018 the state decided to cancel the existing procurement process for an independent enrollment broker, noting that they would use the "experiences with the implementation of the Community HealthChoices Program . . . to inform an increased focus on improved participant experience. . ." Advocates are now using consumer input to influence the new state procurement, which is scheduled to be released in April 2019.

Consumers also influenced policies related to network adequacy for home and community-based service (HCBS) providers in the CHC program. Consumer feedback resulted in the state agreeing to a new network adequacy standard developed by the advocates, one of the first examples in the country of an HCBS network adequacy standard. The state then further agreed to at least informally apply this same standard to other kinds of in-home services offered by the Office of Long-Term Living.

Finally, and perhaps most significantly, consumer interactions with state officials have influenced policy beyond the CHC program, emphatically and indelibly bringing issues related to the social determinants of health to the attention of policymakers. For example, in mid-2016 advocates organized a meeting at a Philadelphia-area Patient Centered Medical Home (PCMH) that included consumers and state officials. During the meeting, consumers' struggles with stable housing emerged as an issue in a way it hadn't previously. The result was a requirement that future contracts with PCMHs focus on linking patients to housing by both screening for housing insecurity and providing a warm handoff to community-based agencies who could help. In addition, the state is reconsidering the role of transportation and supportive housing in rural areas in particular. This was not even on the radar before consumers raised these issues in various forums.

PENNSYLVANIA
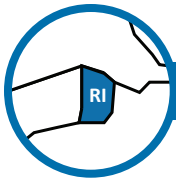
RHODE ISLAND

Following the example of Massachusetts, Rhode Island has developed an Implementation Council for the Integrated Care Initiative (ICI), the state's dual eligible demonstration project. The Council has included a majority of consumer representatives from the start, but in 2018 consumers really came into their own on the Council. Consumers were elected as both Chair and Co-Chair and relatively quickly there was a noticeable decrease in the use of jargon and acronyms in Council meetings. The state changed the way it presented information, shifting away from complex slide presentations. This has helped the meetings become more productive and useful for *all* participants, not just consumers.

The state and consumer advocates have worked together to help educate consumers serving on the Council, increasing their knowledge base and their ability to make meaningful contributions. The consumers on the Council now talk with one another outside of Council meetings and often work as a team during the meetings to achieve the outcomes they're collectively seeking. In addition, the nature of communication between the ICI program and enrollees has changed. Early on, information only traveled from the ICI to the consumers on the Council. Now that information goes a step further, with consumers communicating information to members of the community, and in turn relaying feedback from the community to the ICI.

Photo credit: Kristin Chalmers

RHODE ISLAND

In addition to these process improvements, consumers on the Implementation Council have also looked at drafts of communications from the state to enrollees in the ICI and made suggestions that have resulted in consumer-friendly changes. Examples of these changes include:

- Use of colored paper to make important notices stand out.

- Use of a larger font size.

- Elimination of acronyms and jargon.

One interesting example of eliminating jargon involved the phrase "fee-for-service," a phrase commonly used by health policy experts. Consumers pointed out that many Medicaid enrollees understand that phrase to mean that they need to pay a fee to get a health service. As a result of this feedback, ICI communications now use the phrase "traditional Medicaid" instead.

On the policy front, consumers on the Implementation Council have played a key role in changes that the state has made to the administration of the state's Medicaid Non-Emergency Medical Transportation (NEMT) benefit. The brokerage system for NEMT in Rhode Island had experienced years of complaints about extremely late or non-existent pickups and poor customer service, among other problems. In 2017, the consumers on the Council demanded that representatives from LogistiCare, then the statewide NEMT broker, report on NEMT services at a Council meeting. At the subsequent meeting, LogistiCare acknowledged for the first time that it had a service problem and pledged to improve. For a time after this meeting, LogistiCare became somewhat more responsive to community concerns and worked more closely with consumer advocates to improve services.

In 2018, the state released a request for proposal (RFP) to re-bid its transportation broker contract, and included in the RFP more consumer oversight of the NEMT program as well as other changes suggested by the consumers on the Implementation Council. Ultimately, the state awarded its NEMT contract to a new broker and signed a contract that includes more consumer oversight as well as an improved complaint resolution system. Consumers on the Implementation Council are now monitoring the performance of the state's new NEMT transportation broker.

TENNESSEE

In 2016, the state of Tennessee implemented an 1115 waiver amendment to consolidate its program of Medicaid home and community-based services into the state's capitated Medicaid program, TennCare. Through the integration of LTSS and medical services, as well as the capitation of services for people with Intellectual and Developmental Disabilities, the state is trying to significantly improve the quality, efficiency and reach of services for this highly vulnerable, underserved population. The program is called Employment and Community First CHOICES (ECF) and Tennessee advocates have been working for the last 18 months to organize the consumers and families impacted by the ECF program to shape the program's policies and practices.

Despite the short duration of this work, consumers in Tennessee have already driven communications changes. Consumers provided feedback on a draft outreach letter to individuals on the referral list for the EFC program, resulting in significant changes to the letter. These changes included:

- Opening the letter with "Why Are You Getting This Letter," followed by a straightforward, three-sentence explanation.

- The addition of an FAQ document.

- Clarification and simplification of the language describing eligibility for the program.

Photo courtesy of Tennessee Disability Coalition

CONCLUSION

Our state-based partners have taught us that moving meaningful consumer engagement from the aspirational to the actual is very difficult. This is especially the case when working with consumers with complex health and social needs, like the dually eligible individuals in Massachusetts, Pennsylvania and Rhode Island, individuals with intellectual and developmental disabilities in Tennessee, or Medicaid enrollees in Alabama who, because Alabama's Medicaid program is so severely limited, are extremely low-income. *The advocates in all of the states discussed in this paper have cracked the code.* They have figured out how to recruit and organize consumers, identify potential leaders, train and support those leaders so they can effectively represent consumer interests on policymaking bodies, and develop a pipeline of new leaders that can continue to impact policy moving forward. They have done this in a variety of environments, from very conservative southern states to purple and blue states. But we know this didn't happen by magic. So what is the secret?

- **Credibility** – Because the work of organizing and supporting consumers is relationship-based, to be effective it must be done by organizations that have history and credibility in the community they are organizing.

- **Funding** – All of these organizations have received funding support from the Center and others that has allowed them to invest in the staffing resources needed to build a base of educated, effective consumers.

- **Technical Assistance** – These organizations have also received policy and other technical assistance from the Center. This has allowed them to learn from the experiences in other states and move forward more quickly.

- **Time** – Developing this kind of infrastructure doesn't happen overnight. We have found it takes a minimum of two years of consistent work to develop the kind of pipeline that the advocates in Pennsylvania have developed, for example. And the work doesn't end there – it takes ongoing effort and investment to maintain that pipeline.

- **Continuity** – None of these organizations are focused on plugging a single consumer into a specific engagement opportunity. Rather, they are all focused on organizing a constituency that will provide the kind of continuity needed to rectify the existing power imbalance between consumers and other stakeholders in the health care system.

- **Collaboration** – Consumer advocates and consumers working together is what creates consumer power in a community or state, power that is sufficient to go toe-to-toe with more traditional stakeholders.

The policy and other changes highlighted in this document are first and foremost a testament to the skill and persistence of the consumers who have advocated for them, often in the face of significant resistance. But they are also the result of the very significant investment by state and local advocacy partners in organizing and supporting consumers, and by the Center in supporting and funding advocacy partners. In this way, advocacy organizations are building power, working together with consumers to effect change. We hope that these mechanisms will build a stronger, deeper and ultimately more effective model of consumer engagement that, if broadly adopted, will advance the movement toward a more equitable and person-centered health care system.

RESEARCH ARTICLE

Risk equalization in competitive health insurance markets: Identifying healthy individuals on the basis of multiple-year low spending

Frank Eijkenaar PhD 🆔 | René C. J. A. van Vliet PhD | Richard C. van Kleef PhD

Erasmus School of Health Policy & Management, Erasmus University Rotterdam, Rotterdam, The Netherlands

Correspondence
Frank Eijkenaar, PhD, Erasmus School of Health Policy & Management, Erasmus University Rotterdam, 3000 DR Rotterdam, The Netherlands.
Email: eijkenaar@eshpm.eur.nl

Funding information
Ministerie van Volksgezondheid, Welzijn en Sport

Objective: To study the extent to which risk equalization (RE) in competitive health insurance markets can be improved by including an indicator for being healthy.

Study Setting/Data Sources: This study is conducted in the context of the Dutch individual health insurance market. Administrative data on spending and risk characteristics (2011-2014) for the entire population (N = 16.6 m) as well as health survey data from a large sample (N = 387 k) are used.

Study Design: The indicator for being healthy is low spending in three consecutive prior years. "Low spending" is defined in three ways: belonging to the bottom 60%, 70%, or 80% of the annual spending distribution. Versions of the Dutch RE model 2017 with and without the indicator are compared on individual-level payment fit and, using the survey data, group-level payment fit.

Principal Findings: All three alternative models outperform the Dutch RE model 2017. However, significant unpriced risk heterogeneity remains. Compared with the 60% threshold, the 80% threshold comes with a larger improvement in fit but identifies a less selective group.

Conclusions: The performance of the RE model can be improved by adding an indicator for being healthy based on multiple-year low spending. However, risk-selection potential remains, warranting high priority to further improvement of RE.

KEYWORDS
health insurance, health measurement, risk equalization, spending, survey data

1 | INTRODUCTION

Unregulated individual health insurance markets tend to risk rating and risk selection, both of which are undesirable from a societal and economic perspective.[1-5] In practice, therefore, competition in these markets is combined with various regulatory measures to mitigate market failure and promote public objectives. To prevent risk rating, premium-rate restrictions are typically present. For example, in the individual and small group health insurance markets in the United States, risk rating is limited to age (within rate bands), region, and tobacco use. And in other countries, such as the Netherlands and Germany, premiums are community-rated per health plan. To prevent risk selection, a system of risk equalization (RE) is usually in place, which compensates insurers for predictable variation in medical spending. Risk selection has been defined as "actions by consumers and insurers to exploit unpriced risk heterogeneity and break pooling arrangements."[6] Given premium-rate restrictions, the goal of RE is to minimize risk-selection potential by correcting for unpriced risk heterogeneity, that is, by reducing predictable profits and losses on specific subgroups. This paper focuses on mitigating selection potential in the Dutch individual health insurance market.[7]

Over the past decades, RE models in developed countries have evolved from simple demographic models to sophisticated morbidity-based models, often containing hundreds of risk classes.[8-11] However, studies have consistently shown that even state-of-the-art RE models considerably under- or overpay specific subgroups in the respective populations, leaving significant selection potential (R. C. Van Kleef, F. Eijkenaar, & R. C. J. A. van Vliet, under review).[10,12-17] Therefore, stakeholders in these markets continue to seek to improve RE, with a strong focus on identifying individuals in *poor health* through the development of new or enhanced morbidity indicators based on prior diagnoses or utilization.[17-19] Importantly, however, there is another side of the issue; risk selection in competitive health insurance markets may also be driven by overcompensated groups of individuals in *good health*, indications of which have been found in several countries, including the United States,[13,15,20,21] Switzerland,[22] and the Netherlands.[23-27]

The Dutch RE model 2017, like most such models, includes numerous variables meant to identify sicker, higher-cost individuals. Specifically, the model contains five morbidity-based risk adjusters, that is, pharmacy-based cost groups (PCGs), diagnosis-based cost groups (DCGs), durable medical equipment groups (DMEGs), physiotherapy diagnosis groups (PDGs), and multiple-year high-spending (MYHS) groups.[11] About 27% of the population is flagged by one or more of these variables. In this paper, the focus is on the complementary group of individuals not flagged by a morbidity variable (73% of the population) and who are thus *implicitly* designated as healthy. However, this group is likely to be heterogeneous in terms of health and spending, implying the existence of unpriced risk heterogeneity (and thus selection potential) within this group. The reason is 2-fold. First, not all chronic conditions involving predictable, above-average spending are captured by the morbidity variables. Second, the morbidity variables may not flag individuals in *moderate* health (eg, those who are just developing a chronic illness). For example, individuals are only classified in a PCG if they meet a threshold of 180 defined daily doses of the relevant drugs per year. Indeed, data confirm that many individuals with chronic illnesses are missed: About 50% of the Dutch population is considered to be chronically ill according to International Classification of Primary Care codes, with "chronic illness" defined as an illness without any prospect of full recovery.[28] The result is that within the group without a morbidity flag, individuals in moderate or poor health are undercompensated while those in good health are overcompensated.

Using administrative data on medical spending and risk characteristics over a 4-year period for the entire Dutch population (N = 16.6 m) as well as data from a health survey conducted among a large sample (N = 387 k) of that population, this paper investigates to what extent the Dutch RE model can be improved by *explicitly* identifying individuals likely to be healthy given their low prior spending levels. Specifically, our goal is 2-fold: (a) identifying healthy individuals on the basis of multiple-year low spending and (b) examining the impact of adding an indicator for "being healthy" into alternative versions of the RE model on payment fit (ie, the extent to which insurers' revenues from RE match the insurance claims), both at the individual level and at the level of specific subgroups derived from the health survey. In addition, models are evaluated on their potential impact on cost-containment incentives, which

is relevant here since adding the indicator for "being healthy" creates a link between (prior) spending and (future) RE payment.

The paper proceeds as follows. After a brief description of the Dutch health insurance system and RE model, the data and methodology are explained. Next, the main results are presented, followed by a discussion of the conclusions and the policy implications.

2 | THE DUTCH HEALTH INSURANCE SYSTEM AND RISK EQUALIZATION MODEL

The Dutch health insurance system is based on Enthoven's model of regulated competition, combining competition with regulation to promote efficiency and protect public objectives such as accessibility and affordability.[7,29,30] Competition is driven by free consumer choice of health plan. Within bounds set by regulation, plans can differ in terms of provider network, coverage of out-of-network spending, and cost-sharing options. Regulation includes an individual insurance mandate, annual open enrollment, a standardized benefit package, community-rated premiums, and RE among insurers.[11]

In 2017, the Dutch RE system consisted of three different models: for somatic care (ie, primary care, hospital care, and pharmaceutical care), for mental care, and for the out-of-pocket payments due to the mandatory deductible (385 euro per person in 2017). In this paper, the focus is exclusively on the somatic model, pertaining to about 90% of spending covered by the standardized benefits package. Coefficients of the RE model for year t are estimated by an individual-level ordinary least squares regression of spending in year t-3 on risk characteristics from year t-3 or before (depending on the risk adjuster). Prior to estimation, several modifications are applied to make the lagged data representative for year t.[11]

The somatic RE model 2017 contains almost 200 risk classes, including 40 age/gender classes, 33 PCGs based on the prior use of drugs prescribed for chronic illnesses, 15 DCGs based on diagnoses of hospital treatment in the prior year, 10 DMEGs based on prior use of durable medical equipment, 4 PDGs based on diagnoses of physiotherapy in the prior year, and 7 MYHS groups based on high spending in the prior 3 years. With the exception of the PCGs and PDGs, the Dutch model does not include information on primary care diagnoses/utilization because the required information is not available for the whole population. This is also an important reason for why we use low spending as an indicator for "being healthy."

In 2017, the RE model also contained two risk adjusters based on spending on home care and on geriatric rehabilitation care in the prior year. However, both adjusters are excluded here as the latter has recently been removed and the former will probably be replaced in the RE model of 2019.

The introduction of spending-based risk adjusters in the Dutch RE model is primarily a result of the importance being attached by relevant stakeholders to mitigating risk-selection potential. There is strong preference for realizing this goal via ex ante compensation based on medically/clinically informed adjusters based on diagnoses and/or utilization linked to chronic illness. But as long as selection potential

remains and the data required for developing such adjusters are not available, spending-based adjusters have been used in the Dutch model since they can be effective in reducing unpriced risk heterogeneity. However, given the direct link between spending and RE payment, these adjusters reduce incentives for cost containment, implying a trade-off. In the opinion of the Dutch government (and other stakeholders), the reduction in selection potential outweighs the reduction in incentives for cost containment. The government has stated, however, that spending-based risk adjusters are a second-best solution and will be replaced as soon as better alternatives become available.[31]

3 | DATA AND METHODS

3.1 | Administrative data and health survey data

Two datasets are available for this study. First, we use administrative data on medical spending and risk characteristics for the entire Dutch population (N = 16.6 million) for a 4-year period (2011-2014). These data were those actually used for calculating the coefficients of the RE models for the years 2014-2017, respectively. We use these data to identify individuals likely to be healthy (in absolute sense) based on low prior spending, replicate the RE model 2017, and compare the individual-level fit of alternative versions of that model. We also use these data to simulate the impact of including an indicator for "being healthy" on insurers' cost-containment incentives.

In addition, models are compared on group-level fit. This is a common approach to quantifying unpriced risk heterogeneity in health insurance markets.[32] This approach, however, requires health information not included in the RE model. Therefore, we use a second dataset based on a health survey conducted among a large sample (N = 387 195) of the population in 2012. These data contain rich information on self-reported general health and chronic conditions,[33] which can be used to define subgroups with an over- or underrepresentation of people in poor health. In turn, for each of these subgroups, the mean actual spending can be compared with the mean spending predicted by alternative RE models, providing an indication of each model's group-level fit.

The survey sample is not representative of the entire population in three ways. First, individuals living in an institution for long-term care are not included. Second, the sample only includes individuals of 19 years or over (on September 1, 2012). Consequently, results on group-level fit are conditional on the remaining (adult) sample. Third, the remaining sample was not drawn randomly. To correct for nonrandom sampling regarding several factors (eg, age, gender, ethnicity, and income), we reweighted the sample using weights supplied by Statistics Netherlands.

3.2 | Identifying healthy individuals on the basis of multiple-year low spending

Our first objective was to identify individuals likely to be healthy in absolute sense based on multiple-year low spending (MYLS). To our knowledge, low-spending indicators have not been used previously in a RE model, so our choice of thresholds (ie, the place in the spending

distribution) and of the number of years necessary to be designated as healthy was based on our own judgment rather than previous empirical research. We chose a period of three consecutive prior years as a relatively high bar for consistency of low spending. Low spending in one or two prior years could easily be a result of (more or less) random spread of insurance claims across calendar years or temporary upswings in health. In addition, 3 years corresponds to the definition of the current MYHS risk adjuster,[34] contributing to within-model consistency. Nevertheless, we also investigated the potential added value of using two instead of three-year low spending.

Regarding the place in the spending distribution, we were guided by the finding that an estimated 50% of the Dutch population is not chronically ill (Volksgezondheidenzorg.info 2018a). We first determined (by trial and error) the spending threshold in each of the three prior years (2011-2013) that is required to yield 50% of the population in 2014. This resulted in a percentile of 69.7%, which we rounded to 70%, corresponding to a spending threshold of approximately 1100 euro (about half of overall mean spending in 2014). According to this definition, individuals are designated as "healthy" in 2014 if they belong to the bottom 70% of the spending distribution in each of the three prior years 2011-2013. To determine the sensitivity of our results for the choice of spending threshold, we also examine two alternative thresholds, 60% and 80%.

3.3 | Payment fit and cost-containment incentives

Separately for each of the three spending thresholds, we constructed an indicator for "being healthy" and incorporated it into the RE model 2017. The resulting models are compared on payment fit at the individual level and subgroup level. Individual-level fit is assessed using the R-squared, Cumming's prediction measure,[35] and the mean absolute prediction error.

To assess models' group-level fit, we first merged the actual spending and the predicted spending (based on each of the four models, which were all estimated on the administrative data containing all 16.6 million individuals) in 2014 with the health survey data using an anonymized individual-level identification key. Next, using the information in the survey data, we defined 28 subgroups that are overrepresented by individuals in either poor or in good health, and calculated the mean per person under/overcompensation for each of these subgroups by subtracting the mean actual spending from the mean predicted spending, separately for each model. Assessing payment fit in this way is considered an adequate method for quantifying unpriced risk heterogeneity in health insurance markets, but is often not feasible in practice due to a lack of "external" health information that is not included in the RE model.[32] We circumvent this problem by merging the administrative data with rich health information from a survey conducted among a large sample.

Almost 98% of the survey respondents matched successfully with the administrative data of 2014. Main reasons for an unsuccessful match are death and migration in 2012 or 2013. Table 1 presents information on actual and predicted spending for adults in the administrative data and survey respondents matching with these data.

TABLE 1 Mean (predicted) spending and overcompensation for adult individuals in the administrative data (2014) and for survey respondents (2012) who successfully match with the administrative data

	Adult individuals in administrative data (2014)	Survey respondents (2012) who match with administrative data (2014)
Weighted number of individuals[a]	12 659 298	375 742
Mean actual spending (€)[b]	2590	2561*
Mean predicted spending (€)	2587	2607*
Mean under/overcompensation (€)[c]	−3	46*

[a]The number of individuals who were at least 19 y old on September 1, 2012 weighted by the duration of enrollment in 2014. The total weighted number of individuals in the administrative data of 2014 is 16 607 620, with mean spending of €2227.

[b]Spending refers to spending on curative somatic care (eg, primary care, pharmaceutical care, and hospital care) covered by the benefits package of 2017 (cost/price level of 2014).

[c]Defined as the mean predicted spending in 2014 (based on the RE model 2017) minus the mean actual spending in 2014.

*Statistically significantly different from the corresponding number for the administrative data, based on a two-sided *t* test (*P* < 0.05).

Based on these results, the sample seems slightly healthier than the total adult population. Previous papers using the same data have presented more detailed comparisons of both groups and similarly concluded that the sample is slightly healthier (R. C. Van Kleef, F. Eijkenaar, & R. C. J. A. van Vliet, under review).[19,36] In this study, this results in a small overcompensation on the sample of 46 euro. We did not correct for this overcompensation because (a) we do not know how it is distributed over specific groups, and (b) our goal is to assess the relative performance of alternative RE models rather than these models' absolute performance. Nonetheless, we assessed the impact of recalibrating the survey data, such that for each model, the mean predicted spending equaled the mean actual spending. This did not alter our conclusions since the relative differences among models (which was our main focus) did not change.

Since adding the indicator for "being healthy" creates a link between (prior) spending and (future) RE payments, we also evaluate models on the potential impact on insurers' cost-containment incentives by (a) qualitatively assessing the possibilities for strategic behavior (ie, stimulating and/or not preventing individuals from exceeding the spending threshold) and (b) simulating the effect on RE payments of a small or medium-sized insurer letting its total insurance claims increase generically by 1% in the prior year (2013). In spirit, the latter relates to the "power measure" developed by Geruso and McGuire,[37] with the main difference that we examine the marginal change in RE payments due to a marginal change in *claims* (instead of *utilization*). This measure describes how regulators compensate spending at the margin, or how RE impacts insurers' marginal incentive to contain costs. In the Netherlands as well as in many other countries, this is relevant as insurers are in the position to influence consumers' and providers' utilization decisions.[38] In general, competing insurers may seek to encourage utilization that increases the marginal benefit resulting from higher RE payments more than the marginal cost resulting from higher utilization.[37]

4 | RESULTS

4.1 | Identifying healthy individuals on the basis of multiple-year low spending

Table 2 shows descriptive statistics for the three groups identified based on three-year spending below 60%, 70%, or 80%. Unsurprisingly, the mean spending threshold (in euros), the size of the group identified, and the mean spending increase with higher thresholds. The opposite holds for the mean overcompensation, which reduces from 231 euro for the 60% threshold to 185 euro for the 80% threshold. Thus, in terms of mean overcompensation and spending, the 60% threshold yields the most selective group. However, the *total* overcompensation (ie, taking the size of the group

TABLE 2 Characteristics of three groups of individuals designated as "healthy" on the basis of multiple-year low spending (2011-2013) using three different spending thresholds

Group identified based on	Mean spending threshold (€)	Weighted % of individuals in 2014 (%)[a]	Mean spending in 2014 (€)[b]	Mean overcompensation in 2014 (€)[c]	Total overcompensation in 2014 (millions of €)[d]
Three-year spending <60%	662	41.0	717	231	1571
Three-year spending <70%	1081	53.2	796	208	1836
Three-year spending <80%	1916	66.5	943	185	2040

[a]The number of individuals weighted by the duration of enrollment in 2014 as a percentage of the total population in 2014 (16 607 620).

[b]Spending refers to spending on curative somatic care (eg, primary care, pharmaceutical care, and hospital care) covered by the benefits package of 2017, at the cost/price level of 2014. The overall mean total spending in 2014 equals €2227.

[c]Defined as the mean predicted spending in 2014 (based on the Dutch RE model 2017) minus the mean actual spending in 2014.

[d]Defined as the mean overcompensation in 2014 multiplied by the weighted number of individuals in the relevant group.

into account) is considerably higher for the higher thresholds and highest based on the 80% threshold.

An additional analysis (data not shown) revealed that increasing the threshold further (eg, to 81%) would not yield an even higher total overcompensation: While the 1% group with three-year spending below 80% but *not* below 79% is still overcompensated, the 1% group with three-year spending below 81% but *not* below 80% is undercompensated.

We also examined the modality "low spending in two out of three prior years" and found that the mean overcompensation in 2014 for the resulting group (comprising 50% of the whole population) is almost 10% *lower* than the group identified based on three-year spending below 70%. Since this modality thus results in a less selective group and involves much lower spending thresholds (around 400 euro, which will probably be considered problematic in the light of insurers' cost-containment incentives), we did not investigate this modality further.

4.2 | Payment fit

This section compares the fit of the RE model 2017 and three alternative versions of that model. The alternative versions all include

a MYLS-based indicator but use different thresholds to assign individuals to that indicator. Note that adding such an indicator implies that the group not classified in the existing "multiple-year high spending" (MYHS) adjuster is essentially split into two, that is, (a) a group with MYLS and (b) a group without MYLS *and* without MYHS.

The first three rows of Table 3 show that alternative models 2-4 clearly outperform model 1 on individual-level fit. Though statistically significant, the difference in fit among models 2-4 is small: Compared to model 1, the improvement in Cumming's prediction measure (+0.6 to +0.8 percentage point) is relatively large, while the *R*-squared improves only marginally.

Table 3 also shows the estimated coefficients for relevant risk classes. The coefficient of interest in model 1 is that of the class "No MYHS": −287 euro. In models 2-4, this class is split into two, explicitly distinguishing between individuals with MYLS, and those without MYLS *and* without MYHS. In model 3, for example, this yields a coefficient of −565 for the group with MYLS and a coefficient of 32 euro for the complementary group. As the threshold goes up, the latter group becomes more selective and the accompanying coefficient higher, up to 249 euro in model 4. This illustrates how adding

TABLE 3 Individual-level payment fit and estimated coefficients for relevant risk classes for four versions of the Dutch RE model 2017

	Model 1 = RE model 2017	Model 2 = model 1 + a risk class for 3-y spending <60%	Model 3 = model 1 + a risk class for 3-y spending <70%	Model 4 = model 1 + a risk class for 3-y spending <80%
Fit statistic[a]				
R-squared × 100%	28.7	28.8	28.8	28.8
Cumming's prediction measure × 100%	28.1	28.7	28.9	28.9
Mean absolute prediction error (€)	2021	2002	1999	1998
Estimated coefficients (€)				
No MYHS	−287	-	-	-
Three-year spending <60%	-	−576	-	-
≥One-year spending ≥60% and no MYHS	-	−87	-	-
Three-year spending <70%	-	-	−565	-
≥One-year spending ≥70% and no MYHS	-	-	32	-
Three-year spending <80%	-	-	-	−543
≥One-year spending ≥80% and no MYHS	-	-	-	249

MYHS, multiple-year high spending.
[a]*R*-squared = proportion explained variance = 1 − (sum of squared residuals/total sum of squared spending differences). Cumming's prediction measure = 1 − (sum of absolute residuals/total sum of absolute spending differences). Mean absolute prediction error = sum of absolute residuals divided by the weighted number of individuals.

an indicator based on MYLS can improve compensation for both individuals in good health and individuals in moderate or poor health.

As a result of adding a MYLS-based indicator, the overcompensation on the groups designated as healthy (see Table 2) naturally reduces to zero. Table 4 compares the models on payment fit for 28 other groups, derived from the health survey data. Based on the overall figure shown at the bottom of the table, each of the alternative models improves upon the fit of the RE model 2017, with model 4 yielding the largest improvement (−18% compared to model 1).

Adding an indicator based on MYLS improves the compensation for 23 of the 25 groups with an overrepresentation of individuals in *poor* health, the exceptions being the groups "1 self-reported chronic condition (past year)" and "diabetes (ever)." Interestingly, both are *over*compensated by the RE model 2017, and adding the indicator apparently increases this overcompensation somewhat, though for "diabetes (ever)" the overcompensation is not statistically significant for any model.

The results for the three remaining groups are of particular interest as they are overrepresented by individuals in *good* health, that is, the 77% individuals assessing their own health as good or very good, the 40% individuals reporting no chronic condition over the past year, and the 33% individuals that can be found in both of these groups. For these three groups, the improvement in fit is relatively modest: The overcompensation drops by maximally 7% (model 4), 19% (model 3), and 21% (model 3), respectively.

To further investigate this, we calculated the number of survey respondents in the relevant group as a percentage of the *total* number of survey respondents with MYLS, separately for each threshold. Conversely, we calculated the number of survey respondents with MYLS as a percentage of the *total* respondents comprising each group. The results are shown in Table 5 and suggest that (a) the group identified based on MYLS contains relatively many individuals in poor self-reported health (see the top three rows) and (b) many of the respondents comprising the three subgroups are not designated as "healthy" based on MYLS (bottom three rows). Both could explain the fairly modest improvement in fit for these three subgroups.

4.3 | Cost-containment incentives

A potential drawback of an indicator based on MYLS is that it could mitigate insurers' incentives for cost containment. If an individual exceeds the relevant spending threshold at least once in the three prior years, based on the coefficients shown in Table 3, this implies an extra RE payment for his/her insurer in the current year of around 560 euro (relative to the situation in which the individual would stay below the threshold in the entire three-year period). This could stimulate insurers to (a) behave strategically (ie, not preventing individuals from slightly exceeding the relevant spending threshold) and/or (b) refrain from enacting specific cost-containment strategies. However, it is unlikely that insurers will actually act on these incentives in practice as the potential benefits are either highly uncertain or unlikely to be worth the additional costs.

Regarding the former, using a percentage instead of an absolute threshold makes the potential benefits of strategic behavior uncertain as they depend on the actions of other insurers. In addition, regarding individuals who already remained below the threshold for 2 years, close to the end of the third year, insurers would have to determine whether these individuals will stay under the threshold again and if so, to take action. But at that moment, claims for ongoing treatments and for treatments that have yet to start are not available. Furthermore, even if insurers would succeed in pushing certain individuals over the spending threshold (and these individuals do not switch to other insurers, which about 25% of the individuals identified based on the 70% threshold did in the three prior years), the resulting additional RE payments may well be one-off as individuals could require an expensive treatment in the next year. Moreover, the utilization required to push individuals over the threshold generates additional claims, reducing net benefits.

To illustrate that the benefits from not enacting specific cost-containment strategies are unlikely to be worth the costs, we calculated the additional RE payments (based on each of the three alternative RE models) that would be generated if a medium-sized insurer would let his insurance claims increase generically by 1% in the prior year (2013). In our data, this would imply a 370 million euro increase in claims, which for the 60%, 70%, and 80% threshold would result in a 21, 23, and 27 million euro increase in RE payment as a result of a 0.26%, 0.23%, and 0.22% increase in enrollees exceeding the threshold, respectively. In other words, to gain 1 euro in additional payments in the current year, depending on the threshold insurers must "invest" 18 euro (=370/21), 16 euro (=370/23), or 14 euro (=370/27) in the prior year.

5 | DISCUSSION

In the sophisticated Dutch RE model 2017, about 27% of the population is flagged by a morbidity-based risk adjuster. Although the complementary group is *implicitly* designated as healthy, this group is heterogeneous in terms of health and spending. Consequently, risk-selection potential exists in this group, which is undesirable in view of the unfavorable effects of risk selection and the finding that risk selection has also been driven by overcompensated groups of individuals in good health.[13,15,20-27] This paper investigated the extent to which the fit of the RE model can be improved by *explicitly* identifying individuals likely to be healthy (in absolute sense) using an indicator-based multiple-year low spending. Based on three definitions of "low spending," three alternative versions of the Dutch RE model 2017 were constructed and subsequently compared. We came to four main conclusions. First, all three alternative models that contain an indicator for "being healthy" outperform the RE model 2017 in terms of payment fit. This conclusion holds both at the individual level and at the level of 28 specific subgroups from a health survey and suggests that adding an indicator for "being healthy" would reduce risk-selection potential in the Dutch health insurance market.

TABLE 4 Mean spending and under/overcompensation in 2014 based on four versions of the Dutch RE model 2017 for 28 subgroups defined based on health survey data of 2012

Subgroup	Estimated size vs total adult population (%)	Mean spending in 2014 (€) [c]	Mean under/overcompensation in 2014 (€)[a,b]			
			Model 1 = RE model 2017	Model 2 = model 1 + 3-y spending <60%	Model 3 = model 1 + 3-y spending <70%	Model 4 = model 1 + 3-y spending <80%
General health (mutually exclusive)						
Good or very good	76.9	1611	140*	135**	131**	130**
Fair, poor, or very poor	23.1	5653	−275**	−239**	−228**	−219**
(Co)morbidity (mutually exclusive; past year)						
No self-reported condition	39.7	1102	175**	143**	141**	144**
1 self-reported condition	28.3	2277	103**	121**	117**	113**
2 self-reported conditions	14.9	3250	−40	2	4	−4
3 self-reported conditions	7.6	4396	−108*	−62	−56	−50
≥4 self-reported conditions	9.5	6662	−428**	−400**	−383**	−365**
General health *(Co)morbidity						
Good or very good general health and no self-reported condition	32.7	1005	197**	157**	155**	159**
Self-reported condition (ever)						
Diabetes	6.0	7024	33	48	51	49
Stroke	2.8	7232	−374**	−356**	−345**	−322**
Acute myocardial infarction	3.1	7656	−160	−147	−138	−119
Cancer	6.6	6298	−146*	−108	−99	−84
Self-reported condition (past year)						
Heart condition	2.1	8818	−483*	−466**	−450**	−412**
Migraine and severe headache	16.9	2384	−91**	−66**	−65**	−70**
Hypertension	18.2	4606	−92**	−60	−56	−56
Peripheral artery disease	2.7	8008	−764**	−751**	−741**	−725**
Asthma/chronic bronchitis/emphysema	8.7	4817	−98*	−66	−61	−66
Psoriasis	3.0	3781	−83	−51	−47	−55
Chronic eczema	5.4	2787	−89	−63	−68	−72
Dizziness with falling	4.3	5567	−481*	−451**	−440**	−428**
Severe/recurrent disease of intestines	4.8	5035	−329**	−274**	−258**	−249**
Incontinence	6.8	5590	−381**	−358**	−348**	−334**
Arthrosis or arthritis of hip(s)/knee(s)	14.7	5054	−220**	−189**	−178**	−164**
Chronic inflammation of joints	5.6	6075	−312**	−283**	−277**	−270**

(Continues)

TABLE 4 (Continued)

Subgroup	Estimated size vs total adult population (%)	Mean spending in 2014 (€)[c]	Mean under/overcompensation in 2014 (€)[a,b]			
			Model 1 = RE model 2017	Model 2 = model 1 + 3-y spending <60%	Model 3 = model 1 + 3-y spending <70%	Model 4 = model 1 + 3-y spending <80%
Severe/recurrent condition of back	11.0	4297	−331**	−295**	−287**	−277**
Severe/recurrent condition of neck/shoulders	10.6	3912	−245**	−207**	−200**	−195**
Severe/recurrent condition of elbow/wrist/hand	6.9	4606	−294**	−254**	−244**	−231**
Other self-reported condition	15.1	4796	−157**	−106**	−92*	−85*
Overall absolute mean (% reduction vs model 1)[d]			184	160 (−13%)	154 (−16%)	151 (−18%)

[a]Defined as the mean predicted spending for a group in 2014 (based on the relevant RE model) minus the mean actual spending for that group in 2014. Thus, a negative amount indicates an undercompensation and a positive amount an overcompensation.

[b]Note that the weighted mean of the under/overcompensations of mutually exclusive groups does not equal 0 due to the fact that the overall mean (predicted) spending in the survey data differs slightly from the overall mean (predicted) spending in the administrative data.

[c]Spending refers to the total curative somatic spending in relation to the basic health insurance package of 2017 (cost/price level of 2014). The mean spending in the sample as a whole equals 2561 euro (see Table 1).

[d]Calculated as the overall mean of the absolute values of the under/overcompensations, weighted by the size of the subgroups.

*Statistically significantly different from 0 based on a two-sided t test (P < 0.05).

**Statistically significantly different from 0 based on a two-sided t test (P < 0.01).

Regarding group-level fit, compensation not only improves for groups that are overrepresented by individuals in good health, but also for almost all groups comprising individuals with a self-reported chronic condition. The explanation is that the reduced RE payment for the healthy implies a higher RE payment for their unhealthy counterparts. For three large groups of individuals in good self-reported health, however, the improvement in fit is modest, indicating that the groups designated as healthy based on low prior spending contain relatively many people with a poor self-reported health, and vice versa. Indeed, an additional analysis on the survey sample showed that the identified groups of healthy individuals are to some extent heterogeneous, suggesting that MYLS is not entirely measuring what it is intended to measure, which is "being healthy." Unfortunately, with the data available, it was not possible to conduct further validations and determine what the MYLS indicator is actually measuring in addition to good health.

In theory, compensation for the three subgroups that are overrepresented by individuals in good health can be improved by explicitly including the relevant survey variables into the RE model. In practice, however, this is problematic as these data are not available for the whole population. If incorporating this information in the RE model is nonetheless considered desirable, other estimation methods, such as constrained least squares regression, may be required (A. A. Withagen-Koster, R. C. van Kleef, & F. Eijkenaar, To be submitted for publication).[39]

The second conclusion is that although differences are small, the improvement in fit increases with the share of individuals designated as healthy. As compared to the 60% and 70% thresholds, the 80% threshold discriminates more between the designated group and the complementary group. Also, the *total* overcompensation (ie, taking account of the size of the group) is highest under the 80% threshold. In terms of the *mean* overcompensation, however, the 80% threshold yields a less selective group as compared to the groups identified based on the two lower thresholds.

We did not differentiate the spending threshold(s) for potentially relevant enrollee characteristics (such as yes/no morbidity classification). The reason is that our goal was to identify individuals who are healthy in *absolute* sense (and not in *relative* sense, eg, individuals with relatively low-spending levels within the group with a morbidity classification), which was informed by the fact that selection actions by Dutch insurers over the past decade have mainly been targeted at those types of individuals. Nonetheless, we acknowledge that a differentiated threshold might be able to further reduce unpriced risk heterogeneity within the group of chronically ill individuals, which will reduce incentives to attract the relatively healthy individuals within this group (and to deter the relatively unhealthy). We believe this is an interesting topic for follow-up research.

The third conclusion is that insurers' incentives for cost containment are unlikely to be materially affected by adding an indicator based on MYLS. Concerns about these incentives being reduced might seem justified since a link is created between spending and payments, which could stimulate insurers to behave strategically and/or to refrain from enacting specific cost-containment strategies. However, our results indicate that the likelihood of insurers acting on these incentives will be low in practice because, at least in the Dutch context, the benefits are either uncertain or unlikely to be worth the costs. It must be noted, however, that our data did not permit explicit modeling of the likelihood and impact of strategic behavior under different MYLS modalities, which may have been more informative. Assessing how and to what extent insurers in general respond to the introduction of spending-based risk adjusters in RE models is an important topic for future research.

A related limitation is that although the goal of the Dutch RE model is to compensate insurers for predictable, *health-related* variation in spending, introducing a MYLS variable to the model would undoubtedly result in insurers also being partly compensated for variation related to factors other than health, such as enrollees' proclivity to consume health care and insurers' efficiency. In general, this also holds for the other diagnosis-/utilization-based risk adjusters in the model and inevitably involves a trade-off with no obvious escape.

TABLE 5 Heterogeneity of three groups of individuals designated as "healthy" on the basis of multiple-year low spending (2011-2013) using three different spending thresholds

	Survey respondents as a percentage of		
	All respondents with 3-y spending <60%	All respondents with 3-y spending <70%	All respondents with 3-y spending <80%
(Very) good self-reported health[a]	92%	90%	87%
No self-reported condition[a]	60%	56%	51%
(Very) good self-reported health and no self-reported condition[a]	51%	47%	42%
	All respondents with (very) good self-reported health[a]	All respondents with no self-reported condition[a]	All respondents with (very) good self-reported health and no self-reported condition[a]
Three-year spending below 60%	44%	56%	57%
Three-year spending below 70%	56%	67%	69%
Three-year spending below 80%	69%	78%	79%

[a]Subgroup defined based on the health survey data.

The final conclusion is that regardless of the model or threshold used, unpriced risk heterogeneity in the Dutch individual health insurance market remains considerable. This is consistent with findings from recent other studies conducted in the Dutch context (R. C. Van Kleef, F. Eijkenaar, & R. C. J. A. van Vliet, under review)[19,36] as well as in other countries with sophisticated morbidity-based RE models.[10,12-17] An interesting direction for further research is to investigate the extent to which remaining risk-selection potential in these countries can be meaningfully mitigated further by introducing new risk adjusters or that the focus should shift to other potential solutions such as alternative estimation methods (A. A. Withagen-Koster, R. C. van Kleef, & F. Eijkenaar, To be submitted for publication),[3,39] sophisticated forms of ex post risk-sharing,[37,40] and relaxing premium regulation.

In conclusion, the performance of the Dutch RE model can be improved by adding an indicator for "being healthy" based on multiple-year low spending. Irrespective of which spending threshold is ultimately used, however, risk-selection potential remains. Given that risk selection is highly undesirable, further improvement of RE merits high priority.

CONFLICT OF INTERESTS

All authors declare there are no conflict of interests.

ORCID

Frank Eijkenaar http://orcid.org/0000-0002-4471-7623

REFERENCES

1. Layton TJ, Ellis RP, McGuire TG, van Kleef RC. Measuring efficiency of health plan payment systems in managed competition health insurance markets. *J Health Econ.* 2017;56:237-255.
2. Van Kleef RC, Schut FT, van de Ven WPMM. Premium regulation, risk equalization, risk sharing and subsidies: effects on affordability and efficiency. In: McGuire TG, van Kleef RC, eds. *Risk Adjustment, Risk Sharing and Premium Regulation in Health Insurance Markets: Theory and Practice.* Amsterdam, The Netherlands: Elsevier Publishing; 2018.
3. Glazer J, McGuire TG. Optimal risk adjustment of health insurance premiums: an application to managed care. *Am Econ Rev.* 2000;90:1055-1071.
4. Einav L, Finkelstein A. Selection in insurance markets: theory and empirics in pictures. *J Econ Perspect.* 2011;25(1):115-138.
5. Van de Ven WPMM, van Kleef RC, van Vliet RCJA. Risk selection threatens quality of care for certain patients: lessons from Europe's health insurance exchanges. *Health Aff.* 2015;34(10):1713-1720.
6. Newhouse JP. Reimbursing health insurers and health providers: efficiency in production versus selection. *J Econ Lit.* 1996;34:1236-1263.
7. Enthoven AC, van de Ven WPMM. Going Dutch – managed-competition health insurance in The Netherlands. *N Engl J Med.* 2007;357(24):2421-2423.
8. Pope GC, Kautter J, Ellis RP, et al. Risk adjustment for medicare capitation payments using the CMS-HCC model. *Health Care Financ Rev.* 2004;25:119-141.
9. Buchner F, Goepffarth D, Wasem J. The new risk adjustment formula in Germany: implementation and first experiences. *Health Policy.* 2013;109(3):253-262.
10. Kautter J, Pope GC, Ingber M, et al. The HHS-HCC risk adjustment model for individual and small group markets under the Affordable Care Act. *Medicare Medicaid Res Rev.* 2014;4(3):E1-E46.
11. Van Kleef RC, Eijkenaar F, van Vliet RCJA, van de Ven WPMM. Health plan payment in the Netherlands. In: McGuire TG, van Kleef RC, eds. *Risk Adjustment, Risk Sharing and Premium Regulation in Health Insurance Markets: Theory and Practice.* Amsterdam, The Netherlands: Elsevier Publishing; 2018.
12. Ellis RP, Jiang S, Kuo T. Does service level spending show evidence of selection across health plan types? *Appl Econ.* 2013;45(13):1701-1712.
13. Brown J, Duggan M, Kuziemko I, Woolston W. How does risk selection respond to risk adjustment? New evidence from the Medicare advantage program. *Am Econ Rev.* 2014;104(10):3335-3364.
14. McGuire TG, Newhouse JP, Normand S-L, Shi J, Zuvekas S. Assessing incentives for service-level selection in private health insurance exchanges. *J Health Econ.* 2014;35:47-63.
15. Newhouse JP, Price M, McWilliams JM, Hsu J, McGuire TG. How much favorable selection is left in Medicare advantage? *Am J Health Econ.* 2015;1(1):1-26.
16. Layton TJ, Ellis RP, McGuire TG. Assessing incentives for adverse selection in health plan payment systems. NBER Working Paper. 2015;21531.
17. Schillo S, Lux G, Wasem J, Buchner F. High cost pool or high cost groups – how to handle high(est) cost cases in a risk adjustment mechanism? *Health Policy.* 2016;120(2):141-147.
18. Van Kleef RC, van Vliet RCJA, van de Ven WPMM. Overpaying morbidity indicators in risk equalization models. *Eur J Health Econ.* 2016;17(7):885-895.
19. Eijkenaar F, van Vliet RCJA, van Kleef RC. Diagnosis-based cost groups in the Dutch Risk-equalization model: effects of clustering diagnoses and of allowing patients to be classified into multiple risk-classes. *Med Care.* 2018;56(1):91-96.
20. McWilliams JM, Hsu J, Newhouse JP. New risk-adjustment system was associated with reduced favorable selection in Medicare advantage. *Health Aff.* 2012;31(12):2630-2640.
21. Newhouse JP, Price M, Huang J, McWilliams JM, Hsu J. Steps to reduce favorable risk selection in Medicare advantage largely succeeded, boding well for health insurance exchanges. *Health Aff.* 2012;31(12):2618-2628.
22. Von Wyl V, Beck K. Do insurers respond to risk adjustment? A long-term, nationwide analysis from Switzerland. *Eur J Heath Econ.* 2016;17(2):171-183.

23. Van Kleef RC, Beck K, van de Ven WPMM, van Vliet RCJA. Risk equalization and voluntary deductibles: a complex interaction. *J Health Econ*. 2008;27(2):427-443.

24. Van de Ven WPMM. Risk selection threatens quality of care (in Dutch). *Econ Stat Berichten*. 2012;97(4637):358-361.

25. NZa. *Quantitative Study on Risk Selection and Risk Solidarity on the Health Insurance Market (in Dutch)*. Utrecht, The Netherlands: Dutch Healthcare Authority; 2016.

26. CPB. *Consumers' Choice Behaviour and Risk-solidarity Regarding Voluntary Deductibles (in Dutch)*. Research commissioned by the Dutch Ministry of Health, Welfare, and Sports. The Hague, The Netherlands: CPB Netherlands Bureau for Economic Policy Analysis; 2016.

27. Duijmelinck DMID, Van de Ven WPMM. Switching rates in health insurance markets decrease with age: empirical evidence and policy implications from the Netherlands. *Health Econ Policy Law*. 2016;11:141-159.

28. Volksgezondheidenzorg.info. *Prevalence Chronic Illness by Age and Gender*. Bilthoven, The Netherlands: National Institute for Public Health and the Environment; 2018. URL www.volksgezondheidenzorg.info/onderwerp/chronische-ziekten-en-multimorbiditeit/cijfers-context/prevalentie. Accessed January 11, 2018.

29. Enthoven AC. Consumer-Choice Health Plan; a national-health-insurance proposal based on regulated competition in the private sector. *N Engl J Med*. 1978;298(13):709-720.

30. Enthoven AC. *Health Care, the Market and Consumer Choice*. Cheltenham, UK: Edward Elgar Publishing Limited; 2012.

31. Eijkenaar F, van Vliet RCJA. Improving risk equalization using information on physiotherapy diagnoses. *Eur J Health Econ*. 2018;19(2):203-211.

32. McGuire T, van Kleef RC, eds. *Risk Adjustment, Risk Sharing and Premium Regulation in Health Insurance Markets: Theory and Practice*. Amsterdam, The Netherlands: Elsevier Publishing; 2018.

33. Volksgezondheidenzorg.info. *Health Monitor Adults, Public Health Services, Statistics Netherlands, and National Institute for Public health and the Environment*. Bilthoven, The Netherlands: National Institute for Public Health and the Environment; 2018. URL https://bronnen.zorggegevens.nl/Bron?naam=Gezondheidsmonitor-Volwassenen%2C-GGD%E2%80%99en%2C-CBS-en-RIVM. Accessed February 22, 2018

34. Van Kleef RC, van Vliet RCJA. Improving risk equalization using multiple-year high cost as a health indicator. *Med Care*. 2012;50:140-144.

35. Cumming RB, Knutson D, Cameron BA, Derrick B. A comparative analysis of claims-based methods of health risk assessment for commercial populations. Monograph; 2002.

36. Withagen-Koster AA, van Kleef RC, Eijkenaar F. Examining un-priced risk heterogeneity in the Dutch health insurance market. *Eur J Health Econ*. 2018. https://doi.org/10.1007/s10198-018-0979-x [Epub ahead of print].

37. Geruso M, McGuire TG. Tradeoffs in the design of health plan payment systems: fit, power and balance. *J Health Econ*. 2016;47:1-19.

38. Van de Ven WPMM, Beck K, Buchner F, et al. Preconditions for efficiency and affordability in competitive healthcare markets: are they fulfilled in Belgium, Germany, Israel, the Netherlands and Switzerland? *Health Policy*. 2013;109:226-245.

39. Van Kleef RC, McGuire TG, Van Vliet RCJA, van de Ven WPMM. Improving risk equalization with constrained regression. *Eur J Health Econ*. 2017;18(9):1137-1156.

40. Van Barneveld EM, Lamers LM, Van Vliet RCJA, van de Ven WPMM. Risk sharing as a supplement to imperfect capitation: a trade-off between selection and efficiency. *J Health Econ*. 2001;20(2):147-168.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.