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COVERED CALIFORNIA

Covered California Holding Health Plans Accountable for Quality and Delivery System Reform

December 2019

Cover Image
This report provides data and analysis on Covered California's efforts to improve the performance of California's health care system and to ensure that its members receive affordable, high-quality care. The people featured on the cover are individuals who have benefited from these efforts. Their stories — and those of others told here: https://www.coveredca.com/real-stories/ — go beyond the data to provide personal perspectives on what Covered California has achieved over the past five years.

Suggested citation: Covered California. (2019). Covered California Holding Health Plans Accountable for Quality and Delivery System Reform.

Foreword

The Affordable Care Act opened the door to quality care for millions of Americans who had previously been shut out of our health care system. A companion to this report, "Covered California's First Five Years: Improving Access, Affordability and Accountability", provides an overview of how California — the state government, Covered California, and other stakeholders — are working together to use the tools provided by the Affordable Care Act to lower costs for consumers and provide meaningful choice and coverage that truly meets consumers' needs. The state is now building on and going beyond the Affordable Care Act on the path toward universal coverage.

This report details how for more than five years, Covered California has held itself accountable as a public entity charged with assuring consumers get the right care at the right time, while we hold the 11 health insurance companies we have chosen to contract with accountable for making sure that consumers receive high-quality care and that both insurers and providers are implementing the delivery system reforms needed to improve care for all Californians.

For Covered California, accountability means making sure health plans are meeting consumers' needs today and seeing that they are taking concerted and deliberate action to improve how health care is paid for, organized and delivered in California. The goal of this accountability is to have a health care system that truly addresses the triple aim of improving health, delivering better-quality care and lowering costs.

This report focuses on how contracted health insurers are held accountable for assuring quality care *and* for promoting delivery system reform. Chapter 1 describes the framework that now guides this work. Chapters 2 through 6 describe how Covered California holds insurers accountable for assuring quality care, including not only the specific measures used to track performance, but also the progress that has been made overall and by individual insurers on these measures. Chapters 8 through 11 then summarize the approaches to holding each health insurer accountable for advancing health care delivery reform.

We share this report not because we believe our work is done, but rather because it is just beginning. Improving health care quality and lowering underlying health costs is long-term pursuit. That pursuit is central to Covered California's mission, and this report identifies progress made and areas of needed attention as we move forward.

Peter V. Lee
Executive Director

Covered California Holding Health Plans Accountable for Quality and Delivery System Reform

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Chapter 1: Covered California's Framework for Assuring Quality Care and Promoting Delivery System Reform

Covered California's current contract requirements with qualified health plan (QHP) issuers (also referred to as "health insurance companies", "insurers" or "health plans" in this report)[1] are laid out in Attachment 7: Quality, Network Management, Delivery System Standards and Improvement Strategy of the QHP issuer contract. The contract is designed to hold insurers accountable for ensuring that people get the right care at the right time and that care is individualized for their specific needs, while seeking to improve how care is delivered and promoting care that is increasingly high-quality, equitable and cost-effective.[2]

The current Attachment 7 is composed of nine articles; each article has a distinct focus, including ensuring networks are based on value and reducing health disparities. In addition, multiple articles have elements related to quality improvement, network management and delivery system reform requirements. Attachment 7 includes a number of initiatives that require concerted, multi-year efforts of health insurance companies across the California delivery system. Insurers report annually and as part of quarterly review meetings with Covered California on their Attachment 7 performance. Covered California staff review and assess the information submitted for both contract compliance purposes and to assess the success of the Attachment 7 initiatives in achieving the priority outcomes of quality care and effectively delivering that care.

Covered California is working to update its health insurance company contract terms for the 2022-2024 plan years and is seeking to refresh its requirements for the future that continue to address the "Triple Aim" of lowering costs, improving quality and improving health outcomes, with a focus on reducing health disparities. This update will include a revised framework for Attachment 7 that is organized and composed of two main strategies: Assuring Quality Care and Effective Care Delivery. This report describes the progress Covered California contracted health insurance companies have made between 2014 and 2019[3] in implementing the requirements within the current Attachment 7 organized by the revised framework described in *Figure 1. Covered California's Framework for Holding Plans Accountable for Quality Care and Delivery Reform Framework*.

Assuring Quality Care

Covered California is committed to ensuring that care is individualized and equitable for not only those people currently needing or receiving treatment, but for those who are working to stay healthy. The

[1] The term "health insurance companies" or "insurers" refers to the organizations providing health coverage and "health plan" refers to the health coverage products they provide, such as an HMO plan vs. a PPO plan.

[2] Beginning with the inaugural 2014 plan year and updated in 2017, Covered California set forth standards and strategies for quality improvement and delivery system reform in its QHP issuer contract, specifically in the section of the contract titled "Attachment 7: Quality, Network Management, Delivery System Standards and Improvement Strategy". See more: https://hbex.coveredca.com/insurance-companies/PDFs/Attachment-7_2020_Clean_Final-Model.pdf.

[3] This report does not include data for plan year or measurement year 2014; rather it describes the progress Covered California contracted health insurance companies have made since 2014 on Attachment 7 requirements with the first year of data representing plan year or measurement year 2015 for most requirements.

Figure 1. Covered California's Framework for Holding Plans Accountable for Quality Care and Delivery Reform Framework

concept of individualized, equitable care[4] means regardless of one's circumstances, race, gender, where one lives or other socioeconomic factors — and for some decisions where more than one evidence-based treatment is available, based on one's values and preferences — every individual deserves the best possible care that is personalized for them and delivered in the right setting at the right time, does not cause harm and is the most cost-effective possible. These goals are consistent with the six domains of health care quality identified by the Institute of Medicine:[5] safe, timely, effective, efficient, equitable and patient-centered (STEEEP). In addition to assuring quality care for those insured through the marketplace, Covered California will continue its efforts to identify and reduce racial and ethnic health disparities for the entire population.

What follows are the organizing domains for assuring quality care beyond the cross-cutting concept that all care should be individualized and equitable:

- **Health promotion and prevention:** Everyone is encouraged to receive preventive care services and health screenings and use support tools that promote a healthy lifestyle. This includes everything from regular checkups to smoking cessation and dietary programs.
- **Mental health and substance use disorder treatment:** Identifying, engaging and supporting through treatment people with mental health conditions and substance use disorders and ensuring that they are provided with timely and effective care that is integrated with their other health care needs.

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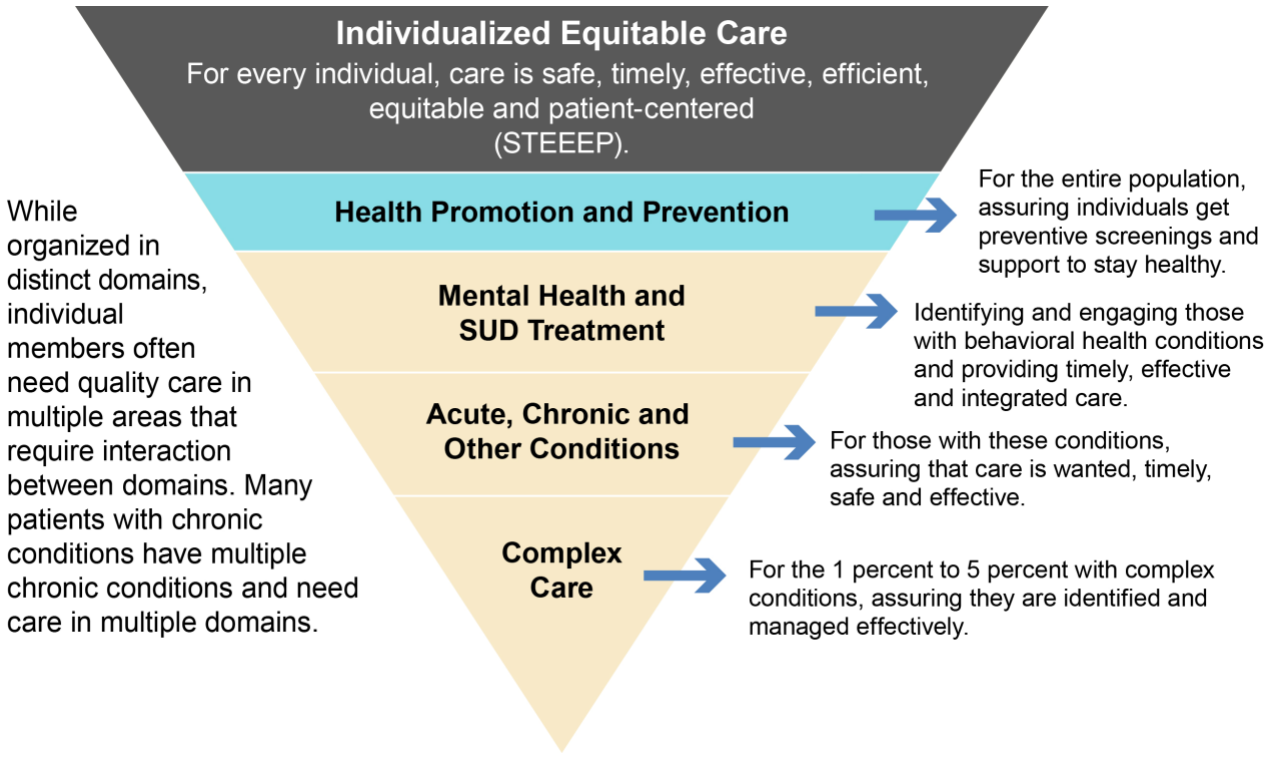
[4] In the current contract, Covered California focused health equity efforts on reduction of health disparities. While inclusive of health disparities reduction, the revised framework of Individualized, Equitable Care is intended to capture the broad goal of care that is individualized to address an individual's health needs.

[5] Committee on Quality Health Care in America, Institute of Medicine. (2001). Crossing the quality chasm: a new health system for the 21st century. Washington, D.C.: National Academy Press.

- **Acute, chronic and other conditions:** Actively managing care for people with acute conditions, which are defined as illnesses or diseases that are short term and last typically a few days to weeks, such as an infection or an injury; chronic conditions, which typically develop slowly over time and last months to years, such as diabetes, most cancers, cardiovascular disease, and infectious diseases like Human Immunodeficiency Virus (HIV); and other conditions that are temporary, such as pregnancy or gestational diabetes.
- **Complex care:** Effectively managing very complex conditions for individuals that require a multitude of specialty, high-cost treatments — such as cancer or transplants — or require end of life care. These are individuals who need to be managed effectively or seen in very specialized settings by providers who know how to manage their condition well and can provide coordinated interventions.

The concept of individualized, equitable care as it applies to the specific care domains is illustrated in *Figure 2. Covered California's Domains for Assuring Contracted Health Plans Deliver Quality Care*, recognizing that some members with mental health, substance use disorders or multiple chronic conditions need care in multiple domains.

Figure 2. Covered California's Domains for Assuring Contracted Health Plans Deliver Quality Care



Effective Care Delivery

In addition to addressing various populations and the care they receive, Covered California also focuses on effective care delivery strategies and its contractual requirements promote improving the way care is delivered for our enrollees and all Californians, whether it is provided by a primary care physician, hospital, clinic or other provider. What follows are the organizing strategies for effective care delivery:

- **Effective primary care:** The foundation of providing appropriate and equitable care is built on team-based, data-driven primary care that is well integrated, coordinated and continuous. While many consumers benefit from an ongoing continuous relationship with a single physician, there is strong evidence that primary care through well-integrated sites of care or delivery systems are more effective.
- **Promotion of integrated delivery systems and accountable care organizations:** Effectively caring for and managing a person's health requires an integrated care system that can coordinate across providers, sites and time for a variety of conditions while delivering good outcomes and quality at an affordable cost.
- **Networks based on value:** All clinicians, providers, hospitals and sites of care are selected and regularly assessed based on how those individuals or institutions provide care that is safe, timely, effective, efficient, equitable, and patient-centered. Ideally, every network is composed of integrated systems, effective primary care and designed considering the value it provides.

Regardless of the organizing strategies — whether focused on primary care, an integrated delivery system or the overall network — Covered California aims to ensure the interventions that patients receive are both appropriate and delivered through sites and services that meet their needs:

- **Appropriate interventions:** The use of clinical interventions, such as prescriptions, procedures, diagnostic tests and devices that are rooted in the STEEEP domains and based on strong evidence and shared decision-making.
- **Sites and expanded approaches to care delivery:** Covered California supports patients in getting health interventions and treatments in the most appropriate setting. That means assuring quality care is delivered not only in hospitals, whether on an in-patient or outpatient basis, but in ambulatory settings such as a doctor's office, urgent care facilities, retail facilities such as drop-in clinics, at home, or through telehealth. Expanded approaches to care delivery also include who provides care in addition to physicians, such as registered nurses, pharmacists, midwives or other non-licensed providers like community health workers.

Key Drivers of Quality Care and Effective Delivery

Covered California recognizes that moving health reform forward in an impactful way within a delivery system shared among many purchasers and health insurance companies will require aligning with other purchasers and working with all relevant payers in a way that reduces the burden on providers. When considering the key drivers of quality care and effective delivery, Covered California has looked to the National Quality Strategy[6] and mirrored many of the same levers initially noted in 2011.

Many of these levers or drivers are specifically articulated as expectations of health insurers in Attachment 7 as ways to assure individuals get the right care. Insurers are working to improve the delivery system over time. However, some of the "community drivers" that are identified may be outside of the scope of an individual insurer's responsibility or Covered California's contract. Nevertheless, it is important to recognize these drivers are a part of the context within which health care is delivered and the quality of health that consumers experience. Examples of community drivers are detailed after the roster of drivers specific to health insurer's work. Key drivers include:

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[6] Agency for Healthcare Research and Quality. (2011) 2011 Report to Congress: National Strategy for Quality Improvement in Health Care. Retrieved from https://www.ahrq.gov/workingforquality/reports/2011-annual-report.html

1. **Benefit design:** Helping consumers make informed decisions by standardizing benefit designs, so they are easier to understand and compare, and incentivize access to the right care at the right time. Benefit design may include incentives to encourage patients to use particular providers or particular sites of care or formulary and other designs to encourage providers to select particular interventions as appropriate.
2. **Measurement for improvement, choice and accountability:** Providing meaningful and actionable performance feedback to providers, insurers and the public to improve care and compare treatment results, cost and patient experiences for consumers.
3. **Payment:** Rewarding and incentivizing delivery of high-quality, patient-centered care that promotes better health, quality improvement and value while also fostering innovation, improving efficiency and adopting evidence-based practices.
4. **Patient-centered social needs:** Identifying, and, as needed, addressing patient-centered support for non-medical services, recognizing that many people may face barriers that prevent them from staying healthy and receiving the right care at the right time, such as food insecurity, housing insecurity and lack of transportation to their doctor.
5. **Patient and consumer engagement:** Increasing support for and the level of participation by patients and consumers in managing their health and making their personal health care decisions.
6. **Data sharing:** Making patient data available and accessible to support clinical care and coordination, decrease health care costs, reduce paperwork, improve outcomes and give patients more control over their health care.
7. **Data analytics:** Inspecting, transforming and modeling data to discover timely and reliable information that will aid in a patient or provider's decision-making processes.
8. **Administrative simplification and provider burden reduction:** Implementing system changes to maximize the time providers spend with patients and minimize unnecessary administrative burden.
9. **Certification, accreditation and regulation:** Employing existing regulatory and accreditation processes and work with other agencies and departments to ensure approaches meet safety and quality standards. For example, California's Departments of Insurance and Managed Health Care enforce the regulatory standards that Covered California relies on for network adequacy. The National Committee for Quality Assurance (NCQA), among others, conducts health plan accreditation.
10. **Quality improvement and technical assistance:** Promoting initiatives that will lead to better patient outcomes and better care delivery approaches, strengthening the evidence base to inform better decision-making and fostering learning environments that offer training, resources, tools and guidance to help organizations achieve quality improvement goals.

Beyond the drivers of more effective care and healthier populations that relate to what an individual insurer can do or be held accountable for, Covered California recognizes and seeks to better understand the impact of broader social and structural issues on health status, care and care delivery. Community health drivers include:

- **Workforce:** Investing in people to prepare the next generation of health care professionals and support lifelong learning for providers.
- **Community-wide social determinants:** Addressing structural social and economic influences that impact individual and group differences in health.
- **Population and public health:** Increasing the health of a community through broad interventions that address public health, homelessness or food insecurity.

ASSURING QUALITY CARE

Chapter 2: Individualized, Equitable Care — Best Possible Care for All

Covered California's overarching goal is to ensure that everyone receives the best possible health care. This goal entails striving to ensure that care is personalized, does not cause harm, is delivered in the right setting at the right time, and is as cost effective as possible. For decisions where more than one evidence-based treatment is available, the goal is to support individuals in choosing treatment based on their values and preferences. In the framework proposed by the Institute of Medicine 20 years ago, everyone should receive care that is safe, timely, effective, efficient, equitable, and patient-centered (often captured by the acronym "STEEEP").[7] Unfortunately, the quality of care delivered in the United States varies dramatically.

Of the elements related to the Institute of Medicine's framework, the domain that has too often not been given central focus is the charge to ensure that care is equitable. Addressing health equity and disparities in health care has been integral to Covered California's mission. Given that focus, after reviewing some important overall indicators of how health plans are generally meeting consumers' needs, much of this chapter specifically addresses Covered California's focus on the issue of equity. The other domains of the STEEEP framework are addressed throughout the report and are integral to Covered California's approach. The Quality Rating System (QRS), which includes performance measures based both on clinical measures and on patients' reported experience of getting care, provides a global picture of how Covered California's health plans are doing at providing the best possible care. In this chapter, the Global and Summary Components of the

Highlights

- Covered California enrollees are generally very satisfied with their experience with their health plans and their health care, with the vast majority enrolled in plans that score above the 50th percentile for enrollee satisfaction with their health care and plan.
- Global Quality Ratings have improved since their launch in 2016, but a dip in 2019 has generated further scrutiny.
- Covered California has launched a long-term initiative to reduce health disparities. In response to contractual requirements, 93 percent of enrollees are in plans that were at or above the 80 percent requirement for enrollee self-identification of race/ethnicity.
- All 11 insurers are analyzing disparities in care for patients with diabetes, hypertension, asthma and depression for all of their lines of business, not just Covered California, and planning targeted interventions.
- Gaps in quality by race/ethnicity were found for all insurers — but were not consistent (e.g., for some insurers African Americans warranted targeted interventions for diabetes, and Latinos in others).
- Racial and ethnic disparities are generally smaller than the differences in quality across plans: enrollment in Sharp Health Plan or Kaiser Permanente is a better predictor of receiving good care than race or ethnicity is.
- Nevertheless, all insurers have identified a disparity where a targeted intervention can improve help reduce disparities and improve health.

[7] Committee on Quality Health Care in America, Institute of Medicine. (2001). Crossing the quality chasm: a new health system for the 21st century. Washington, D.C.: National Academy Press.

health plan quality ratings are presented, along with two measures that relate to enrollee satisfaction with their health plan and their care.

Social, economic and geographic disparities in health and health care pose a particularly serious challenge to the goal of ensuring the best possible care for all. Because social and environmental factors are powerful determinants not only of the care individuals receive but also of their underlying health, reducing disparities requires efforts within the health care delivery system and in the broader community. Covered California recognizes that meaningful progress will require multi-pronged and multi-year efforts.

Covered California is working to reduce disparities and promote health equity. To this end, Covered California has hired a new health equity officer who plans, implements and integrates Covered California's health equity agenda with Covered California's quality improvement and delivery system reform efforts. The health equity officer leads the work of the new Population Care Unit within the Plan Management Division, which is composed of staff positions dedicated to quality improvement, health equity and social determinants of health.

Covered California is working with health plans to reduce health disparities and promote health equity by: (1) identifying the race/ethnicity of all enrollees; (2) collecting data on diabetes, hypertension, asthma and depression to measure how quality varies by race/ethnicity; (3) conducting population health-improvement activities and interventions to narrow observed disparities in care; and (4) promoting community health initiatives that foster better health, healthier environments, and promote healthy behaviors. This chapter describes how Covered California has moved forward in each of these areas.

This chapter on individualized, equitable care is organized as follows:

Section 1. Qualified Health Plan Experience

Section 2. Health Plan-Reported Measures for Health Disparities

Section 3. Implications for the Future

Section 1. Qualified Health Plan Experience

Health Plan Measures Reported to the Quality Rating System

This section presents performance data reported by health insurance companies for contract requirements and includes assessments and observations by Covered California. One key mechanism used by Covered California for health plan oversight and accountability is public reporting of global and individual health plan quality-performance measures to the Centers for Medicare and Medicaid Services' Marketplace Quality Rating System (QRS). In the current contract requirements, health plans are required to:

1. Annually collect and report to Covered California for each product type the measure numerator, denominator and rates for its QRS data, including Healthcare Effectiveness Data and Information Set (HEDIS) measures, Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey data and other performance data.
2. Submit HEDIS and CAHPS scores to include the measure numerator, denominator and rate for the required measures set reported to NCQA Quality Compass and the Department of Health Care Services (DHCS), for each product type for which it has data in California.

Global and Summary Component Health Plan Quality Ratings

The Marketplace QRS global quality ratings show how health plans compare on helping members get the right medical care and on member-reported experiences of care and service. Covered California displays each health plan's QRS rating to enrollees through the plan shopping experience and on coveredca.com.

Plans are rated on a scale of one to five stars. To assign the star rating, each health plan's results are compared to about 200 marketplace health plans nationwide. A five-star plan means that health plan scored among the top plans nationwide; a one-star rating means the plan's score was among the lowest.

QRS is composed of a global quality ratings and summary component ratings for three major aspects of health plan performance.[8] Each health plan's product (HMO, PPO, EPO) receives a separate QRS rating.

Global quality rating: The global quality rating is a roll-up of three summary components per the following weighting:

Summary Components	Weights
Getting Right Care (HEDIS)	66%
Members' Care Experience (CAHPS)	17%
Plan Services (HEDIS and CAHPS)	17%

A global quality rating is constructed for each health plan that has at least two of the three component scores, and one of the scores must be for the "Getting the right care" component:

- **Getting the right care:** Each year, a sample of members from each health plan is selected, and their records are checked to compare their medical care with national standards for care and evidence-based treatments. More than 30 HEDIS measures are tracked using medical charts and billing records sent by providers and hospitals. These quality measures include how well the health plan and its providers care for enrollees, such as controlling high blood pressure, lowering cholesterol and getting the right medications.
- **Members' care experience:** Members' experiences with their doctor and care are based on the CAHPS survey that asks about members' recent experiences when visiting the doctor and getting medical care. About one of every five people who receive a survey in the mail or by phone provides a response, with about 250 members from each plan completing surveys. CAHPS surveys are currently only available in English or Spanish, but insurers are encouraged to translate the surveys into other languages that reflect their patient population. Translation guidelines are readily available from CMS.
- **Plan services for members:** A sample of plan members' records is checked to see if patients got unnecessary care — services that could be harmful and wasteful. The CAHPS member survey is also used to report on members' experiences in getting help and information from the insurer's customer service staff.

[8] See the Appendix 2 for the complete list of measures used to determine each summary component rating of QRS.

The QRS ratings of Covered California health plans have generally improved over time, but there was a downward trend in 2019.[9] For the 2019 reporting year, which represents the 2018 measurement year, the overall trend is lower star ratings compared to 2018: for the global rating, only one plan has a 5-star rating and one plan has a 4-star rating while most have 2 and 3-star ratings (see *Table 1. Global Quality Ratings by Reportable Products for Individual and CCSB Markets, 2016-2019*).

Table 1. Global Quality Ratings by Reportable Products for Individual and Covered California for Small Business (CCSB) Markets, 2016-2019

Overall Quality Ratings by Reportable Products for Individual and CCSB Markets						
	# Products with No Global Rating	1 Star ★	2 Star ★★	3 Star ★★★	4 Star ★★★★	5 Star ★★★★★
2019 QRS	**3***	**0**	**5**	**5**	**1**	**1**
2018 QRS	**3***	**0**	**0**	**6**	**4**	**2**
2017 QRS	**4***	**0**	**3**	**6**	**1**	**1**
2016 QRS	**5***	**1**	**7**	**2**	**1**	**1**

*No global rating if a newer product and not eligible for reporting or insufficient sample sizes to report results for at least 2 of the 3 summary component categories.

Source: Covered California Health Plan QRS Reporting

Table 2 lists the global rating and the three summary component ratings for each Covered California health plan for 2019. Covered California health plans generally performed well on the Plan Services for Members component rating, with all plans receiving a 3-star rating or above on this component.

[9] The 2018 reporting year, which represented the 2017 measurement year, was impacted by a federal statistical methodology that appears to have inflated star ratings for that year. Covered California is working with CMS to achieve a more stable methodology that will allow better year-to-year comparisons of star ratings based on changes in performance. This affected only the star rating, not the underlying measure scores reported below.

Table 2. Covered California Health Plan QRS Global and Summary Component Ratings, 2019

Health Plan	Product Type	Global Rating	Getting the Right Care	Members' Care Experiences	Plan Services for Members
Anthem	EPO	★★	★★	★★	★★★
Blue Shield	PPO	★★★	★★	★★★	★★★
Blue Shield	HMO	★★★	★★	★★★	★★★
CCHP	HMO	★★★	★★★	★★	★★★★★
Health Net	HMO	★★	★★★	★	★★★
Health Net	EPO	One Quality Rating Available	★★	Not Reportable**	Not Reportable**
Health Net	PPO	Quality Rating in Future*	Quality Rating in Future*	Quality Rating in Future*	Quality Rating in Future*
Kaiser	HMO	★★★★★	★★★★★	★★★★	★★★★★
LA Care	HMO	★★★	★★★	★★	★★★
Molina	HMO	★★	★★	★★	★★★
Oscar	EPO	★★	★★	★★★	★★★★★
Sharp	HMO	★★★★	★★★★	★★★	★★★★
Valley	HMO	★★★	★★★★	★	★★★
WHA	HMO	★★	★★	★★★	★★★★
Blue Shield	HMO/CCSB	★★★	★★	★★★	★★★
Health Net	PPO/CCSB	Quality Rating in Future*	Quality Rating in Future*	Quality Rating in Future*	Quality Rating in Future*

*Quality ratings are reported for a health plan product after its first two years with Covered California.

**Not enough data to calculate a score according to the quality rating methodology.

Source: Covered California Health Plan QRS Reporting

Enrollee Satisfaction With Their Health Care and Health Plan

Assuring that care is patient-centered requires assessment of a range of elements, including the extent to which patients receive the right care, at the right time, and in the most appropriate setting. As discussed in Chapter 10: Appropriate Interventions, it also means that care provided is informed and based on the patient's preferences and their understanding of the implications of their choices. At a high level, however, a starting point of making sure care is patient-centered is considering patient voices in assessing health plans' performance.

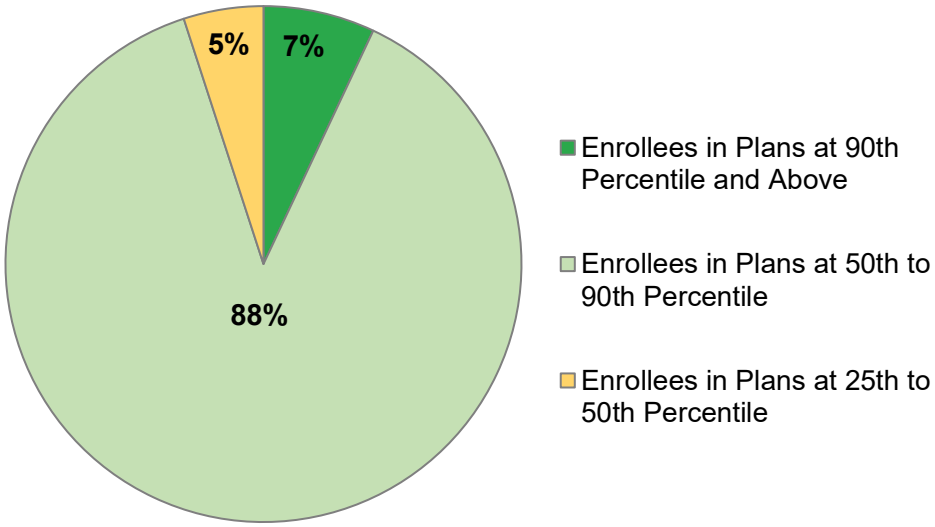
Among the health plan measures reported to the Marketplace Quality Rating System are Consumer Assessment of Healthcare Providers and Systems (CAHPS) measures that reflect consumers' perspectives and their reported experience with care received. These Marketplace Quality Rating System (QRS) standard performance measures are a key mechanism used by Covered California for health plan oversight and accountability. To more sharply focus health plan accountability efforts, Covered California examined over 40 measures used by QRS and is proposing to prioritize a subset of 13 measures that were selected based on the following criteria: (1) health impact; (2) extent of health plan variation; (3) performance improvement opportunity; (4) alignment with other California accountability programs; and (5) balance across domains of care, such as prevention, chronic illness care and behavioral health. Three of the 13 measures overlap with the measures currently collected by race/ethnicity for health disparities reduction interventions as discussed in Section 2 of this chapter.

The following tables display the priority measures for individualized, equitable care in the QRS measure set and include the Covered California weighted average, the highest- and lowest-performing plans, plan-specific performance and national percentiles for all marketplace plans:

1. Rating of Health Plan (Table 3).
2. Rating of All Health Care (Table 4).

These two CAHPS questions the reflect consumers' overall satisfaction with their health plan and the care they received. As evident from each of these measures, there is generally high satisfaction among Covered California enrollees with their health plans (with 95 percent of enrollees reporting satisfaction that is above the 50th percentile nationally) and with their care (75 percent of enrollees reporting satisfaction that is above the 50th percentile nationally). (See *Figure 3. Covered California Enrollment in Health Plans by Consumer Rating of Health Plan — 95 Percent of Enrollees in Plans Scoring Above the 50th Percentile Nationally, and All Enrollees in Plans Above the 25th Percentile, 2019.*)

Figure 3: Covered California Enrollment in Health Plans by Consumer Rating of Health Plan — 95 Percent of Enrollees in Plans Scoring Above the 50th Percentile Nationally, and All Enrollees in Plans Above the 25th Percentile, 2019



Rating of Health Plan

The Rating of Health Plan measure indicates enrollee experience related to the rating of health plan QHP Enrollee Survey question.

Table 3: Covered California Enrollees Rating of Health Plan (CAHPS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	78 +	78 +	79 +	75 +	7%	93,322	1
Plans at 50th to 90th Percentile	72 to 78	72 to 78	73 to 79	69 to 75	88%	1,187,877	10
Plans at 25th to 50th Percentile	67 to 72	68 to 72	69 to 73	64 to 69	5%	64,031	1
Plans Below 25th Percentile	Below 67	Below 68	Below 69	Below 64	0%	-	0
Covered California High/Average/Low Performers							
Covered CA Highest Performer	79	80	82	76			
Covered CA Weighted Average	73	76	78	73			
Covered CA Lowest Performer	66	69	65	69			
Covered California Plan-Specific Performance							
Anthem HMO	71	74					
Anthem PPO	67	70					
Anthem EPO			67	69	5%	64,031	
Blue Shield HMO	70	75		76	7%	93,322	
Blue Shield PPO	75	75	78	71	25%	335,176	
CCHP HMO	74	76	78	73	1%	10,013	
Health Net HMO	70	75	73	70	11%	145,183	
Health Net EPO		69	65				
Health Net PPO							
Kaiser Permanente HMO	79	80	82	74	36%	477,683	
LA Care HMO	68	77	73	73	6%	84,750	
Molina Healthcare HMO	66	72	69	71	4%	56,023	
Oscar Health Plan EPO			80	71	3%	35,962	
Sharp Health Plan HMO	77	80	78	75	1%	17,335	
Valley Health Plan HMO	70	76	78	75	1%	16,366	
Western Health Advantage HMO	77	77	78	72	1%	9,386	

Rating of All Health Care

The "Rating of all health care" measure is an overall indicator of enrollees' satisfaction (0-10 scale) with their health care based on the QHP Enrollee Survey.

Table 4: Covered California Enrollees' Rating of All Health Care (CAHPS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	85 +	86 +	86 +	82 +	0%	-	0
Plans at 50th to 90th Percentile	82 to 85	83 to 86	83 to 86	78 to 82	75%	1,008,266	5
Plans at 25th to 50th Percentile	80 to 82	81 to 83	81 to 83	75 to 78	25%	336,964	7
Plans Below 25th Percentile	Below 80	Below 81	Below 81	Below 75	0%	-	0
Covered California High/Average/Low Performers							
Covered CA Highest Performer	84	88	86	80			
Covered CA Weighted Average	80	81	83	78			
Covered CA Lowest Performer	69	75	74	75			
Covered California Plan-Specific Performance							
Anthem HMO	78	79					
Anthem PPO	76	82					
Anthem EPO				76	5%	64,031	
Blue Shield HMO				80	7%	93,322	
Blue Shield PPO	83	82	85	78	25%	335,176	
CCHP HMO	80	80	81	77	1%	10,013	
Health Net HMO	74	78	78	75	11%	145,183	
Health Net EPO		81					
Health Net PPO							
Kaiser Permanente HMO	84	84	86	80	36%	477,683	
LA Care HMO	80	83	76	78	6%	84,750	
Molina Healthcare HMO	69	75	74	76	4%	56,023	
Oscar Health Plan EPO			82	76	3%	35,962	
Sharp Health Plan HMO	83	88	85	80	1%	17,335	
Valley Health Plan HMO	76	80	81	77	1%	16,366	
Western Health Advantage HMO	83	85	84	76	1%	9,386	

Covered California's Attention to Equity and Health Disparities

Covered California has prioritized initiatives to narrow health care and coverage disparities and ensure health equity for all. Reducing health disparities is part of Covered California's vision and mission statement and has the potential to benefit all Californians (with over 4 million consumers served to date through Covered California[10]) and because the populations measured and targeted for improvement by health insurance companies include all of their enrollees under age 65 across all lines of business.

While disparities are influenced by social and economic factors beyond the control of the health care delivery system, there is agreement and evidence that health care disparities can be narrowed through quality improvement activities tailored to the needs of specific populations and targeting select measures at the health plan level. To this end, Covered California has laid out a health disparities and health equity agenda centered on four requirements:

Covered California's Mission and Vision

Covered California's vision is to improve the health of all Californians by assuring their access to affordable, high quality care.

Covered California's mission is to increase the number of insured Californians, improve health care quality, lower costs, and reduce health disparities through an innovative, competitive marketplace that empowers consumers to choose the health plan and providers that give them the best value.

1. Promoting community health initiatives that foster better health, healthier environments and healthy behaviors.
2. Identifying the race or ethnicity of all enrollees through self-identification or imputed methodology.
3. Collecting data by race/ethnicity for disease control and management measures for asthma, depression, diabetes and hypertension — conditions with especially high levels of morbidity and mortality experienced by disadvantaged populations.
4. Conducting population-health improvement activities and interventions to narrow observed disparities in care.

See Section 2 for information on health plan progress in conducting interventions to narrow observed disparities in care and collecting data by race/ethnicity for disease control and management measures for asthma, depression, diabetes and hypertension.

Promoting Community Health Initiatives That Foster Better Health, Healthier Environments, and Promotion of Healthy Behaviors

Under contract requirements, Covered California included requirements for engagement and promotion of community-wide initiatives that foster better health, healthier environments, and the promotion of healthy behaviors across the community. Covered California specifically encouraged community health initiatives that have undergone or are being piloted through systematic review to determine

[10] This figure only includes on-exchange enrollment since 2014. The figure is higher if off-exchange mirrored plan enrollment is included.

effectiveness in promoting health and preventing disease, injury or disability and have been recommended by the Community Preventive Services Task Force. Such programs may include:

1. Partnerships with local, state, or federal public health departments such as Let's Get Healthy California.
2. CMS Accountable Health Communities.
3. Organizations that operate preventive and other health programs, such as Cal Fresh.
4. Hospital activities undertaken under the Community Health Needs Assessment required every three years under the Affordable Care Act.

Table 5. Covered California Insurer Activities to Improve Community Health, 2018 shows health insurer reported initiatives, programs and projects that improve community health apart from the health delivery system. Health insurance company involvement in external-facing activities is used by Covered California to identify potential disparity-reduction opportunities.

Identifying the Race or Ethnicity of All Enrollees

Understanding disparities in care requires data collection on demographics and other social determinants of health. Health insurance companies vary in the degree to which demographic data is collected and integrated into member records. While state law requires health insurance companies to collect race, ethnicity, and language data, insurers use different methods to obtain this information and have different rates for the percentage of membership self-identifying race/ethnicity (i.e. race/ethnicity self-identification rates).[11] Before the initiatives described below, no purchaser or state agency in California monitored the success of collecting self-identification rates and there had been no broad attempt to use the data to evaluate disparities in care.

To achieve high self-identification rates across all health insurance companies, Covered California set a goal for all insurers to achieve identification of at least 80 percent of all Covered California membership by year-end 2019 and encouraged use of various data collection methods beyond the membership enrollment application to identify race/ethnicity. Starting with the 2018 plan year, insurers were assessed on a contract performance standard for the self-identification rate and received financial penalties or credits based on whether they achieved the target. Insurers proposed intermediate milestones for the performance standard for the 2018 plan year and will be assessed on whether they achieved a target of 80 percent in 2019.

Based on analysis of data gathered for this performance standard, eight insurers have achieved the 80 percent target as of 2018 and some have exceeded 95 percent. Insurers have attributed the increased identification rates to improved data collection and incorporation of best practices for asking enrollees for race/ethnicity information.

[11] Senate Bill 853, Chapter 717, Statutes of 2009.

Table 5. Covered California Insurer Activities to Improve Community Health, 2018

	Number of Health Plans
Internal facing, member related efforts	
Health education portal	3
Quality collaboratives	1
Member outreach	2
Lifestyle or disease-specific workshops and classes	8
Educational materials	5
Incentive programs	2
Connections to outside orgs and programs	2
Internal facing, member related efforts non-health-related	
Philanthropy	1
Non-health classes	1
Health insurance education	6
Financial counseling/decision-making support	2
Interpreting services availability education	1
External or community facing activities, health-related	
Health fairs (starred if funded)	7
Screening events (starred if funded)	2
Enrollment fairs	1
Public health conferences	1
Statewide or community collaboratives and taskforces	5
Community workshops/classes or peer to peer support	3
Health promotors program	2
Financial support of community health programs	4
Educational materials	2
External facing, non-health-related	
Employee volunteers	1
Ads and newsletters	2
Community events	3
Financial support of community non-health programs	2
Education support	2
Non-health coalitions (e.g. homelessness)	2
Health plan option education	1
Engaged with health systems for community risk assessments identifying high priority needs	
Through providers	3
Health plan activities	5
Community health effort	
School programs	1
In-home assessments	1
Educational campaign	2
Health plan-funded community health programs based on needs assessments or other activity	
Grant programs	4
Health fairs	2
Health resource center(s)	2
Community clinics	2
Screening events	2
Participated in geographic disaster relief efforts	
Safety policies	1
Member services in affected areas	1
Disaster relief as part of government	1
Disaster preparedness programs	2
Community partner support around disaster relief	2

Table 6. Number of Insurers Meeting the 80 Percent Target for Identification of Race/Ethnicity

	2015	2016	2017	2018
Number of Insurers	5	4	5	8

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Challenges in Data Collection

Health insurance companies can collect self-identification data from several sources. The race/ethnicity question in the Covered California enrollment application is voluntary and is included in the enrollment file sent to insurers. Beyond enrollment data, insurers have reported receiving data from providers, customer service, health risk assessments and website registration. Methods for data collection vary by insurer, resulting in considerable variation during 2015-18 in how well each insurer met Covered California's goals for ensuring race/ethnicity identification for quality improvement purposes.[12]

While all insurers have demonstrated improvement towards the 2019 target, it is important to note that these rates represent Covered California membership only. As discussed in Section 2. Health Plan-Reported Measures for Health Disparities, an objective of the health equity agenda is to track and trend a select set disparities measures that include a health insurance company's full book of business excluding Medicare. Larger numbers are necessary to be able to accurately measure performance, especially for relatively small minority populations. Identification of member race/ethnicity when reporting health disparities measures is similarly challenging. For this reason, Covered California has encouraged insurers to supplement self-reported identification with a proxy methodology based on surname and census track. Covered California will continue to work with insurers to improve and validate self-identification of race and ethnicity.

Section 2. Health Plan Reported Measures and Efforts to Narrow Health Disparities

Many of Covered California's contracted health insurance companies have been actively engaged in efforts to understand and address health care disparities for many years. These efforts are reflected in a range of activities. Four of Covered California's health insurance companies, Health Net, Kaiser Foundation Health Plan of Southern California, L.A. Care and Molina Healthcare, representing 36 percent (503,220 out of 1,384,030) of enrollment in 2018 earned the National Committee for Quality Assurance's (NCQA) Distinction in Multicultural Health Care (MHC), a program that recognizes organizations that provide culturally and linguistically sensitive services and work to reduce disparities in health and health care.[13]

In 2017, Covered California began an initiative to measure and seek improvement in health equity across all contracted insurers. In collaboration with health insurance companies and consumer

[12] In 2018, Covered California examined current self-identification rates in the Covered California enrollment file to compare to insurer reported rates. Covered California's self-identification rate in 2017 was 75.5 percent across all insurers. In theory, insurer reported rates should be equal to or higher than the rate provided in the enrollment file, assuming all data is transferred to the insurer and the insurer's other avenues of data collection supplement the race/ethnicity field in its membership file. In practice, some insurers have reported considerably lower rates and are currently evaluating internal data collection to understand the discrepancies. Covered California is also aware of some errors in the 834 data transmission related to race/ethnicity categorization and is actively working on a system change request to appropriately identify membership answering this question in the enrollment application.

[13] See more: https://www.ncqa.org/programs/health-plans/multicultural-health-care-mhc/.

stakeholders, Covered California targeted four conditions that affect large numbers of consumers, have serious potentially avoidable complications, and for which there is strong evidence of racial or ethnic disparities:

- **Asthma:** Although asthma affects all populations, the burden of this disease falls disproportionately on minority populations: the prevalence of childhood asthma is 12.7 percent among non-Hispanic blacks compared to 8 percent among non-Hispanic whites and 6.4 percent among Hispanics. Even more striking, the asthma mortality rate among non-Hispanic black children is nearly eight times that of non-Hispanic whites.[14]
- **Depression:** National surveys indicate that nearly one in six Americans has experienced a major depressive episode, with many experiencing multiple episodes. Depression is a leading cause of disability and death, largely related to the nearly tenfold higher risk of suicide among those with depression.[15] Depression is undertreated in all populations, but more so among minorities. Although 40 percent of non-Latino whites with depression failed to receive treatment, 64 percent of Latinos, 69 percent of Asians, and 59 percent of African Americans failed to receive any treatment.[16]
- **Diabetes:** While diabetes affects almost 10 percent of the U.S. population overall, the prevalence in Hispanics (11.9 percent) and African Americans (13.4 percent) is much higher than it is in non-Hispanic Whites. Diabetes is the seventh leading cause of death and contributes to an increased risk of heart attacks, stroke, amputation and kidney disease.[17]
- **Hypertension:** Almost one third of adults have hypertension (high blood pressure), a major risk factor for heart attacks (the leading cause of death in the U.S.) and strokes (the seventh leading cause of death). The prevalence of hypertension among non-Hispanic blacks (41 percent) is substantially higher than among whites (29 percent) or Hispanics (28 percent). Among those with hypertension, the proportion who were well controlled differed dramatically: whites at 53 percent, non-Hispanic blacks at 43 percent and Hispanics at 30 percent.[18]

Because of the public health importance of these conditions and the serious disparities in health and health care that have been documented and the potential for targeted interventions to reduce morbidity and mortality, Covered California selected 14 measures related to these conditions to track, of which five are National Committee for Quality Assurance (NCQA) Healthcare Effectiveness Data and Information Set (HEDIS) measures and nine are based on Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators (PQI). Importantly, these measures are now being reported by insurers annually not only for Covered California's enrollees, but also for all non-Medicare commercial

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[14] Forno, E., and Celedón, J. C. (2012). Health disparities in asthma. *American journal of respiratory and critical care medicine*, *185*(10), 1033–1035. doi:10.1164/rccm.201202-0350ED

[15] McLaughlin K. A. (2011). The public health impact of major depression: a call for interdisciplinary prevention efforts. *Prevention science: the official journal of the Society for Prevention Research*, *12*(4), 361–371. doi:10.1007/s11121-011-0231-8

[16] Alegría, M., Chatterji, P., Wells, K., Cao, Z., Chen, C. N., Takeuchi, D., … Meng, X. L. (2008). Disparity in depression treatment among racial and ethnic minority populations in the United States. *Psychiatric services (Washington, D.C.)*, *59*(11), 1264–1272. doi:10.1176/appi.ps.59.11.1264

[17] Centers for Disease Control and Prevention. National Diabetes Statistics Report, 2017. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept of Health and Human Services; 2017. Retrieved from: https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf.

[18] Centers for Disease Control and Prevention. Prevalence of Hypertension and Controlled Hypertension — United States, 2007–2010. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept of Health and Human Services; 2013. Retrieved from: https://www.cdc.gov/mmwr/preview/mmwrhtml/su6203a24.htm.

and Medi-Cal lives, with rates supplied by race/ethnicity (see *Table 7. Covered California Insurer "All-Plan" Reported Measures for Health Disparities*).

Data for the full non-Medicare population was required for the following principal reasons: (1) narrowing disparities requires quality improvement interventions regardless of coverage type; (2) the larger population size makes measurement of disparities more accurate; and (3) high turnover in the individual market results in consumers transitioning to other sources of coverage, such as employer-based coverage or Medi-Cal. These markets are served by the same health insurance companies that participate in Covered California.

During the first year of reporting for plan year 2015, insurers reported on 10 measures, and an additional four measures were phased in for plan year 2016. Insurers will continue reporting the data for all 14 measures through plan year 2020 as Covered California continues to evaluate insurer's data and the progress of planned interventions.

Table 7. Covered California Insurer "All-Plan" Reported Measures for Health Disparities

Measure	Measure Steward	Years Reported	Condition
AMR - Asthma Medication Ratio Ages 5-85	NCQA	MY 2015, 2016, 2017	Asthma
Admissions for Asthma among Older Adults with Asthma	AHRQ PQI	MY 2015, 2016, 2017	Asthma
Admissions for Bacterial Pneumonia among Members with Asthma	AHRQ PQI	MY 2016, 2017	Asthma
Admissions for Asthma among Children and Younger Adults with Asthma	AHRQ PQI	MY 2015, 2016, 2017	Asthma
Antidepressant Medication Management (Effective Acute Phase Treatment)	NCQA	MY 2015, 2016, 2017	Depression
Antidepressant Medication Management (Effective Continuation Phase Treatment)	NCQA	MY 2015, 2016, 2017	Depression
Diabetes Care: HbA1c Control < 8.0% (NQF 0575)	NCQA	MY 2015, 2016, 2017	Diabetes
Admissions for Diabetes Short-term Complications among Members with Diabetes	AHRQ PQI	MY 2015, 2016, 2017	Diabetes
Admissions for Diabetes Long-Term Complications among Members with Diabetes	AHRQ PQI	MY 2015, 2016, 2017	Diabetes
Admissions for Uncontrolled Diabetes among Members with Diabetes	AHRQ PQI	MY 2016, 2017	Diabetes
Admissions for Lower-Extremity Amputation among Members with Diabetes	AHRQ PQI	MY 2016, 2017	Diabetes
Controlling High Blood Pressure (NQF 0018)	NCQA	MY 2015, 2016, 2017	Hypertension
Admissions for Hypertension among Members with Hypertension	AHRQ PQI	MY 2015, 2016, 2017	Hypertension
Admissions for Heart Failure among Members with Hypertension	AHRQ PQI	MY 2016, 2017	Hypertension

Opportunities for Intervention

The dataset used to evaluate insurer populations for disparities is unique in that it aggregates data for enrollees under 65 across all lines of business. In addition to serving different geographies with known variations among them, each insurer has a very different mix of population served ranging from

predominantly employer-based commercial enrollees to predominantly Medi-Cal enrollees. Insurers also have varying quality of data, most aggregating 400-person HEDIS samples for each line of business but some having access to robust clinical data from electronic health records. For these reasons and more as detailed in *Appendix 1: Limitations and Major Caveats about Health Disparities Data,* Covered California has determined that the results cannot be used to compare performance across plans.

However, Covered California and each insurer found actionable differences in measures across race/ethnicity groups that justify interventions. In addition, one of the key observations was that the apparent disparities based on race/ethnicity were in almost all cases far smaller than the differences in care or treatment across health plans — with enrollment in Kaiser Permanente or Sharp Health Plan being a far better predictor of receiving good care than race/ethnicity. This observation was consistent with Covered California's findings regarding the generally superior care provided by integrated delivery systems (see Chapter 3 and Chapter 4).

The following sections present high-level summaries of key trends based on preliminary analysis of insurer-reported data and examples of disparity reduction proposals.

Conducting Population Health Improvement Activities and Interventions to Narrow Observed Disparities in Care

After collection and submission of three years of baseline data for the indicators of potential gaps in care related to the four conditions, Covered California has worked with each insurer to select a quality improvement project aimed at narrowing a health care disparity found in the baseline data related to the four target conditions. Covered California has met with each insurer to discuss opportunities for conducting quality improvement activities and interventions to narrow each health insurer's specific observed health care disparities. In 2020, each Covered California insurer will implement a quality improvement project aimed at narrowing a health care disparity and will periodically report their progress. Covered California will hold insurers accountable for narrowing the selected disparity while maintaining or improving outcomes for targeted enrollees, which in most cases encompasses more than just Covered California members — sometimes including all commercial enrollees and other enrollees in the individual market or all Medi-Cal enrollees.

In addition to data reporting and analysis, insurers are reporting progress on infrastructure and staffing enhancements needed to develop their health care disparity reduction project, as well as related and aligned activities to support this Covered California initiative. These activities range in scope and scale: some represent the next phase of multi-year efforts while others are starting by proposing time-limited or smaller scale projects. The following are examples of activities reported by insurers:

- Enhanced member education, messaging, incentives and self-management tools.
- Enhanced provider education and clinical guidance reminders.
- Streamlined data collection processes to increase reporting and monitoring quality.
- Focused partnerships with community stakeholders.
- Disease registry development and sharing between providers and insurers.
- Outreach events and mobile care in at-risk communities.
- Enhanced care team support for affected populations.

These important efforts are building the foundation for increasingly effective interventions to improve care for all while reducing disparities in both health and health care.

The tables below document four representative examples of the target populations, measurement gaps and interventions proposed to be undertaken by health insurance companies.

Table 8. Health Net's Proposed Interventions for Improved Diabetes and Hypertension Management

Rationale and Target Population(s) for Intervention	Summary of Select Interventions
Health Net proposes to target African American and Latino members for improved diabetes and hypertension management across Medi-Cal and individual market (Covered California and off-exchange) lines of business. Rationale and Target Population(s) for Intervention • Rates for HbA1c control for African American members are 14 percent lower than white members with diabetes. • Rates for blood pressure control for African American members are 32 percent lower than white members with hypertension. • Rates for blood pressure control for Latino members are 28 percent lower than white members with hypertension.	Community, Member and Provider Interventions • Focus on the social determinants of health (SDOH), social marketing, and community coalition and advisory group. • Collection of member-level SDOH data, one-stop clinics, medication adherence bundle protocols; nutrition and food insecurity pilot. • Partnership with select clinic and hospital; modified workflow; motivational interviewing training.

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Table 9. LA Care's Proposed Interventions for Improved Diabetes Management

Rationale and Target Population(s) for Intervention	Summary of Select Interventions
L.A. Care proposes to target African American and American Indian/Alaskan Native members for improved diabetes management for the Covered California line of business. Rationale and Target Population(s) for Intervention • The prevalence of diabetes among African Americans is 40 percent higher compared to the overall Los Angeles County population. • The prevalence of diabetes among American Indian/Alaskan Natives is more than 50 percent higher compared to the overall Los Angeles County population. • Rates of HbA1c control for African American members are 8 percent lower than the total diabetes population. • Rates of HbA1c control for American Indian/Alaskan Native members are 12 percent lower than the total diabetes population.	Member, Provider and Administrative Interventions • Online member portal diabetes education course. • Provider feedback, education and reminders of guideline therapies for members with diabetes control below target. • Systematic data collection process improvements to improve the accuracy and timeliness of HbA1c laboratory data.

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Table 10. Kaiser Permanente's Proposed Interventions for Improved Diabetes and Hypertension Management

Rationale and Target Population(s) for Intervention	Summary of Select Interventions
Kaiser Permanente proposes to target African American and Latino members for improved diabetes and hypertension management across Commercial lines of business (employer-based and individual market, for both Covered California and off-exchange enrollment). Rationale and Target Population(s) for Intervention • Mortality due to diabetes is 50 percent higher in Hispanic/Latino than in White members. • Mortality due to hypertension is 4-5 times higher in African Americans than in white members. • Rates of HbA1c control among Hispanic/Latino members are 12 percent lower than the overall Commercial diabetes population. • Rates of blood pressure control for Black/African American members are 7 percent lower than for the overall Commercial hypertensive population.	Member, Provider, and Administrative Interventions • Forums across sites for sharing best practices • Ongoing review of patient-facing materials for culturally responsive messaging • Language concordant care for Latino diabetics • Innovative approaches to community outreach (e.g. Mobile Health Vehicle to churches, blood pressure checks in barber shops) • Specialty blood pressure clinic for Black/African American members

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Table 11. Anthem's Proposed Interventions for Improved Depression Medication Management

Rationale and Target Population(s) for Intervention	Summary of Select Interventions
Anthem proposes to target Hispanic/Latino members for improved depression medication management for the Covered California line of business. Rationale and Target Population(s) for Intervention • Rates for the Antidepressant Medication Management (Effective Acute Phase Treatment) for Hispanic/Latino members are 40 percent lower than White Covered California members. • Rates for the Antidepressant Medication Management (Effective Continuation Phase Treatment) for Hispanic/Latino members are 32 percent lower than White Covered California members.	Member, Provider, and Policy Interventions • Member outreach and coaching through mail and telephone; telehealth initiatives for psychology and psychiatry services; pilot for prescribing providers and members • Review of provider education materials communications and implement changes, as appropriate, with aim to reduce care gaps • Updated evaluation of HEDIS specifications for potential advocacy

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Section 3: Implications for the Future

Satisfaction surveys (CAHPS) demonstrate that Covered California enrollees rate their health plans highly on two comprehensive measures. The Covered California initiative to promote health equity through individualized, equitable care for all is just beginning. As described in this chapter, finding appropriate data to use as a baseline for building strategies has been and will continue to be a challenge until all insurers have more complete clinical data. Despite these challenges, insurers have found actionable disparities and early initiatives are underway. As with other efforts to improve the performance of the health care system, addressing disparities in health and health care can best be accomplished by using data and evidence to understand the underlying causes of poor performance and by working with all involved to develop, test and spread successful interventions.

Even accounting for differences in measurement and populations, the findings regarding disparities in care suggest that on some measures, the more integrated health insurance companies report better quality scores for all groups – to levels that are among the best in the country. While some of these insurers have long invested in and hired staff to support culturally competent care, these findings suggest that integrated and coordinated approaches to care delivery may reduce racial or ethnic disparities on some measures of quality.

Covered California is evaluating progress and identifying opportunities for expansion of its health equity program in the future, including potentially analyzing health outcomes based on other demographic categories such as: (1) income; (2) disability status; (3) sexual orientation; (4) gender identity; and (5) limited English proficiency (LEP). Since the data is collected across all lines of business, Covered California will seek collaboration with other purchasers, especially the Department of Health Care Services (DHCS), which oversees California's Medi-Cal program that serves over approximately one third of the entire California population. Covered California is also considering encouraging all insurers to acquire the National Committee for Quality Assurance's (NCQA) Distinction in Multicultural Health Care (MHC) as this program recognizes organizations that provide culturally and linguistically sensitive services and that work to reduce disparities in health and health care.

In the current contract, Covered California requires its insurers to engage in and report on efforts to impact the health of populations beyond their enrollees. Both the data provided by the insurers and research conducted by Health Management Associates (HMA) did not find evidence of the efficacy of such interventions.[19] There is, however, evidence of the impact of health insurance companies focusing on specific social determinants of health for enrolled populations — such as providing transportation or food assistance for insured individuals with particular needs. Given these findings, Covered California is reassessing the contractual expectations of its insurers for addressing social determinants of health.

Covered California has a potentially critical role to play in promoting broad engagement among public and private purchasers to address health equity. In work commissioned by Covered California, PricewaterhouseCoopers found that while focusing on health equity and disparities was a priority for public purchasers, very few private purchasers consider this issue a priority.[20]

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[19] The most current best evidence is documented in Chapter 1, Health Equity: Reducing Disparities, of a companion Covered California report, Current Best Evidence and Performance Measures for Improving Quality of Care and Delivery System Reform.

[20] "Health Purchaser Strategies for Improving Quality of Care and Delivery System Reform." Review conducted for Covered California by PricewaterhouseCoopers. Available at: https://hbex.coveredca.com/stakeholders/plan-management/library/coveredca_health_purchaser_strategies_07-19.pdf.

Chapter 3: Health Promotion and Prevention

Health Promotion and Prevention relates to health insurance company activities to encourage all enrollees to receive preventive care services and health screenings and use tools that promote a healthy lifestyle. This includes everything from regular checkups to smoking cessation and dietary programs.

This chapter on Health Promotion and Prevention is organized as follows:

Section 1. Qualified Health Plan Experience

Section 2. Health Plan Measures Reported to the Marketplace Quality Rating System

Section 3. Implications for the Future

Section 1. Qualified Health Plan Experience

Qualified Health Plan Experience presents performance data reported by health insurance companies for contract requirements and includes assessments and observations by Covered California. Prevention and wellness are key components of high-value health care. Research shows that treating those who are sick is often far costlier and less effective than preventing disease from occurring and keeping populations healthy. Prevention occurs at three levels, each of which is important in promoting enrollee health and wellness and each of which is represented in Covered California's prevention reporting and requirements.

- **Primary Prevention:** Primary prevention focuses on intervening before a health event occurs. Promotion of healthy behaviors and vaccinations are forms of primary prevention that insurers play a role in promoting. Intervening on risk factors for disease, like obesity or smoking status, is also a form of primary prevention.
- **Secondary Prevention:** Secondary prevention includes screening for diseases to identify diseases at an early stage. The positive impact of timely screening for

Highlights

- Kaiser Permanente frequently performed at or above the 90th percentile nationally on preventive screening measures while most other plans performed in the 25th to 90th percentile.
- For the three HEDIS preventive care measures Covered California identified as priority measures — breast, cervical, and colorectal cancer screening — not only was there wide variation observed among plans over the past four years, but from two to six health plans reported performance below the 25th percentile nationally — highlighting both the need and opportunity for improvement.
- Across insurers, there exist robust health communication processes to inform enrollees about health and wellness benefits. Insurers offered information about free preventive services, offered a 24/7 telephonic nurse line, inbound and outbound telephonic coaching, as well as member reminders.
- Contract requirements call for reporting on tobacco cessation and obesity management programs, but this data was incomplete due to the lack of access to clinical data for most insurers. Covered California is looking at the feasibility of (1) better collection of clinical data to improve enrollee identification or requiring insurers to do so and (2) better tracking of program availability and participation rates.
- Covered California is assessing what factors contribute to better performance among some providers in non-Kaiser Permanente insurers and how Kaiser Permanente's performance can be replicated across California.

cancer, for example, is well documented. This screening helps providers identify and treat cancers early, before symptoms appear.

- **Tertiary Prevention:** Tertiary prevention focuses on managing diseases after a diagnosis to help slow or stop disease progression and prevent debilitating or other negative impacts of disease.

Covered California's prevention and wellness requirements are centered on identifying enrollees who are eligible for certain preventive and wellness benefits, notifying enrollees about the availability of these services, and making sure those eligible receive appropriate services. Proactively identifying and notifying enrollees eligible for prevention and wellness benefits, monitoring health status and making appropriate referrals, and ensuring at-risk enrollees receive proactive coordinated care all center around making sure people get the right preventive care when they need it at all three levels of prevention, instead of waiting until more serious and costly manifestations of disease prompt care. Covered California has identified several priority disease areas for reporting, including those with significant evidence around the importance of prevention. Under contract requirements, insurers are required to report the following:

1. Utilization of tobacco cessation intervention services;
2. Utilization of obesity management services;
3. Processes for communicating health and wellness benefits to enrollees and providers and the way they incorporate and use of enrollee-specific health and wellness information; and
4. Utilization of necessary preventive services through the following select HEDIS measures: breast cancer screening, cervical cancer screening, colorectal cancer screening, and chlamydia screening for women.

Tobacco Cessation

Covered California health insurance companies reported significant data challenges in reporting both the number of tobacco dependent enrollees and participation rates in smoking cessation programs. Integrated delivery systems, such as Kaiser Permanente and Sharp Health Plan, reported the most consistent data year-over-year, likely due to having access to clinical data that confirms a diagnosis of tobacco dependency. Other insurers were hampered by data challenges that include a lack of access to clinical data, inability to track physician referrals to tobacco cessation programs or educational classes offered by medical groups that are not documented or billed on a claim, reliance on enrollee provided data in health risk assessments that are not universally administered, and inability to track by lines of business, such as Covered California membership. Given this set of challenges, the available data reported for both Covered California enrollees and members in all lines of business (inclusive of Covered California) ranged between less than 1 percent to as high as 70 percent.[21] Covered California cautions these figures are likely incomplete. Future requirements in this area will need to consider the feasibility of (1) collecting clinical data to improve identification of tobacco dependent members and (2) better tracking of program availability and participation rates.

[21] Health plans reporting participation rates on the high end of the range generally had a far smaller number of enrollees identified as tobacco dependent. Covered California did not calculate a weighted average participation rate due to incomplete reporting and data collection challenges.

Obesity Management

Covered California health insurance companies experienced a similar set of challenges for tracking obese members; the most important of which is the lack of access to clinical data that documents a diagnosis of obesity. Some insurers also reported they do not track specific lines of business, such as Covered California membership, for participation in weight management programs. Some insurers relied on data through health risk assessments, wellness portals, and self-referrals by enrollees. Given this set of challenges, the available 2018 data reported for Covered California enrollees ranged between less than 1 percent to roughly 40 percent. For members in all lines of business (inclusive of Covered California),[22] the 2018 data ranged between roughly 1 percent to nearly 20 percent. Again, Covered California cautions these figures are likely incomplete. Future requirements in this area will need to consider the feasibility of (1) collecting clinical data to improve identification of obese members and (2) better tracking of program availability and participation rates.

Processes for Communicating Health and Wellness Benefits

Through annual reporting, health insurance companies reported the methods used to communicate health and wellness benefits to enrollees using pre-defined categories, such as customized printed materials about free preventive services or 24/7 telephonic nurse lines. *Table 12. Processes for Communicating Health and Wellness Benefits for Commercial and Covered California Enrollees, 2016* summarizes this data which reflects insurers' activities in 2016 as this information was not required in later reporting.

Health communication processes offered to enrollees are relatively consistent across health insurance companies. Most or all insurers offered information, both template and customized, about free preventive services, offered a 24/7 telephonic nurse line, inbound and outbound telephonic coaching, as well as member care service reminders. While not universally used, most health insurance companies reported using nurse lines for specific populations (i.e., complex conditions or oncology patients) as well as interactive voice response (IVR) member care/service reminders (offered by 7 out of 12 insurers).

[22] Health plans reporting participation rates on the high end of the range generally had a far smaller number of enrollees identified as tobacco dependent. Covered California did not calculate a weighted average participation rate due to incomplete reporting and data collection challenges.

Table 12. Processes for Communicating Health and Wellness Benefits for Commercial and Covered California Enrollees, 2016[23]

Processes for Communicating Health and Wellness Benefits	Number of Health Plans
Template newsletter articles/printed materials about free preventive services	12
Customized printed materials about free preventive services	11
24/7 Telephonic Nurse Line	11
24/7 Nurse Navigator for complex conditions	4
24/7 Nurse Navigator for oncology management	3
Inbound telephonic health coaching	12
Outbound telephone health coaching	10
Member care/service reminders (IVR)	7
Member care/service reminders (Paper)	11

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Section 2. Health Plan Measures Reported to the Marketplace Quality Rating System

Health Plan Measures Reported to the Marketplace Quality Rating System details health plan performance on Healthcare Effectiveness Data Information Set (HEDIS) and Consumer Assessment of Healthcare Providers and Systems (CAHPS) measures reported to the Centers for Medicaid and Medicare Services' Quality Rating System (QRS). These standard performance measures are a key mechanism used by Covered California for health plan oversight and accountability. To more sharply focus health plan accountability efforts, Covered California examined over 40 measures used by QRS and is proposing to prioritize a subset of 13 measures that were selected based on the following criteria: (1) health impact; (2) extent of health plan variation; (3) performance improvement opportunity; (4) alignment with other California accountability programs; and (5) balance across domains of care, such as prevention, chronic illness care and behavioral health. Three of the 13 measures also overlap with the measures currently collected by race/ethnicity for health disparities reduction interventions as discussed in Chapter 2.

The following tables display the three measures for Health Promotion and Prevention in the QRS measure set that Covered California has identified as priority measures (with eight additional measures detailed in *Appendix 2: Additional Health Plan Measures Reported to the Quality Rating System*).

[23] The 11 health insurance companies in Covered California are: Anthem Blue Cross, Blue Shield of California, Chinese Community Health Plan, Health Net, Kaiser Permanente, L.A. Care, Molina Healthcare, Oscar Health, Sharp Health Plan, Valley Health Plan, and Western Health Advantage. In this table, Health Net is counted twice because its reports data separately for Health Net Life (PPO/EPO products) and Health Net of California (HMO/HSP products).

The tables include the Covered California weighted average, highest and lowest performing plans, plan-specific performance, as well as national percentiles for all Marketplace plans. The priority measures are:

1. Breast Cancer Screening (Table 13)
2. Cervical Cancer Screening (Table 14
3. Colorectal Cancer Screening (Table 15)

See *Appendix 2: Additional Health Plan Measures Reported to the Quality Rating System*, for eight additional QRS measures that pertain to Health Promotion and Prevention:

4. Chlamydia Screening in Women (Table A1)
5. Adult BMI Assessment (Table A2)
6. Childhood Immunizations (Combination 3) (Table A3)
7. Immunizations for Adolescents (Combination 2) (Table A4)
8. Flu Vaccinations for Adults Ages 18-64 (Table A5)
9. Medical Assistance with Smoking and Tobacco Use Cessation (Table A6)
10. Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents (Table A7)
11. Annual Dental Visit (Table A8)

Appendix 2 also describes how to interpret the display of the measures.

Performance on other measures included in the QRS measure set are presented in relevant subject chapters, but most are covered in Chapter 5: Acute, Chronic and Other Conditions.

For the Health Promotion and Prevention measures, some of the overall observations include:

- Kaiser Permanente frequently performed at or above the 90th percentile nationally on preventive screening measures while most other plans performed in the 25th to 90th percentile.
- For the three HEDIS preventive care measures Covered California identified as priority measures — breast, cervical, and colorectal cancer screening — not only was there wide variation observed among plans over the past four years, but from two to six health plans reported performance below the 25th percentile nationally — highlighting both the need and opportunity for improvement.
- The variation in performance, with some health plans performing below the 25th percentile nationally is reflected in the eight measures reported in Appendix 2.

Breast Cancer Screening

The Breast Cancer Screening measure is the percentage of women 50-74 years of age who have received a mammogram to screen for breast cancer.

Table 13. Breast Cancer Screening for Covered California Enrollees

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	MN-S	79 +	79 +	79 +	35%	477,683	1
Plans at 50th to 90th Percentile	MN-S	70 to 79	70 to 79	70 to 79	9%	118,451	3
Plans at 25th to 50th Percentile	MN-S	65 to 70	65 to 70	65 to 70	43%	573,681	3
Plans Below 25th Percentile	MN-S	Below 65	Below 65	Below 65	13%	176,811	6
Covered California High/Average/Low Performers							
Covered CA Highest Performer	89	86	84	84			
Covered CA Weighted Average	74	70	72	72			
Covered CA Lowest Performer	67	52	58	47			
Covered California Plan-Specific Performance							
Anthem HMO	70	67					
Anthem PPO	68	61					
Anthem EPO			58	57	5%	64,031	
Blue Shield HMO		63	65	69	7%	93,322	
Blue Shield PPO	67	61	65	65	25%	335,176	
CCHP HMO	87	65	68	64	1%	10,013	
Health Net HMO	71	66	69	69	11%	145,183	
Health Net EPO			62	58	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO	89	86	84	84	35%	477,683	
LA Care HMO		52	65	73	6%	84,750	
Molina Healthcare HMO		59	61	47	4%	56,023	
Oscar Health Plan EPO				51	3%	35,962	
Sharp Health Plan HMO	82	76	74	72	1%	17,335	
Valley Health Plan HMO		69	67	71	1%	16,366	
Western Health Advantage HMO	75	69	65	64	1%	9,386	

*M-NS: This measure was not used in determining the overall QRS rating in 2016.

Cervical Cancer Screening

The Cervical Cancer Screening measure is the percentage of women 21-64 years of age who were screened for cervical cancer.

Table 14. Cervical Cancer Screening for Covered California Enrollees

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	72 +	71 +	74 +	73 +	35%	477,683	1
Plans at 50th to 90th Percentile	55 to 72	56 to 71	56 to 74	56 to 73	38%	507,707	4
Plans at 25th to 50th Percentile	46 to 55	47 to 56	48 to 56	48 to 56	20%	269,251	6
Plans Below 25th Percentile	Below 46	Below 47	Below 48	Below 48	7%	91,985	2
Covered California High/Average/Low Performers							
Covered CA Highest Performer	81	82	80	79			
Covered CA Weighted Average	59	62	65	64			
Covered CA Lowest Performer	35	33	41	42			
Covered California Plan-Specific Performance							
Anthem HMO	59	62					
Anthem PPO	55	53					
Anthem EPO			55	53	5%	64,031	
Blue Shield HMO	41	45	49	48	7%	93,322	
Blue Shield PPO	52	59	63	60	25%	335,176	
CCHP HMO	50	53	56	57	1%	10,013	
Health Net HMO	50	55	60	56	11%	145,183	
Health Net EPO		53	59	53	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO	81	82	80	79	35%	477,683	
LA Care HMO	35	54	51	54	6%	84,750	
Molina Healthcare HMO	40	33	41	42	4%	56,023	
Oscar Health Plan EPO			50	45	3%	35,962	
Sharp Health Plan HMO	56	61	62	64	1%	17,335	
Valley Health Plan HMO	38	46	43	50	1%	16,366	
Western Health Advantage HMO	59	55	62	54	1%	9,386	

Colorectal Cancer Screening

The Colorectal Cancer Screening measure is the percentage of adults 50-75 years of age who had appropriate screening for colorectal cancer.

Table 15. Colorectal Cancer Screening for Covered California Enrollees

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	MN-S	67 +	68 +	69 +	35%	477,683	1
Plans at 50th to 90th Percentile	MN-S	52 to 67	54 to 68	55 to 69	1%	17,335	1
Plans at 25th to 50th Percentile	MN-S	44 to 52	45 to 54	47 to 55	52%	695,592	8
Plans Below 25th Percentile	MN-S	Below 44	Below 45	Below 47	12%	156,016	3
Covered California High/Average/Low Performers							
Covered CA Highest Performer	82	80	78	76			
Covered CA Weighted Average	51	55	58	58			
Covered CA Lowest Performer	28	35	34	27			
Covered California Plan-Specific Performance							
Anthem HMO	46	53					
Anthem PPO	44	47					
Anthem EPO			42	40	5%	64,031	
Blue Shield HMO	38	36	39	51	7%	93,322	
Blue Shield PPO	41	42	51	49	25%	335,176	
CCHP HMO	46	49	53	53	1%	10,013	
Health Net HMO	41	47	51	51	11%	145,183	
Health Net EPO		48	54	49	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO	82	80	78	76	35%	477,683	
LA Care HMO	29	38	49	54	6%	84,750	
Molina Healthcare HMO	28	35	34	27	4%	56,023	
Oscar Health Plan EPO			37	36	3%	35,962	
Sharp Health Plan HMO	62	55	66	57	1%	17,335	
Valley Health Plan HMO	54	52	50	54	1%	16,366	
Western Health Advantage HMO	62	53	57	52	1%	9,386	

*M-NS: This measure was not used in determining the overall QRS rating in 2016.

Section 3. Implications for the Future

Covered California included reporting requirements related to smoking cessation and obesity management programs because substantial evidence shows that effective interventions can improve health outcomes and reduce health care costs.[24] Based on the inability of insurers to provide information on program participation in a consistent manner, Covered California is considering other ways to promote these services including exploring the feasibility of (1) collecting clinical data to improve enrollee identification or (2) better tracking of program availability and participation rates and perhaps using large databases that predict public health risks by census track. Covered California is working with insurers to ensure these health promotion and prevention programs are offered in the languages spoken by their enrollees and further promote the availability of translation services.

In the major areas related to health plan measures of screening, the main observation from the reporting over the past four years is that there is wide variation among the plans. Kaiser Permanente and Sharp Health Plan frequently report screening rate scores that are in the top 90th percentile in the nation; while other most of the other plans have lower scores – ranging from the 25th to just above the 50th percentile. The fact that several health plans performed below the 25th percentile nationally on cancer screenings and on other preventive care measures detailed in Appendix 2 — in particular, six health plans had a breast cancer screening rate score below the 25th percentile — is concerning and warrants concerted efforts from both Covered California and the health plans to address. Low screening rates could be partially attributed to poor data collection techniques and lack of patient education and engagement. Covered California is engaging with its contracted health plans to develop strategies to improve their screening rates.

The ability of integrated systems, such as Kaiser Permanente and Sharp Health Plan, to achieve such positive results is a clear indicator of what is possible with well-coordinated and integrated care. In future years, Covered California should assess what factors can contribute to better performance among non-integrated plans and how the performance of integrated systems can be replicated across California. Covered California will seek to foster national benchmark performance across all plans.

[24] The most current best evidence is documented in Chapter 2, Health Promotion and Prevention, of a companion Covered California report, Current Best Evidence and Performance Measures for Improving Quality of Care and Delivery System Reform.

Chapter 4: Mental Health and Substance Use Disorder Treatment

Mental Health and Substance Use Disorder Treatment includes health insurance company activities to identify, engage and provide treatment to those with mental health conditions and substance use disorders, and ensure that they are provided with timely and effective care that is integrated with their general health care needs.

This chapter on Mental Health and Substance Use Disorder Treatment is organized as follows:

Section 1. Qualified Health Plan Experience

Section 2. Health Plan Measures Reported to the Marketplace Quality Rating System

Section 3. Implications for the Future

Section 1. Qualified Health Plan Experience

Qualified Health Plan Experience presents performance data reported by insurers for contract requirements and includes assessments and observations by Covered California. Covered California recognizes the critical importance of mental health and substance use disorder treatment, collectively "behavioral health services," in improving health outcomes and reducing costs. Consistent with the ACA's expansion of mental health and substance use disorder services and promotion of integrating these services into mainstream health care, Covered California requires insurers to report progress on:

1. Making behavioral health services available to enrollees;
2. Integrating behavioral health services with medical services; and
3. Reporting the percent of enrollees cared for in an integrated behavioral health model.

In the absence of an established best practice for integrating medical and behavioral health services in 2016, the current contract requirements largely focus on gathering qualitative information about health insurance company strategies. Covered California has summarized strategies reported by insurers but

Highlights

- For the adult behavioral health measures, there is wide variation in performance among the plans over the past four years with most health plans performing poorly. For two of three priority measures in 2019, six or more plans performed below the 25th percentile. For each of the three measures, only one plan performed at or above the 90th percentile nationally. Covered California is actively engaging with insurers on how to improve in these areas.
- To promote access to and availability of behavioral health services, insurers report a range of activities, including increasing provider capacity, implementing telehealth services, and adopting new CPT codes that support care collaboration.
- Insurers are pursuing a broad spectrum of behavioral health integration efforts, including co-location of services, increased coordination with carve-out vendors, and embedded behavioral health staff in primary care clinics.
- The percent of enrollees cared for under an integrated behavioral health model appears to have increased between 2015 and 2018. Requirements for future reporting are being revised to better support tracking and trending of behavioral health integration.
- Covered California is exploring how best to use patient-reported outcome measures to track improvement in behavioral health care. Monitoring outcomes for behavioral health is a major gap in assessing performance of insurers and the delivery system.

notes that these qualitative descriptions will benefit from standardized definitions to better quantify adoption in future reporting.

Promoting Availability of Behavioral Health Services, 2015, 2017 and 2018[25]

The following are strategies one or more health insurance companies adopted to promote the availability of behavioral health services during 2015, 2017 and 2018:

- Added a full-time Behavioral Health Medical Director to the physician leadership team; added mental health providers, psychiatrists (including with bilingual skills), and medical social workers to the provider network;
- Increased access in the following ways:
    - Offered more appointments through expanded hours and expanded and improved facilities where mental health and wellness care is provided;
    - Allow enrollees to self-refer to behavioral health providers instead of requiring prior authorization;
    - Provided open access to free-standing network for professional and facility behavioral health providers;
    - Offered a telehealth program, with some offering a 24/7 program for behavioral health services, including programs to improve psychiatry access;
    - Annually monitored access through provider-to-member ratios, provider surveys, member experience surveys, grievances and appeals and HEDIS results;
    - Required underperforming providers to implement a corrective action plan;
    - Offered classes on behavioral health; and
    - Provided online patient portals.
- Adopted Psychiatric Care Collaborative Current Procedural Terminology (CPT) codes to Physician Fee schedules and removed prior authorization requirements for behavioral health outpatient services;
- Expanded opioid treatment and implemented a disease management program for depression;
- Carve-out or subcontracted vendors educated primary care physicians about behavioral health services via hotlines, online toolkits, and provided access to Behavioral Health Integration specialists and Community Transition coordinators some of whom were also on the medical staff of physician organizations; and
- Deployed an electronic care management program that provides virtual psychiatric support and financial incentives to improve care for patients with behavioral health issues, including screenings and online consultations.

[25] Data only available for plan year 2015 and plan years 2017-18. Covered California waived data collection for plan year 2016.

Integrating Behavioral Health Services with Primary Care, 2015, 2017 and 2018[26]

The following are strategies one or more health insurance companies engaged in to integrate behavioral health services with primary care during 2015, 2017 and 2018:

- Developed a universal consent form to allow data sharing between primary care and behavioral health providers;
- Primary care physicians and behavioral health providers coordinated care through the same medical record or through an e-management model that facilitated communication and electronic data sharing. Leveraged an integrated data warehouse (medical, behavioral health, pharmacy, etc.) to identify gaps in care and at-risk members for interventions by case managers;
- Primary care physicians referred directly to behavioral health case management programs for assistance with complex care patients; case management departments at the plan level helped facilitate referrals to medical groups or providers; outpatient behavioral health departments that were in the same physical location as primary care, pharmacy, and specialty services helped facilitated primary care physician referrals and team-based care;
- Implemented a “Feedback-Informed Care” model which involves soliciting an enrollee’s feedback about the therapy process and allowing them to direct their care;
- Implemented a pay-for-performance program that connected primary care physicians with behavioral health providers to coordinate on referrals and care coordination;
- Integrated behavioral health with providers participating in Accountable Care Organization (ACO) models;
- Worked with a health system to integrate psychiatrists within primary care clinics;
- Provided care management following discharge from an inpatient setting;
- Implemented a co-management strategy that involves integrated clinical rounds between medical and behavioral health teams; and
- Managed behavioral health needs through carve-out vendors or delegated providers as follows:
    - Enhanced coordination of behavioral and physical health care through housing carve-out vendors onsite, monthly joint clinical rounds or weekly integration meetings with co-located providers.
    - Carve-out vendors monitored outcomes, such as case management volume and engagement, utilization management trends, and quality of care issues.
    - Shared data with carve-out vendors to monitor drug interactions and compliance.
    - Held periodic meetings with delegated behavioral health providers to focus on a variety of topics, including data, best practices, communication and collaboration, referral processes, HEDIS measures performance, and CAHPS Experience of Care and Health Outcomes (ECHO) survey results.

[26] Data only available for plan year 2015 and plan years 2017-18. Covered California waived data collection for plan year 2016.

Enrollees Cared for in an Integrated Behavioral Health Model, 2015 and 2018[27]

Health insurance companies reported the percent of enrollees cared for in an integrated behavioral health model (IBHM) based on their respective definitions as current contract requirements do not include standard reporting on best practices implemented (e.g., use of unified care plans or patient registries). It is important to note that this measure also does not capture the range of health insurance company activities for behavioral health integration. As the percent of enrollees cared for in an IBHM is a quantitative measure, the following numbers should be viewed with caution since (1) there has not been a standard definition for an IBHM and (2) insurers reported incomplete data and Covered California observed year-to-year inconsistencies.

In 2015, 2 percent of Covered California enrollees were cared for in an IBHM; with individual insurers ranging from 0 to 6 percent.[28] Based on incomplete numbers for 2018, enrollees cared for in an IBHM model appears to have increased to 11 percent, with reporting insurers ranging from 0 to 34 percent. Given the challenges observed to date, requirements for future reporting will be based on standardized best practices to support tracking and trending adoption of behavioral health integration.

Section 2. Health Plan Measures Reported to the Marketplace Quality Rating System

Health Plan Measures Reported to the Marketplace Quality Rating System detail health plan performance on Healthcare Effectiveness Data Information Set (HEDIS) and Consumer Assessment of Healthcare Providers and Systems (CAHPS) measures reported to the Centers for Medicaid and Medicare Services' Quality Rating System (QRS). These standard performance measures are a key mechanism used by Covered California for health plan oversight and accountability. To more sharply focus health plan accountability efforts, Covered California examined over 40 measures used by QRS and is proposing to prioritize a subset of 13 measures.

The following tables display the priority measures for Mental Health and Substance Use Disorder Treatment in the QRS measure set (with one additional measure detailed in *Appendix 2: Additional Health Plan Measures Reported to the Quality Rating System*) and include the Covered California weighted average, highest and lowest performing plans, plan-specific performance, as well as national percentiles for all Marketplace plans:

1. Antidepressant Medication Management (Table 16)
2. Follow Up After Hospitalization for Mental Illness (Table 17)
3. Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment (Table 18)

See *Appendix 2: Additional Health Plan Measures Reported to the Quality Rating System*, for one additional QRS measure that pertains to Mental Health and Substance Use Disorder Treatment: Follow Up Care for Children Prescribed ADHD Medication (ADD) (Table A9). Covered California is evaluating

[27] Data only available for plan year 2015 and plan years 2017-18. Covered California waived data collection for plan year 2016.

[28] Data only available for plan years 2015 and 2018. Covered California waived data collection for plan year 2016 and 2017.

available behavioral health measures for children as part of its work in finding the right measures for subpopulations.

Appendix 2 also describes how to interpret the display of the measures.

For the priority adult behavioral health measures, there is wide variation in performance among the health plans over the past four years with most plans performing poorly. For two of three priority measures in 2019 (Antidepressant Medication Management and Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment), six or more plans performed below the 25th percentile. For each of the three measures, only one plan performed at or above the 90th percentile nationally.

Covered California recognizes that there are additional behavioral health measures, such as Utilization of the Patient Health Questionnaire-9 to Monitor Depression Symptoms for Adolescents and Adults, that use clinical data to monitor patients at the time of diagnosis and outcomes over time and therefore better represent the quality of care for depression. However, slow progress has been made in California in collecting clinical or patient reported outcome measures through 2018. Until most health insurance companies are collecting clinical data-based measures, Covered California must rely on the existing behavioral health measures.

Antidepressant Medication Management

The Antidepressant Medication Management measure is the percentage of members 18 years of age and older who were treated with antidepressant medication, had a diagnosis of major depression and who remained on an antidepressant medication treatment.

1. Effective Acute Phase Treatment: The percentage of members who remained on an antidepressant medication for at least 84 days (12 weeks).
2. Effective Continuation Phase Treatment: The percentage of members who remained on an antidepressant medication for at least 180 days (6 months).

Table 16. Antidepressant Medication Management for Covered California Enrollees

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	MN-S	72 +	73 +	73 +	1%	16,366	1
Plans at 50th to 90th Percentile	MN-S	63 to 72	63 to 73	64 to 73	37%	495,018	2
Plans at 25th to 50th Percentile	MN-S	58 to 63	57 to 63	59 to 64	10%	138,670	3
Plans Below 25th Percentile	MN-S	Below 58	Below 57	Below 59	52%	695,176	6
Covered California High/Average/Low Performers							
Covered CA Highest Performer		68	78	84			
Covered CA Weighted Average		57	60	61			
Covered CA Lowest Performer		43	36	43			
Covered California Plan-Specific Performance							
Anthem HMO		50					
Anthem PPO		52					
Anthem EPO			53	52	5%	64,031	
Blue Shield HMO			66	60	7%	93,322	
Blue Shield PPO		53	53	56	25%	335,176	
CCHP HMO		56	36	43	1%	10,013	
Health Net HMO		51	55	53	11%	145,183	
Health Net EPO			65				
Health Net PPO							
Kaiser Permanente HMO		68	69	69	36%	477,683	
LA Care HMO		61	54	56	6%	84,750	
Molina Healthcare HMO		43	45	51	4%	56,023	
Oscar Health Plan EPO			78	62	3%	35,962	
Sharp Health Plan HMO		67	77	67	1%	17,335	
Valley Health Plan HMO				84	1%	16,366	
Western Health Advantage HMO		57	46	61	1%	9,386	

*M-NS: This measure was not used in determining the overall QRS rating in 2016.

Follow Up After Hospitalization for Mental Illness

The Follow Up After Hospitalization for Mental Illness measure is the percentage of discharges for members 6 years of age and older who were hospitalized for treatment of selected mental illness and who had a follow-up visit with a mental health practitioner within 7 days after discharge.

Table 17. Follow Up After Hospitalization for Mental Illness for Covered California Enrollees

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	67 +	67 +	64 +	59 +	39%	477,683	1
Plans at 50th to 90th Percentile	48 to 67	48 to 67	41 to 64	38 to 59	39%	480,359	2
Plans at 25th to 50th Percentile	38 to 48	38 to 48	31 to 41	29 to 38	9%	110,657	2
Plans Below 25th Percentile	Below 38	Below 38	Below 31	Below 29	12%	148,781	2
Covered California High/Average/Low Performers							
Covered CA Highest Performer	75	79	73	72			
Covered CA Weighted Average	56	60	53	50			
Covered CA Lowest Performer	38	30	28	26			
Covered California Plan-Specific Performance							
Anthem HMO	51	48					
Anthem PPO	43	44					
Anthem EPO			39	27	5%	64,031	
Blue Shield HMO				30	8%	93,322	
Blue Shield PPO	56	55	42	38	28%	335,176	
CCHP HMO							
Health Net HMO	38	30	35	40	12%	145,183	
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO	75	79	73	72	39%	477,683	
LA Care HMO				26	7%	84,750	
Molina Healthcare HMO			28				
Oscar Health Plan EPO							
Sharp Health Plan HMO	70	65	57	35	1%	17,335	
Valley Health Plan HMO							
Western Health Advantage HMO							

Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment

The Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment (IET) measure is the percentage of adolescent and adult members with a new episode of alcohol or other drug (AOD) dependence who received the following:

1. Initiation of AOD Treatment: The percentage of members who initiate treatment through an inpatient AOD admission, outpatient visit, intensive outpatient encounter or partial hospitalization, telehealth or medication treatment within 14 days of the diagnosis.
2. Engagement of AOD Treatment: The percentage of members who initiated treatment and who had two or more additional AOD services or medication treatment within 34 days of the initiation visit.

Table 18. Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment for Covered California Enrollees

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	28 +	30 +	31 +	32 +	36%	477,683	1
Plans at 50th to 90th Percentile	21 to 28	21 to 30	23 to 31	24 to 32	0%	-	0
Plans at 25th to 50th Percentile	18 to 21	18 to 21	19 to 23	19 to 24	36%	490,372	3
Plans Below 25th Percentile	Below 18	Below 18	Below 19	Below 19	28%	377,175	8
Covered California High/Average/Low Performers							
Covered CA Highest Performer	33	33	33	34			
Covered CA Weighted Average	21	23	26	25			
Covered CA Lowest Performer	12	6	12	16			
Covered California Plan-Specific Performance							
Anthem HMO	17	18					
Anthem PPO	19	20					
Anthem EPO			20	18	5%	64,031	
Blue Shield HMO			21	18	7%	93,322	
Blue Shield PPO	19	19	29	23	25%	335,176	
CCHP HMO	14	21	17	22	1%	10,013	
Health Net HMO	12	14	14	20	11%	145,183	
Health Net EPO		12	23				
Health Net PPO							
Kaiser Permanente HMO	33	33	33	34	36%	477,683	
LA Care HMO	20	24	12	19	6%	84,750	
Molina Healthcare HMO	13	24	21	17	4%	56,023	
Oscar Health Plan EPO			18	18	3%	35,962	
Sharp Health Plan HMO	12	17	18	17	1%	17,335	
Valley Health Plan HMO			19	18	1%	16,366	
Western Health Advantage HMO	14	6	15	16	1%	9,386	

Section 3. Implications for the Future

Covered California included reporting requirements related to mental health and substance use disorder treatment services because of the significant unmet needs of enrollees and the increasing evidence that integrating primary care and behavioral health services improves health outcomes and delivers a return on investment by reducing downstream health care costs. Several models including collaborative care, co-location and telehealth have demonstrated success.[29]

While insurers report a wide array of approaches to promoting the availability of behavioral health services and the integration of behavioral health services with primary care, it is difficult to measure if these efforts are translating to better behavioral health care or outcomes for consumers. Covered California is determining how to promote better measurement and accountability in this area which may involve standardized definitions and use of best practices to support tracking and trending of available services and adoption of behavioral health integration.

For measures of behavioral health quality, the main observation from the reporting over the past four years is that there is wide variation among the plans and while some scores reflect high percentile ranking, for many measures there are multiple health plans that are performing poorly compared to national benchmark data. For the priority adult behavioral health measures, there is wide variation in performance among the health plans over the past four years with most plans performing poorly. For two of three priority measures in 2019 (Antidepressant Medication Management and Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment), six or more plans performed below the 25th percentile. For each of the three measures, only one plan performed at or above the 90th percentile nationally. This is concerning and warrants further concerted efforts from both Covered California and its contracted health plans to address. Covered California is engaging with health plans on adopting best practices for behavioral health care and developing strategies to improve their performance on these behavioral health measures.

Covered California is also seeking to improve behavioral health measurement. The current HEDIS behavioral health measures in the QRS measure set should be replaced or updated. None assess behavioral health status or outcomes making performance assessment of health insurance companies and the delivery system difficult. Covered California is exploring how best to use patient-reported outcome measures for behavioral health. One promising measure is the use of the Patient Health Questionnaire-9 (PHQ-9) because it can be used to both identify patients with depression symptoms and monitor their outcomes over time. However, slow progress has been made in California because this measure relies on collecting clinical data.

There is significant opportunity for collaboration on spreading integrated behavioral health models and collecting clinical data through statewide collaboratives including the Integrated Healthcare Association and California Quality Collaborative.

[29] The most current best evidence is documented in Chapter 3, Mental Health and Substance Use Disorder Treatment, of a companion Covered California report, Current Best Evidence and Performance Measures for Improving Quality of Care and Delivery System Reform.

Chapter 5: Acute, Chronic and Other Conditions

Acute, Chronic and Other Conditions entails health insurance companies actively managing care for enrollees with acute conditions, which is defined as an illness or disease that is short-term and lasts typically a few days to weeks (such as an infection, an injury or the misuse of medications), chronic conditions, which typically develop slowly over time and last months to years (such as diabetes, most cancers, cardiovascular disease, and infectious diseases like Human Immunodeficiency Virus) and other conditions that are temporary, such as pregnancy or gestational diabetes.

In addition, this chapter, Acute, Chronic and Other Conditions, encompasses subpopulations covered in subject chapters of this report: Chapter 4: Mental Health and Substance Use Disorder Treatment; Chapter 6: Complex Care; Chapter 7: Promotion of Effective Primary Care; and Chapter 10: Appropriate Interventions.

This chapter on Acute, Chronic, and Other Conditions is organized as follows:

Section 1. Health Plan Measures Reported to the Marketplace Quality Rating System

Section 2. Implications for the Future

Highlights

- For the measures related to care for chronic conditions, there is wide variation among plans, with Kaiser Permanente and Sharp Health Plan being among the 90th percentile nationally, while other plans have a range of scores. The ability of these integrated delivery systems to achieve such positive results is a clear indicator of what is possible with well-coordinated and integrated care. Covered California is assessing what factors contribute to better performance among non-integrated systems and how this performance can be replicated across California.
- Enrollee satisfaction with their health plan and care is comparable to nationwide results for most Covered California plans. However, compared to the nation, enrollees report less favorably about their access to care and how well their care is coordinated. For these two priority CAHPS Measures, Access to Care and Care Coordination, most plans' scores cluster around the national 50th percentile or below the 25th percentile. CAHPS results for marketplace plans nationwide are highly compressed with only a few points difference among percentile and all results are relatively high compared to other measures.

Section 1. Health Plan Measures Reported to the Marketplace Quality Rating System

As described in previous chapters, one key mechanism used by Covered California for health insurance company oversight and accountability is public reporting of global and individual health plan quality performance measures to the Centers for Medicaid and Medicare Services' Marketplace Quality Rating System (QRS). To more sharply focus health plan accountability efforts, Covered California examined over 40 measures used by QRS and is proposing to prioritize a subset of 13 measures.

The following tables display the priority measures for Acute, Chronic and Other Condition measures in the QRS measure set (with 11 additional measures detailed in *Appendix 2: Additional Health Plan Measures Reported to the Quality Rating System*) and include the Covered California weighted average, highest and lowest performing plans, plan-specific performance, as well as national percentiles for all Marketplace plans:

1. Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%) (Table 19)

2. Controlling High Blood Pressure (Table 20)
3. Plan All-Cause Readmissions (Table 21)
4. Access to Care (Table 22)
5. Care Coordination (Table 23)

See *Appendix 2: Additional Health Plan Measures Reported to the Quality Rating System*, for the 11 additional QRS measures that pertain to Acute, Chronic and Other Conditions:

6. Proportion of Days Covered (RAS Antagonists) (Table A10)
7. Proportion of Days Covered (Statins) (Table A11)
8. Proportion of Day Covered (Diabetes All Class) (Table A12)
9. Comprehensive Diabetes Care: Eye Exam (Retinal) Performed (Table A13)
10. Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Testing (Table A14)
11. Comprehensive Diabetes Care: Medical Attention for Nephropathy (Table A15)
12. Medication Management for People with Asthma (75% of Treatment Period) (Table A16)
13. Prenatal and Postpartum Care (Postpartum Care) (Table A17)
14. Prenatal and Postpartum Care (Timeliness of Prenatal Care) (Table A18)
15. Well-Child Visits in the First 15 Months of Life (6 or More Visits) (Table A19)
16. Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life (Table A20)

Appendix 2 also describes how to interpret the display of the measures.

For the measures related to care for chronic conditions, there is wide variation among plans, with Kaiser Permanente and Sharp Health Plan being among the 90th percentile nationally, while other plans have a range of scores. The ability of these integrated delivery systems to achieve such positive results is a clear indicator of what is possible with well-coordinated and integrated care. Covered California is assessing what factors contribute to better performance among non-integrated systems and how this performance can be replicated across California.

The wide variation in performance is particularly meaningful for measures related to managing diabetes and hypertension that target the opportunities to improve the morbidity and mortality attributable to these conditions. Better performance on these indicators means there would be fewer adverse events and more lives saved. A 1 percent reduction in HbA1c reduces diabetes-related deaths by 21 percent and myocardial infarctions (heart attacks) by 14 percent.[30] For every 10 percent reduction in HbA1c (e.g., 10 to 9 or 9 to 8) the risk of progression to blindness fell 44 percent, progression to kidney failure fell 25 percent, and loss of sensation in the feet by 30 percent.[31] Another study estimated the effect of having all health plans nationally achieve the 90th percentile on measures focused on diabetes and cardiovascular disease found it would result in 2.3 million fewer heart attacks (a reduction of 22 percent), 800,000 fewer strokes (a reduction of 12 percent) as well as reduced incidence of several

[30] Stratton, I. M., Adler, A. I., Neil, H. A., Matthews, D. R., Manley, S. E., Cull, C. A., … Holman, R. R. (2000). Association of glycaemia with macrovascular and microvascular complications of type 2 diabetes (UKPDS 35): prospective observational study. BMJ (Clinical research ed.), 321(7258), 405–412. doi:10.1136/bmj.321.7258.405

[31] Nathan, D. M., Bayless, M., Cleary, P., Genuth, S., Gubitosi-Klug, R., Lachin, J. M., … DCCT/EDIC Research Group (2013). Diabetes control and complications trial/epidemiology of diabetes interventions and complications study at 30 years: advances and contributions. Diabetes, 62(12), 3976–3986. doi:10.2337/db13-1093

other less common complications over a ten year period.[32] The researchers estimated approximately 4.9 million years of life would have been saved during this same period.

Covered California health insurers generally have worse scores than the rest of the nation on the Access to Care and Care Coordination measures, with the majority of insurers below the 25th percentile and none above the 50th. It is important to note that the CAHPS results for marketplace plans nationwide are highly compressed with only a few points difference among each percentile and all results are relatively high compared to other measures. Also, California's demographic diversity includes greater numbers of people in race/ethnicity groups who tend to give plans lower scores. This suggests insurers may not meet the needs of all groups equally. Covered California sees these enrollee-experience scores as reason for both concern and future research. Covered California is working with its health insurance companies to assure improvement in these areas and is seeking to expand the number and sources of measures that can best assess consumers' experience in access to care, care coordination and other important quality domains.

[32] Note these estimates are from a 2008 study based on the Archimedes simulation model. At the time, impacts were modeled for the U.S. population of 210 million adults ages 18-85 over a ten-year period, 1995-2005: Eddy, D. M., Pawlson, L. G., Schaaf, D.

Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)

The Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control measure is the percentage of members 18–75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level was less than 8 percent.

Table 19. Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%) for Covered California Enrollees

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	67 +	67 +	69 +	68 +	37%	495,018	2
Plans at 50th to 90th Percentile	56 to 67	58 to 67	59 to 69	58 to 68	43%	582,871	5
Plans at 25th to 50th Percentile	46 to 56	48 to 58	50 to 59	52 to 58	17%	223,389	4
Plans Below 25th Percentile	Below 46	Below 48	Below 50	Below 52	3%	45,348	2
Covered California High/Average/Low Performers							
Covered CA Highest Performer	75	70	73	72			
Covered CA Weighted Average	58	60	63	64			
Covered CA Lowest Performer	38	47	52	49			
Covered California Plan-Specific Performance							
Anthem HMO	61	60					
Anthem PPO	56	61					
Anthem EPO			62	57	5%	64,031	
Blue Shield HMO	47	48	59	56	7%	93,322	
Blue Shield PPO	53	55	56	64	25%	335,176	
CCHP HMO	65	60	73	57	1%	10,013	
Health Net HMO	63	58	65	58	11%	145,183	
Health Net EPO		62	68	63	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO	68	70	71	70	35%	477,683	
LA Care HMO	39	54	62	62	6%	84,750	
Molina Healthcare HMO	38	47	52	58	4%	56,023	
Oscar Health Plan EPO			57	50	3%	35,962	
Sharp Health Plan HMO	75	70	71	72	1%	17,335	
Valley Health Plan HMO	60	58	59	60	1%	16,366	
Western Health Advantage HMO	69	61	64	49	1%	9,386	

Controlling High Blood Pressure

The Controlling High Blood Pressure measure is the percentage of members 18–85 years of age who had a diagnosis of hypertension and whose blood pressure was adequately controlled.

Table 20. Controlling High Blood Pressure for Covered California Enrollees

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	76 +	76 +	77 +	75 +	35%	477,683	1
Plans at 50th to 90th Percentile	58 to 76	59 to 76	61 to 77	62 to 75	20%	273,647	5
Plans at 25th to 50th Percentile	49 to 58	47 to 59	49 to 61	54 to 62	37%	495,303	5
Plans Below 25th Percentile	Below 49	Below 47	Below 49	Below 54	7%	99,993	2
Covered California High/Average/Low Performers							
Covered CA Highest Performer	85	86	82	81			
Covered CA Weighted Average	63	63	66	66			
Covered CA Lowest Performer	49	43	43	44			
Covered California Plan-Specific Performance							
Anthem HMO	51	56					
Anthem PPO	55	61					
Anthem EPO			62	45	5%	64,031	
Blue Shield HMO				61	7%	93,322	
Blue Shield PPO	57	43	52	56	25%	335,176	
CCHP HMO	72	73	62	68	1%	10,013	
Health Net HMO	57	61	63	63	11%	145,183	
Health Net EPO		49	54	59	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO	85	86	82	81	35%	477,683	
LA Care HMO	50	59	56	68	6%	84,750	
Molina Healthcare HMO	49	51	43	58	4%	56,023	
Oscar Health Plan EPO			54	44	3%	35,962	
Sharp Health Plan HMO	75	72	81	74	1%	17,335	
Valley Health Plan HMO	59	64	68	64	1%	16,366	
Western Health Advantage HMO	61	64	66	58	1%	9,386	

Plan All-Cause Readmissions

The Plan All-Cause Readmissions measure is a ratio that compares the number of acute inpatient stays for members 18–64 years of age that were followed by an unplanned acute readmission for any diagnosis within 30 days to the predicted number of acute readmissions.[33] This measure compares the actual readmission rate of a health plan to the expected admission rate. If the actual readmission rate is lower than the expected readmission rate, the plan is performing better at reducing readmissions than expected and the plan would have a measure value less than 100. A plan can have a measure value above 100 if their observed rate was greater than their expected rate meaning their performance was worse than expected. A lower rate indicates better performance.

Table 21. Plan All-Cause Readmissions for Covered California Enrollees

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	M-NS	<= 58	<= 53	<= 52	1%	17,335	1
Plans at 50th to 90th Percentile	M-NS	78 to 58	76 to 53	71 to 52	54%	693,735	5
Plans at 25th to 50th Percentile	M-NS	88 to 78	86 to 76	77 to 71	37%	477,683	1
Plans Below 25th Percentile	M-NS	Above 88	Above 86	Above 77	7%	94,136	2
Covered California High/Average/Low Performers							
Covered CA Highest Performer	59	17	66	52			
Covered CA Weighted Average	86	80	74	71			
Covered CA Lowest Performer	163	119	86	95			
Covered California Plan-Specific Performance							
Anthem HMO	95	91					
Anthem PPO	82	80					
Anthem EPO			74	71	5%	64,031	
Blue Shield HMO				68	7%	93,322	
Blue Shield PPO	94	76	86	70	26%	335,176	
CCHP HMO	163	17					
Health Net HMO	74	77	71	71	11%	145,183	
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO	88	84	68	73	37%	477,683	
LA Care HMO	59	119	72	80	7%	84,750	
Molina Healthcare HMO	65	82	66	55	4%	56,023	
Oscar Health Plan EPO							
Sharp Health Plan HMO	75	56	67	52	1%	17,335	
Valley Health Plan HMO		115					
Western Health Advantage HMO	103	76		95	1%	9,386	

[33] The observed to expected readmission rates are multiplied by 100 to convert to whole numbers.

*M-NS: This measure was not used in determining the overall QRS rating in 2016.

Access to Care

The Access to Care measure is based on four 2019 QHP Enrollee Survey questions about enrollee's experience of receiving care:

1. In the last 6 months, when you needed care right away, in an emergency room, doctor's office, or clinic, how often did you get care as soon as you needed?
2. In the last 6 months, how often did you get an appointment for a check-up or routine care at a doctor's office or clinic as soon as you needed?
3. In the last 6 months, how often was it easy to get the care, tests, or treatment you needed?
4. In the last 6 months, how often did you get an appointment to see a specialist as soon as you needed?

Table 22. Access to Care for Covered California Enrollees

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	81 +	82 +	84 +	80 +	0%	-	0
Plans at 50th to 90th Percentile	76 to 81	77 to 82	80 to 84	75 to 80	0%	-	0
Plans at 25th to 50th Percentile	72 to 76	74 to 77	77 to 80	72 to 75	62%	839,580	4
Plans Below 25th Percentile	Below 72	Below 74	Below 77	Below 72	38%	505,650	8
Covered California High/Average/Low Performers							
Covered CA Highest Performer	78	79	81	75			
Covered CA Weighted Average	70	71	77	72			
Covered CA Lowest Performer	56	60	67	57			
Covered California Plan-Specific Performance							
Anthem HMO	62	61					
Anthem PPO	66	72					
Anthem EPO			77	69	5%	64,031	
Blue Shield HMO				71	7%	93,322	
Blue Shield PPO	70	71	79	73	25%	335,176	
CCHP HMO	62	65	67	67	1%	10,013	
Health Net HMO	65	65	69	66	11%	145,183	
Health Net EPO		74					
Health Net PPO							
Kaiser Permanente HMO	78	77	81	75	36%	477,683	
LA Care HMO	73	72	67	67	6%	84,750	
Molina Healthcare HMO	59	60	69	68	4%	56,023	
Oscar Health Plan EPO			77	71	3%	35,962	
Sharp Health Plan HMO	76	79	74	73	1%	17,335	
Valley Health Plan HMO	56	65	70	57	1%	16,366	
Western Health Advantage HMO	74	79	79	73	1%	9,386	

Care Coordination

The Care Coordination measure is based on six 2019 QHP Enrollee Survey questions about enrollee's experience of receiving care:

1. When you visited your personal doctor for a scheduled appointment in the last 6 months, how often did he or she have your medical records or other information about your care?
2. In the last 6 months, when your personal doctor ordered a blood test, x-ray, or other test for you, how often did someone from your personal doctor's office follow up to give you those results?
3. In the last 6 months, when your personal doctor ordered a blood test, x-ray, or other test for you, how often did you get those results as soon as you needed them?
4. In the last 6 months, how often did your personal doctor seem informed and up-to-date about the care you got from specialists?
5. In the last 6 months, how often did you and your personal doctor talk about all the prescription medicines you were taking?
6. In the last 6 months, did you get the help that you needed from your personal doctor's office to manage your care among these different providers and services?

Table 23. Care Coordination for Covered California Enrollees

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	88 +	89 +	88 +	87 +	0%	-	0
Plans at 50th to 90th Percentile	84 to 88	85 to 89	85 to 88	83 to 87	0%	-	0
Plans at 25th to 50th Percentile	82 to 84	82 to 85	83 to 85	81 to 83	3%	35,962	1
Plans Below 25th Percentile	Below 82	Below 82	Below 83	Below 81	97%	1,309,268	11
Covered California High/Average/Low Performers							
Covered CA Highest Performer	85	88	86	83			
Covered CA Weighted Average	81	81	83	79			
Covered CA Lowest Performer	74	76	74	73			
Covered California Plan-Specific Performance							
Anthem HMO		76					
Anthem PPO	81	81					
Anthem EPO				79	5%	64,031	
Blue Shield HMO				81	7%	93,322	
Blue Shield PPO	81	82	84	81	25%	335,176	
CCHP HMO	76	77	77	80	1%	10,013	
Health Net HMO	76	78	79	76	11%	145,183	
Health Net EPO		84					
Health Net PPO							
Kaiser Permanente HMO	85	83	85	80	36%	477,683	
LA Care HMO	81	83	78	77	6%	84,750	
Molina Healthcare HMO	74	77	74	78	4%	56,023	
Oscar Health Plan EPO			80	83	3%	35,962	
Sharp Health Plan HMO	84	88	85	79	1%	17,335	
Valley Health Plan HMO	79	79	79	73	1%	16,366	
Western Health Advantage HMO	84	81	86	81	1%	9,386	

Section 2. Implications for the Future

For these health plan measures for addressing chronic illnesses, the main observation from the reporting over the past four years is that there is wide variation among the plans. Kaiser Permanente and Sharp Health Plan frequently report providing services or getting results that are in the top 90th percentile in the nation, while other plans have lower scores – ranging from the 25th to just above the 50th percentile. The wide variation in performance is particularly meaningful for measures related to managing diabetes and hypertension that do a remarkable job of targeting the opportunities to improve the morbidity and mortality attributable to those conditions. Improvement in performance across all California plans would be potentially life-saving and clinically meaningful for hundreds of thousands of Californians.

The ability of integrated delivery systems to achieve such positive results is a clear indicator of what is possible with well-coordinated and integrated care. Covered California is assessing what factors contribute to better performance among non-integrated systems and how this performance can be replicated across California.

Covered California identified four priority CAHPS measures. For two of these measures — overall satisfaction with care and with their health plan — most Covered California health plans perform above the 50th percentile compared to national marketplace plans (see Chapter 2: Individualized, Equitable Care). It is concerning that 8 health plans score below the 25th percentile on members' Access to Care and that 11 health plans score below the 25th percentile for Care Coordination. It is important to note that the CAHPS results for marketplace plans nationwide are highly compressed with only a few points difference among each percentile and all results are relatively high compared to other measures. Covered California sees these enrollee-experience scores as reason for both concern and future research and is working with its health insurance companies to assure improvement in these areas. Covered California is also seeking to expand the number and sources of measures that can best assess consumers' experience in access to care, care coordination and other important quality domains.

Chapter 6: Complex Care

Complex Care involves effectively managing very complex conditions for individuals that require a multitude of specialty, high-cost treatments – such as rare cancers or transplants – or require end of life care. These individuals need to be managed effectively, provided well-coordinated care, or be seen in very specialized settings.

This chapter on Complex Care presents performance data reported by health insurance companies for contract requirements and includes assessments and observations by Covered California. This chapter is organized as follows:

Section 1. Qualified Health Plan Experience

Section 2. Implications for the Future

Section 1: Qualified Health Plan Experience

Qualified Health Plan Experience presents performance data reported by health insurance companies for contract requirements and includes assessments and observations by Covered California. The current contract requirements for Complex Care largely focus on health plan processes for effectively managing at-risk enrollees with complex conditions, defined as: "clinical conditions that are of a complex nature that typically involve ongoing case management support from appropriately trained clinical staff. Frequently, individuals have multiple chronic clinical conditions that complicate management ("polychronic") or may have a complex, infrequent specialty condition that requires specialized expertise for optimal management."[34]

It has been shown that when high-risk enrollees are identified early, they are most likely to benefit from

Highlights

- All insurers leverage medical and pharmacy claims as well as demographic information to identify high-cost or high-risk patients for various care and case management support, but there is no consistent measurement of the efficacy of their efforts, primarily due to the lack of standard population identification or quality measures for complex care.
- All insurers contracted with Centers of Excellence (COE), with the most common treatments being cancer care and bariatric surgery. Identification and performance measurement for COEs is not standardized.
- Only one insurer had a formal steerage program for transplants while most insurers promote their COEs by relying on member interactions with the service center or care management team.
- Most health plans offered Health Risk Assessments (HRAs) to determine enrollee health status on a voluntary basis, but completion rates are very low.
- A large-scale effort to support at-risk enrollees in effective coverage transitions coordinated by Covered California and insurers occurred when Anthem exited multiple rating regions in 2018, affecting nearly 137,000 consumers.

[34] See Glossary of Key Terms for Attachment 7 to Covered California 2017 Qualified Health Plan Contract: Quality, Network Management, and Delivery System Standards, and Improvement Strategy: https://hbex.coveredca.com/insurance-companies/PDFs/Attachment-7-Amended-for-2019.pdf.

well-coordinated care. As such, Covered California has the following requirements for health plans to address complex care:

1. Coordinating treatment for enrollees with conditions that required high specialized management, such as transplant patients, and the use of Centers of Excellence (COEs) for these enrollees;
2. Collecting information to monitor enrollee health status;
3. Tracking changes in health status and the use of health risk assessments;
4. Supporting at-risk enrollees requiring transition; and
5. Identification and services for at-risk enrollees.

Centers of Excellence

Health insurance companies are required to report on how enrollees with conditions that require highly specialized management, like transplant patients and burn patients, are managed by providers with documented special experience and proficiency based on volume and outcome data, such as Centers of Excellence (COEs). Centers of Excellence allow for complex care patients to be seen in very specialized settings, such as National Cancer Institute designated cancer centers.

Although there are no standards for identifying COEs, described below are common themes discussed by insurers about the process for use and promotion of COEs to enrollees with specialized conditions, as well as the strategy for including COEs in each insurer's network (see *Table 24. Covered California Insurer Processes and Strategies for Use of Centers of Excellence, 2015, 2017 and 2018*). All insurers contract with COEs but only one insurer has a formal steerage program to direct enrollees to COEs for transplants. Most health insurance companies promote COEs through enrollee interactions with their service centers or care management teams. Other insurers simply note that COEs are available in their Evidence of Coverage documents.

Table 24. Covered California Insurer Processes and Strategies for Use of Centers of Excellence, 2015, 2017 and 2018[35]

Process: Promotion of Centers of Excellence
• Steered all members to transplant COEs and encouraged use of COEs for other conditions • Member services or concierge teams assisted members in locating designated facilities and managing benefit requirements and limitations • Care managers and medical directors drove appropriate use of these facilities • Did not actively promote or steer members; identified COEs in coverage documents
Strategy: Basis for Inclusion in Network
• Must meet or exceed a specific level of volume and outcomes while demonstrating adherence to industry standards; inclusion in network reviewed yearly • Only contracted with COEs when a specific highly-specialized method of care was not available in-network; established single case referrals with COEs for specific procedures • Stringent selection criteria for choosing COEs; only included in provider directory if contracted for long-term versus one-time arrangements • Used COEs for transplants approved by the Department of Health Care Services (DHCS) • No formal COEs, but network included specific hospitals for tertiary and transplant cases

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

[35] Data only available for plan year 2015 and plan years 2017-18. Covered California waived data collection for plan year 2016.

All 11 health insurance companies provided enrollees' access to at least two types of Centers of Excellence in 2018. Nine insurers provided access to at least one type of COE specializing in transplants, eight health plans offered a COE for cancer care, seven health plans offered a COE for bariatric surgery, and six plans offered a COE for burn care (see *Table 25. Covered California Enrollees' Access to Centers of Excellence for Specialized Conditions, 2015, 2017 and 2018*). A lower number of health plans offered COEs for cardiac care and orthopedics (such as hip and knee surgery).

Table 25. Covered California Enrollees' Access to Centers of Excellence for Specialized Conditions, 2015, 2017 and 2018[36]

	Number of Health Plans		
	2015	**2017**	**2018**
Cancer	9	9	8
Transplants	11	11	9
Cardiac Care	3	3	4
Bariatric Surgery	3	3	7
Orthopedics	2	2	5
Burn Care	7	7	6

Note: Covered California did not specifically ask if health plans contract with COEs for cardiac care or orthopedics. Additional health plans may contract with COEs for these conditions.

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Collecting Information to Monitor Enrollee Health Status

Health insurance companies are required to describe how they collect and report, at both the individual and aggregate levels, changes in enrollee health status. For example, reporting by insurers may include a comparative analysis of health status improvements across geographic regions and demographic groups. Health insurance companies are required to describe their process to monitor and track health status, which may include identifying individuals who show a decline in health status, and referral of such enrollees to care management programs.

In 2018, eight insurers described a system for collecting data on enrollee health status (either a clinical system for determining health status or the use of a survey). All insurers leveraged medical and pharmacy claims as well as demographic information to identify high-cost or high-risk patients for various care and case management support. Integrated delivery systems, such as Kaiser Permanente and Sharp Health Plan, leveraged access to more clinical data, such as lab results.

Health risk assessments (HRAs) can be used in concert with clinical data for predictive modeling for early intervention. HRAs are an important tool that can accurately stratify individuals with the highest risk because they capture both physical and behavioral health needs as well as social needs.

[36] Data only available for plan year 2015 and plan years 2017-18. Covered California waived data collection for plan year 2016.

Determining Enrollee Health Status and Use of Health Risk Assessments

Health insurance companies are required to describe their capabilities in collecting information about enrollees' health status and behaviors for health promotion and improved care management. If the insurer used health risk assessments to determine health status, the following requirements apply:

1. The assessment must be offered in all threshold languages to enrollees over the age of 18, including those that have previously completed such an assessment;
2. The assessment tool must adequately evaluate an enrollee's current health status and provide a mechanism to conduct ongoing monitoring for future intervention(s); and
3. Enrollees should be made aware at the beginning of the assessment about how information collected may be used, that they may opt in to receive information from the insurer, and that participation in the assessment is optional.

Most insurers offered HRAs on a voluntary basis, but completion rates reported by insurers for 2018 were very low. HRA completion rates ranged from 0 to 38 percent with 8 of the 11 insurers reporting under 6 percent completion.

While HRA completion rates were low for the overall population, insurers had several activities and capabilities that supported HRAs and best evidence supports targeted HRA collection for at-risk individuals (see *Table 26. Covered California Insurer Activities and Capabilities Supporting Health Risk Assessments, 2018*).[37] Most health insurance companies took multiple steps to address at-risk behaviors reported in an HRA. Eleven insurers generated a personalized report after completion which provided members specific actions they can take to lower their risk and directed them to a targeted intervention module. Three insurers auto-enrolled members into a disease management program and two allowed members the option to send assessment results to their physician. Given the lack of data, health insurance companies reported limited ability to proactively link enrollees with smoking cessation or weight management programs that they all offer.

Table 26. Covered California Insurer Activities and Capabilities Supporting Health Risk Assessments, 2018

	Number of Health Plans
Addressing At-Risk Behaviors	
Personalized HRA report is generated after HRA completion that provides member-specific risk modification actions based on responses	11
Members are directed to targeted interactive intervention module for behavior change upon HRA completion	10
At point of HRA response, risk-factor education is provided to member based on member-specific risk	6
Case manager or health coach outreach call triggered via HRA results	8
Member can update responses and track against previous responses	7
Ongoing push messaging for self-care based on member's HRA results	6
Member is automatically enrolled into a disease management or at-risk program based on responses	3
Member can elect to have HRA results sent electronically to physician	2

[37] The capabilities reported by health insurance companies only apply to the small number of enrollees they reported as successfully completing the Health Risk Assessment.

Tracking Health Status	
HRA responses tracked over time to observe changes in health status	8
HRA responses incorporated into member health record	5
HRA responses used for analysis of health status across demographics	5
HRA responses used for analysis of health status across regions	2

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Supporting At-Risk Enrollees Requiring Transition

Health insurance companies must demonstrate that they are able to facilitate transitions of care with minimal disruption for enrollees that (1) switched from one insurer into another or (2) into or out of coverage through Covered California. This requirement for supporting at-risk enrollees is broader than the continuity of care requirements in state law. Covered California's contracts with the majority of health insurance companies in California which places it in the unique position to better facilitate transitions of care for this population that will result in enrollees receiving the right care at the right time. Covered California is particularly concerned about transitions for the following "at-risk" enrollees:

1. Individuals in the middle of acute treatment, third trimester pregnancy, or those who would otherwise qualify for continuity of care under California law;
2. Individuals in case management programs;
3. Individuals in disease management programs; and
4. Individuals on maintenance prescription drugs for a chronic condition.

If enrollees experience a service area disruption, Covered California may automatically transition the enrollee into a different health insurance company to avoid gaps in coverage and facilitate care transitions. If this occurs, the insurer terminating the enrollee has several requirements, including conducting outreach to the affected enrollee, obtaining authorization to send personal health information to the receiving health insurance company, and collaborating with impacted providers.

Identification and Services for At-Risk Enrollees

Health insurance companies are required to identify and proactively manage enrollees with existing and newly diagnosed chronic conditions, including "at-risk enrollees" with diabetes, asthma, heart disease, or hypertension, who are most likely to benefit from well-coordinated care. Insurers must agree to support disease management activities at the insurer or provider level that meet standards of accrediting programs such as NCQA. Health insurance companies provide Covered California with a documented process, care management plan and strategy for targeting and managing at-risk enrollees. Such documentation may include (but is not limited to) methods to identify and target at-risk enrollees, description of predictive analytic capabilities, member communication plans, care and network strategies, and data on the number of enrollees identified as well as the types of services provided.

Most health insurance companies reported identifying at-risk enrollees with algorithms and other proprietary technology based on claims and utilization data.[38] Some insurers described using demographic data, HRA data, hospital discharge data, clinical data, and nurse advice line and provider referral data.

[38] No data was summarized in a table for 2018 due to specific proprietary technologies mentioned and because four out of 11 insurers explained what data they collected but did not explain how they analyzed the data for at-risk enrollee identification.

Supporting At-Risk Enrollees Transitioning between Covered California Insurers: Experience Assuring Care Transitions for over 135,000 Californians in 2018

In much of the nation, there has been substantial instability in insurers serving different states' individual market. One of the risks of insurers exiting markets is the potential for disruption of care for those with complex health care needs. California has been marked by stability among its insurers. The only significant disruption from an insurer changing its service areas occurred when Anthem exited multiple rating regions in 2018, affecting nearly 137,000 consumers — about 10 percent of Covered California enrollees — while remaining in large portions of the state. Covered California worked closely with Anthem and all other health insurers receiving transitioning enrollees to assure effective transitions. Carrying out an effective transition of Anthem enrollees required partnership and collaboration among Covered California staff, the health insurance companies receiving transitioning enrollees, and Anthem. Covered California and receiving insurers began working with Anthem staff months before the transitions in coverage to ensure appropriate and seamless continuity and transitions of care to protect the most vulnerable populations. The goal was to identify enrollees with specific care needs and to transfer information about enrollee's care needs to the receiving insurer.

This collaboration required Anthem and receiving insurers to agree to identifying an appropriate level of data required for transitioning enrollees, parameters on data sharing and use and processes to receive and act upon consumer information. At-risk enrollees included those undergoing case or disease management services as well as those with pregnancy/maternity and specialty medication needs. The data sharing resulted in receiving insurers having sufficient information to do timely consumer outreach. This outreach was of utmost benefit to consumers who would have otherwise navigated the health care system alone.

The type of services offered to at-risk enrollees varies substantially across insurers (see *Table 27. Types of Interventions for Covered California At-Risk Enrollees Eligible for Case Management, 2018*). All health insurance companies offered some level of live outbound telephonic coaching to members. Most offered member-specific reminders for health maintenance services (10 of 11) or face-to-face visits (six of 11). Online interactive self-management support was less common, with four of 11 plans offering it to high-risk or all enrollees.

Table 27. Types of Interventions for Covered California At-Risk Enrollees Eligible for Case Management, 2018

	Number of Health Plans		
Type of Intervention	**Not Offered**	**Offered in High-Risk Program**	**Available for All Enrollees**
Member specific reminders for health maintenance services	1	7*	3
Member specific reminders for medication events	5**	5	1
Interactive voice response with outbound messaging only	7	2*	2
Live outbound telephonic coaching program	0	7	4
Self-initiated text/email messaging	9	1	1
Online interactive self-management support	7	1	3
Face-to-face visits	5	5	1

*Includes contradictory responses from one health plan.

**Includes contradictory responses from two health plans.

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Section 2: Implications for the Future

Measurement of performance in caring for enrollees requiring complex care requires further development. Covered California found no standard quality measures for Complex Care to include in this chapter. The current Marketplace Quality Rating System measure set has one measure for behavioral health subpopulations, Follow Up After Hospitalization for Mental Illness (FUH) (HEDIS), which is presented in Chapter 4. The Plan All-Cause Readmissions measure, which is presented in Chapter 5, may include complex care patients but does not specifically measure care management processes or outcomes.

In a Covered California sponsored report released in July 2019, Current Best Evidence and Performance Measures for Improving Quality Care and Delivery System Reform, Health Management Associates (HMA) recommended a hybrid method of population stratification starting with automated data to identify high cost enrollees combined with survey data such as HRAs, behavioral health screening, screening for social needs or measuring patient activation to determine enrollees who are likely to continue to be high-risk and high-cost. In the same report, PricewaterhouseCoopers (PwC) recommended that Covered California use its claims data warehouse to track rates of inpatient and Emergency Department use and Emergency Department follow-up among complex care patients. PwC also recommended that Covered California consider the Transition of Care HEDIS measure which would require collection of discharge information that includes test results.

Covered California is working with health insurance companies and other stakeholders to establish best practices for population identification and management including a standardized approach to defining and measuring performance of Centers of Excellence.

EFFECTIVE CARE DELIVERY

Chapter 7: Promotion of Effective Primary Care

Effective Primary Care that is accessible, well-integrated, coordinated, continuous, team-based, and data driven is a core foundation of providing appropriate and equitable care. While many consumers benefit from an ongoing continuous relationship with a single physician, others may be able to receive effective primary care through sites of care or delivery systems that are well-integrated.

This chapter on Promotion of Effective Primary Care presents performance data for current contract requirements reported by health insurance companies for the 2015-18 plan years and includes assessments and observations by Covered California. This chapter is organized as follows:

Section 1. Qualified Health Plan Experience

Section 2: Health Plan Measures Reported to the Marketplace Quality Rating System

Section 3. Implications for the Future

Section 1: Qualified Health Plan Experience

Covered California believes promoting the Triple Aim and promoting health equity requires a foundation of effectively delivered primary care, which the Institute of Medicine defines as follows: "the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health needs, developing a sustained partnership with patients, and practicing in the context of family and community."[39] To this end, Covered California promotes effective primary care with the following requirements:

Highlights

- Starting in 2017, virtually all Covered California's enrollees either selected or were matched with a primary care provider — including all enrollees in PPO model plans. Covered California is assessing the impact of this novel effort.
- While virtually all primary care provided in Kaiser Permanente is delivered by patient-centered medical home-recognized practices, outside of this system, enrollment served by PCMHs increased from 3 percent to 11 percent between 2016 and 2018.
- Several insurers are supporting primary care providers in clinical transformation to advanced primary care, though not meeting PCMH standards. Measurement of primary care performance will likely need to go beyond PCMH recognition process measures to include outcomes.
- Based on the Health Care Payment Learning and Action Network Alternative Payment Model Framework, 10 insurers now have *Positive Incentives* or *Strong Incentives* for transitioning from volume-based to value-based primary care payment.
- Significant increases were observed for shared savings and capitation-based payments between 2015-18. However, further assessment is needed to determine the extent to which capitation to medical groups or physician organizations cascades to individual providers.
- For insurers to continue to adopt value-based primary care payment or to increase investment, measurement of primary care performance will likely need to include outcomes.

[39] Institute of Medicine. 1994. *Defining Primary Care: An Interim Report.* Washington, DC: The National Academies Press. https://doi.org/10.17226/9153.

1. Ensure that all enrollees either select or be matched with a primary care physician (PCP) within 60 days of enrollment;
2. Insurers are required to have an increasing percentage of their enrollees cared for in patient-centered medical home models and annually report the number and percent of enrollees who obtain their care in a patient-centered medical home (PCMH); and
3. Describe how the insurer's payment strategy supports primary care physicians in adopting accessible, data-driven, team-based care with accountability for meeting the Triple Aim goals of enhanced quality, improved outcomes and lower costs.

Primary Care Physician Matching

In January 2017, Covered California required that all enrollees in preferred provider organizations (PPO), health maintenance organizations (HMO), and exclusive provider organizations (EPO), be matched to a primary care physician (PCP) or other primary care clinician, such as a nurse practitioner, upon enrollment. The purpose of the requirement was to bring the PCP match concept to the PPO and EPO environment and give enrollees a single point of contact who can help them navigate the health care system. A primary care physician can provide continuity and address most health care needs, helps consumers select the proper specialist, coordinates their care with other providers and ensures they understand their treatment options. While having a PCP can help select and coordinate care across specialty providers, enrollees in PPO and EPO plans can still choose to navigate the health care system on their own without permission from their PCP to seek treatment or a referral to see a specialist.

Since 2017, virtually all Covered California's enrollees, over 99 percent, either selected or were matched with a PCP upon enrollment which was nearly a 30-percentage point increase from the 2016 baseline rate of 70 percent.

Covered California believes this PCP match will ultimately help people get better access to care in a timelier manner. However, many enrollees may need more explanation of why working with their PCP is beneficial. Covered California is currently working with its plans to examine the data to understand the patient experience and clinical and financial effects of this program. Covered California will look to examine outcomes of clinical measures that may improve with a strong foundation in primary care.

Promoting Enrollment in Patient-Centered Medical Homes

A growing body of evidence shows that advanced models of primary care, which include patient-centered medical homes (PCMHs), greatly improve the care delivered to patients and support Triple Aim goals. Advanced primary care models utilize a patient-centered, accessible, team-based approach to care delivery, enrollee engagement and data-driven improvement, as well as integration of care management, behavioral health and community resources for patients with complex conditions. Under the existing contract requirement, insurers are required to have an increasing portion of enrollees who

obtain their care in a PCMH model and plans must use formal recognition programs to assess which providers are PCMHs.[40]

While there have been significant increases in the percentage of enrollees seen in PCMH settings, health insurance companies report that many in their primary care networks believe the current requirement tied to PCMH recognition is too limited and burdensome. As of 2018, about 40 percent of Covered California enrollees received primary care through providers that met PCMH standards. The great majority of that enrollment, however, was through Kaiser Permanente, which represented 82 percent of total PCMH enrollment in 2018. The percentage of enrollees cared for by PCMH-recognized practices, outside of the Kaiser Permanente system, increased threefold from 3 percent to 11 percent between 2016 and 2018, an 8-point increase (see *Table 28. Percentage of Covered California Enrollees Cared for in Patient Centered Medical Homes, 2016-18*). When looking at all insurers during the three years, the percent of Covered California enrollees who were cared for in PCMHs increased from 25 percent in 2015 to 40 percent in 2018. One of Sharp Health Plan's integrated medical groups achieved PCMH recognition in 2018 to comply with the Covered California requirement and this change accounts for most of the overall increase outside Kaiser Permanente. The percent of Sharp Health Plan enrollees cared for in a PCMH increased from 15 percent in 2017 to 66 percent in 2018.

Table 28. Percentage of Covered California Enrollees Cared for in Patient-Centered Medical Homes, 2016-18

	2016	2017	2018
All Enrollment	**25%**	**32%**	**40%**
Kaiser Permanente	*100%*	*100%*	*100%*
Non-Kaiser Permanente	*3%*	*6%*	*11%*

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Covered California has found that formal PCMH recognition programs have limitations and have been challenged as other measures of advanced primary care have evolved. The formal PCMH recognition programs largely document process improvement without measuring outcomes. Many advanced primary care practices have not sought formal recognition and many that have been recognized have implemented process improvements, but these may not have led to improvement in clinical quality or reduced cost. Additionally, several health insurance companies are focusing on primary care practice transformation programs that include practice coaching to support primary care providers in improving quality and efficiency rather than requiring or promoting PCMH recognition. Based on this feedback from health insurance companies and providers, Covered California is examining alternative approaches to promote improvements in primary care and assuring more enrollees benefit from these programs.

Payment Strategies that Promote Effective Primary Care

The Affordable Care Act included several demonstration projects and grants to test payment reforms that would shift volume-driven Fee-for-Service (FFS) payments to methods that link provider payment

[40] The current contract requirements list the following recognition programs: a) National Committee for Quality Assurance PCMH recognition; b) The Joint Commission Primary Care Medical Home certification; c) Accreditation Association for Ambulatory Health Care, Inc. Medical Home accreditation; and d) URAC PCMH Certification.

with performance on cost and quality. To measure health insurance company progress in payment strategies that promote accountability for Triple Aim goals, Covered California leveraged the four categories in the Health Care Payment Learning and Action Network (HCP LAN) Alternative Payment Model (APM) Framework[41] (see *Table 29. Covered California Assessment of Primary Care Payment Strategies Based on the HCP LAN Alternative Payment Model Framework, 2015, 2017 and 2018*).

While PCMHs are delivery models, not payment models, the Alternative Payment Model Framework notes that PCMHs and advanced primary care need the support of value-based payment models. Shifting payments from FFS to payments that increasingly hold primary care providers financially at-risk for high-quality care creates incentives for managing cost and quality. In assessing payment strategies, Covered California requires its contracted health plans to pay increasingly based on "Category 3: Shared Savings" and "Category 4: Population-based Payment," which Covered California reports below as having *Positive Incentives* and *Strong Incentives*, respectively.

As of 2018, Covered California assessment found that 10 health insurance companies were paying providers with either *Positive Incentives* or *Strong Incentives* for value – an increase of two insurers from 2015. More insurers are now assessed to have *Positive Incentives* or *Strong Incentives*.

Table 29. Covered California Assessment of Primary Care Payment Strategies Based on the HCP LAN Alternative Payment Model Framework, 2015, 2017 and 2018[42]

		Number of Health Plans		
Covered California Assessment	**APM Framework**	**2015**	**2017**	**2018**
Strong Incentives	**Category 4 – Population-based Payment** • Condition-specific population-based payment including per member per month payments • Comprehensive population-based payment such as global budgets or percent of premium payments • Integrated finance and delivery system such as global budgets in integrated systems	**2**	**2**	**2**
Positive Incentives	**Category 3 – APMs built on an FFS architecture:** • APMs with shared savings (upside risk only) • APMs with share savings and downside risk	**6**	**7**	**8**
Weak Incentives	**Category 2 – FFS– Link to quality and value** • Foundational payments for infrastructure and operations • Pay for reporting • Pay for performance • Rewards and penalties for performance	**3**	**2**	**1**
	Category 1 – Fee-for-Service (FFS)– No link to quality and value	**1**	**1**	**1**

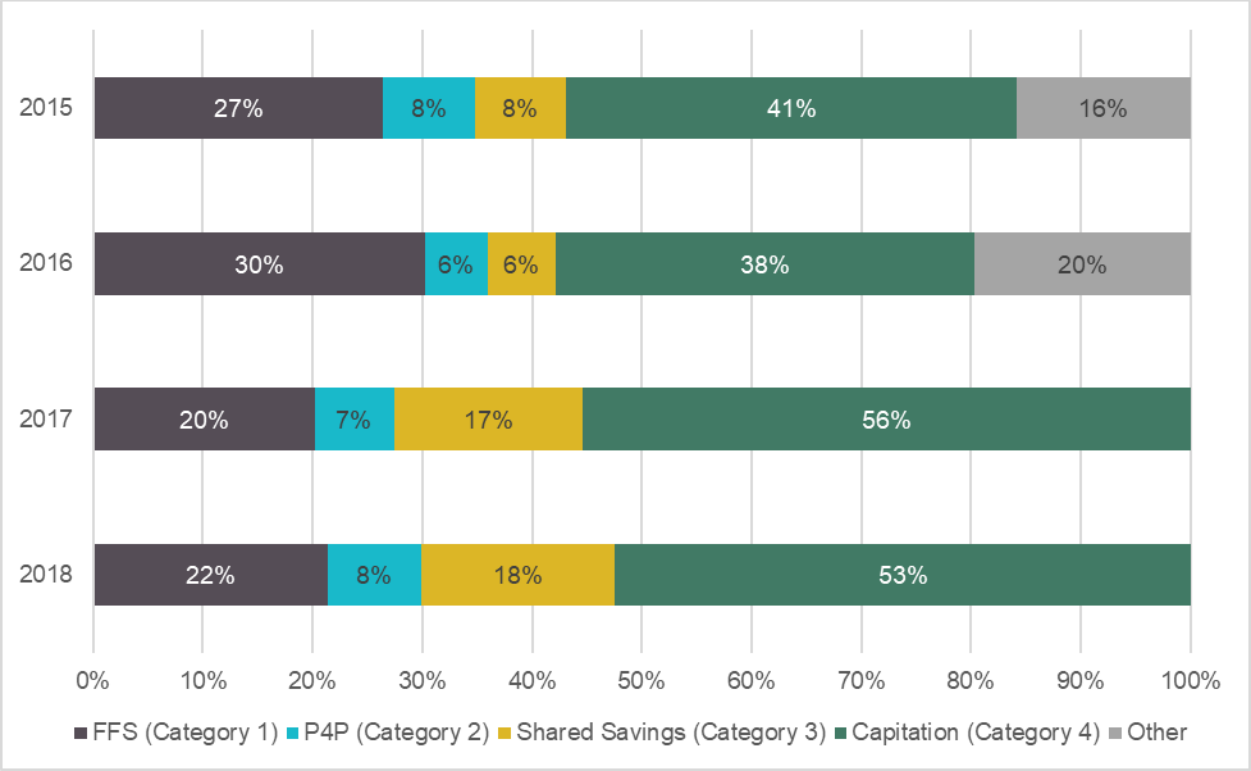
[41] Health Care Payment Learning and Action Network. (2017). Alternative Model Payment Framework. Retrieved from http://hcp-lan.org/workproducts/apm-refresh-whitepaper-final.pdf.

[42] Data only available for plan year 2015 and plan years 2017-18. Covered California waived data collection for plan year 2016.

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

As expected, payment strategies to PCPs vary widely (see *Figure 4. Covered California Insurer Payment Strategies for Primary Care Providers, 2015 – 2018*), but from 2015 to 2018 there has been a significant increase in payment to providers being based on capitation (increasing from 41 percent to 53 percent) and shared savings (increasing from 8 percent to 18 percent). The decline in payments to primary care providers based on fee-for-service and the fact that Covered California plans now pay 71 percent of primary care providers using capitation or shared savings is important progress. At the same time, based on discussions with insurers and provider groups, there is reason to be concerned that capitation payments made to medical groups or physician organizations may not cascade to individual providers, many of whom continue to be largely paid on a fee-for-service basis.

Figure 4. Covered California Insurer Payment Strategies for Primary Care Providers, 2015 – 2018



Note: "Other" refers to payments types that insurers could not breakdown into the four HCP LAN categories. These percentages are enrollment weighted and may not equal 100 due to rounding.

Source: California Staff Analysis of Qualified Health Plan Submitted Data

According to the HCP LAN, in calendar year 2018, about 56 percent of national commercial market total health care payments were FFS (Category 1), 14 percent of payments were FFS with a link to quality (Category 2), 28 percent of payments were shared savings (Category 3) and only 2 percent of payments were population-based payments or capitation.[43] This data is collected through surveys of

[43] Health Care Payment Learning and Action Network. Measuring Progress: Adoption of Alternative Payment Models in Commercial, Medicaid, Medicare Advantage, and Traditional Medicare Programs. October 24, 2019. Retrieved from: http://hcp-lan.org/workproducts/apm-methodology-2019.pdf.

health insurance companies and represents about 133.5 million covered lives which is 61 percent of the national commercial market. Although this data represents all commercial health care payments, it suggests that Covered California insurers have made significant progress in moving towards capitation or population-based payment and away from FFS payments for primary care providers compared to the rest of the nation. In 2018, only 22 percent of Covered California insurer's primary care payments were FFS compared to the national rate of 56 percent FFS for all health care payments for the commercial market.

Interaction of Payment Strategies, Patient-Centered Medical Homes, and Promotion of Advanced Primary Care

At this time, there is not enough information to establish a link between payment strategies and the percent of members cared for in a PCMH. There appears to be a clearer relationship between increased enrollment in a PCMH model and whether the plan is part of an integrated delivery system. Some health insurance companies assessed by Covered California to have *Strong Incentives* for their payment strategies also had a higher percent of enrollees cared for in PCMHs (e.g., Kaiser Permanente pays 100 percent of its primary care physicians a population-based payment, which is considered a Category 4 APM, and 100 percent of its providers are PCMH recognized). Kaiser Permanente and Sharp Health Plan, both fully integrated delivery systems, are high outliers for enrollment in a PCMH model. However, the other nine health insurance companies of which some are considered to have *Weak Incentives* because they paid their providers FFS, had similar percentages of enrollees cared for in a PCMH as those with *Strong Incentives* or *Positive Incentives*. In some instances, it was also difficult to attribute a relationship between specific payment strategies and enrollees cared for in a PCMH because some providers simultaneously received enhanced reimbursements for PCMH recognition from other payers, such as Medi-Cal.

Strategies to Enroll or Attribute Enrollees to Patient-Centered Medical Homes

Although not definitive, there may be a relationship between promoting PCMH-recognized providers to enrollees and the percent of enrollees cared for in a PCMH. Between 2015 and 2018, most health insurance companies did not actively promote PCMH providers to enrollees or actively assign or match enrollees to PMCHs. The few insurers that listed PCMH recognition in provider directories were observed to have higher rates of enrollees cared for in a PCMH.

Section 2: Health Plan Measures Reported to the Marketplace Quality Rating System

Health Plan Measures Reported to the Marketplace Quality Rating System details health plan performance on Healthcare Effectiveness Data Information Set (HEDIS) and Consumer Assessment of Healthcare Providers and Systems (CAHPS) measures reported to the Centers for Medicaid and Medicare Services' Quality Rating System (QRS). These standard performance measures are a key mechanism used by Covered California for health plan oversight and accountability.

See *Appendix 2: Additional Health Plan Measures Reported to the Quality Rating System*, for Quality Rating System measures that pertain to Promotion of Effective Primary Care:

1. Rating of Personal Doctor (CAHPS) (Table A21)
2. Rating of Specialist (CAHPS) (Table A22)

The patient experience reporting of enrollees Rating of Personal Doctor showed wide variation but was marked by the fact that 9 of 11 health plans — representing 89 percent of enrollees — had ratings

below the 25th percentile nationally. However, the range of scores is exceedingly narrow; for Rating of Personal Doctor, a raw score below 86 is below the 25th percentile, while a raw score of 90 is the 90th percentile.

Section 3: Implications for the Future

Ensuring all enrollees have a PCP, regardless of their health plan product, provides a single point of contact to help them navigate the health care system. Covered California is evaluating the impact of PCP matching in EPO and PPO plans based on outcomes including utilization, continuity of care, cost and quality that may improve with a strong foundation in primary care. Covered California continues to work with insurers to help all enrollees understand the value of primary care.

Further assessment is needed to determine the extent to which capitation to medical groups or physician organizations cascades to individual providers. Covered California will continue to require health insurance companies to increasingly implement value-based payments for primary care providers like shared savings and population-based payment or capitation. One of the biggest barriers to full adoption of advanced primary care, despite the changes to payment structure described above, appears to be inadequate revenue or resources to support well-rounded care teams, underscoring the importance of continued efforts at primary care payment reform.

For health insurance companies to make these investments, measurement of performance will likely need to go beyond the PCMH recognition process measures to include outcome measures that reflect the impact advanced primary care can have improving quality, enhancing the patient experience, and reducing total cost of care and documenting a return on investment for insurers that increase primary care payment such that it accounts for a larger share of the overall health care budget.

Chapter 8: Promotion of Integrated Delivery Systems and Accountable Care Organizations

Promotion of integrated delivery systems and accountable care organizations is premised on the increasing evidence that effectively caring for and managing a person's health requires an integrated care system that can coordinate across providers, sites and times for a variety of conditions while delivering good outcomes and quality at an affordable cost.[44, 45]

This chapter on Promotion of Integrated Delivery Systems and Accountable Care Organizations presents performance data reported by health insurance companies for contract requirements and includes assessments and observations by Covered California. This chapter is organized as follows:

Section 1. Qualified Health Plan Experience

Section 2. Implications for the Future

Section 1: Qualified Health Plan Experience

Covered California has the following requirements for integrated delivery systems (IDSs) or accountable care organizations (ACOs):

1. Increase enrollment over time and report the number and percent of enrollees who are managed under an IDS or ACO as well as provide comparison reporting for other lines of business;

Highlights

- In 2018, 60 percent of Covered California enrollees were cared for in an Integrated Delivery System (IDS) or an Accountable Care Organization (ACO), which represents a 12-point increase from 2015. After excluding the fully-integrated delivery systems, Kaiser Permanente and Sharp Health Plan, 25 percent of Covered California enrollees were cared for in an ACO, which represents a 4-point increase from 2015 and far exceeds state and national benchmarks.
- Nine insurers reported offering technical support, data sharing support, or promoting participation in health information exchanges for providers in 2018, an increase from four insurers in 2015. Covered California has also seen a steady increase in the number of insurers using other common components of integrated coordinated care such as population health management support and holding providers accountable using standard quality measure sets.
- Insurers are required to report 2018 performance based on the IHA Commercial ACO measures by year-end 2019, which will allow better understanding of performance variation of different ACO models and inform future contract requirements.

[44] Covered California's recently completed evidence review affirmed the value and positive impact on quality and cost of effective care integration and some models of Accountable Care Organization (see Current Best Evidence and Performance Measures for Improving Quality Care and Delivery System Reform). In addition, recent data from the Integrated Health Care Association (IHA) Cost and Quality Atlas, shows clinical quality was higher for ACO and HMO members compared to PPO members for commercial plans (see https://atlas.iha.org/story/aco).

[45] An integrated delivery system (IDS) is a network of physicians and healthcare facilities that provide a continuum of healthcare services managed under one organization or one parent company. Accountable care organizations (ACOs) are groups of physicians and healthcare facilities that share financial and medical responsibility for providing coordinated care, with financial incentives to provide high-quality care and to limit avoidable, unnecessary spending.

2. Provide details on the key design characteristics of existing or planned integrated systems of care and how these systems of care compare to the definition in the Covered California contract; and
3. Report performance of different ACO models for all lines of business using the IHA Commercial ACO Measure Set once data becomes available for plan year 2018.

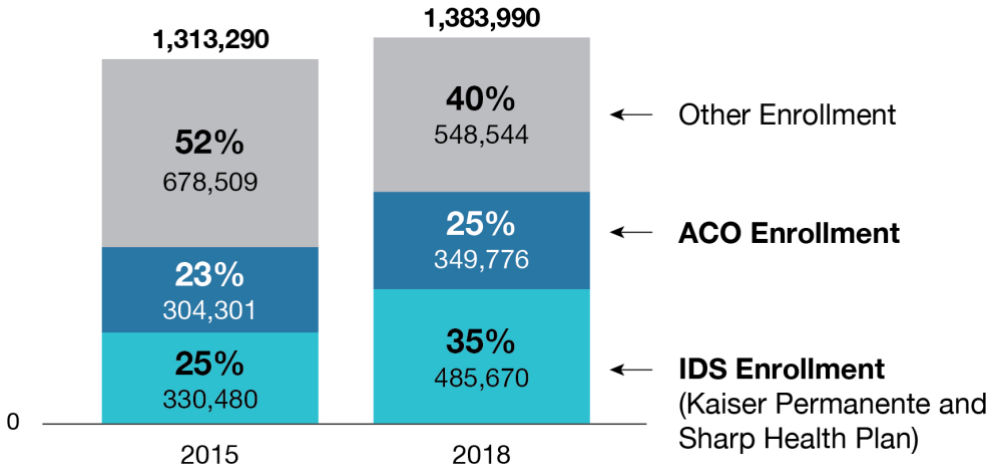
Percent of Enrollees in an Integrated Delivery System or Accountable Care Organization

Covered California requires health insurance companies to report the number and percent of enrollees who are managed under an IDS or ACO as well as provide comparison reporting for their other lines of business. Insurers are also are required to demonstrate an increase in the percent of enrollees who obtain their care in an IDS or ACO model between 2017 and 2019.

Nationally, the Centers for Medicare and Medicaid Services (CMS) is leading a drive to implement value-based payment models including integrated and coordinated delivery models such as ACOs. Leavitt Partners tracks the growth and spread of ACOs including the new models supported by CMS and their commercial and Medicaid analogs.[46] As of 2018, 10 percent of the U.S. population or 32.7 million Americans were cared for in ACOs in the commercial, Medicaid and Medicare markets. This includes every state, with penetration ranging from 2 percent to over 20 percent. Leavitt Partners reports that between 10 to 15 percent of Californians are cared for in such models.

In 2018, 60 percent of Covered California enrollees were cared for in an IDS or ACO, which represents a 12-point increase from 2015 (see *Figure 5. Covered California Enrollment in Integrated Delivery Systems or Accountable Care Organizations, 2015 and 2018*).[47]

Figure 5. Covered California Enrollment in Integrated Delivery Systems or Accountable Care Organizations, 2015 and 2018



[46] Muhlestein et al. (2018). Recent Progress in The Value Journey: Growth of ACOs and Value-Based Payment Models in 2018. Health Affairs blog. Retrieved from https://www.healthaffairs.org/do/10.1377/hblog20180810.481968/full/

[47] Data only available for plan year 2015 and plan year 2017-18. Covered California did not ask this question in the Certification Application for plan year 2016.

Source: Covered California Staff Analysis of Qualified Health Plan Data Submitted for 2015 and 2018
Note: Enrollment figures reflect only on-Exchange enrollment.

Two insurers, Kaiser Permanente and Sharp Health Plan, are fully integrated delivery systems and account for about 60 percent of the overall number.[48] As of 2018, after excluding enrollment in Kaiser Permanente and Sharp Health Plan, 25 percent of Covered California enrollees among the other insurers were cared for in an ACO, which represents a 2-percentage point increase from 2015. It is this latter statistic that is most comparable to the national data from Leavitt Partners; based on this report, California has greater penetration of these new models than the U.S. and Covered California penetration exceeds the rest of California even excluding those enrolled with Kaiser Permanente or Sharp Health Plan.

Health Plan Components of Integrated Delivery Systems or Accountable Care Organizations

Covered California places great importance on the adoption and expansion of integrated, coordinated and accountable systems of care. As such, health insurance companies are required to provide details on existing or planned integrated systems of care and how these systems of care compare to the following definition:

1. A system of population-based care coordinated across the continuum including multi-discipline physician practices, hospitals and ancillary providers; and
2. Having combined risk sharing arrangements and incentives between the health insurance company and providers, and among providers across specialties and institutional boundaries, holding the ACO accountable for nationally recognized evidence-based clinical, financial, and operational performance, as well as incentives for improvements in population outcomes.

Based on the descriptions of their IDS or ACO models provided by insurers, Covered California has identified several components many insurers are using in their respective models. In 2018, most insurers (nine out of 12) reported offering technical support, data sharing support, or promoting participation in health information exchanges for providers, an increase from four insurers in 2015 (see *Table 30. Components of Covered California Insurer's Support for Integrated Delivery Systems or Accountable Care Organizations, 2015, 2017 and 2018*). Covered California has also seen a steady increase in the number of health insurance companies using other common components like population health management support and holding providers accountable using standard quality measure sets.

[48] In Covered California, Kaiser Permanente and Sharp Health are fully integrated delivery systems while other health plans base their ACO model on existing provider organizations, such as integrated medical group and hospitals.

Table 30. Components of Covered California Insurer's Support for Integrated Delivery Systems or Accountable Care Organizations, 2015, 2017 and 2018[49,50]

Component	Number of Health Plans		
	2015	2017	2018
Data Sharing, Data Exchange and Health Information Technology Offers providers technical support, data sharing support, or promotes participation in health information exchanges	4	6	9
Provider Support and Feedback Offers providers opportunities to share best practices, participate in learning collaboratives, or offers practice coaching	5	5	6
Quality Measurement and Improvement Providers are held accountable for improvement using a standardized measure set	4	5	6
Population Health and Case Management Supports providers in case management or population health management such as providing registries or care gap reports	4	5	6
Financial Incentives Uses population-based capitation, shared savings or shared risk, may also use incentives for quality	5	5	6

Note: Not all insurers are listed for each component. Some insurers may only be using one of these components, while others are using several.

Source: Covered California Staff Analysis of Qualified Health Plan Data Submitted for 2015 and 2017-18.

Comparing Performance of Different ACO Models using the Integrated Healthcare Association Commercial ACO Measure Set

The Integrated Healthcare Association (IHA) has developed a Commercial ACO Measure Set[51] derived from their long-standing physician organization performance measures which has been widely adopted in California. While it is early to assess ACO performance in California as there is enormous variation in the structure of ACO contracts and many have only a few years of performance, IHA has begun to report on results from using the Commercial ACO Measure Set for 85 ACO contracts in California based on 2017 performance.

In the charts below, IHA reports performance for three mutually exclusive groups: members cared for by ACOs representing a mix of models built on both HMO and PPO platforms, members cared for by provider organizations under capitated, delegated HMO contracts (excluding Kaiser Permanente medical groups), and members cared for by physicians under PPO contracts aggregated across the 19 Covered California pricing regions (see *Figure 6. California Commercial ACO Performance Compared to HMOs and PPOs, 2017*). Based on IHA analysis, ACOs provide care that is the same quality at a somewhat lower cost than either HMOs or PPOs.

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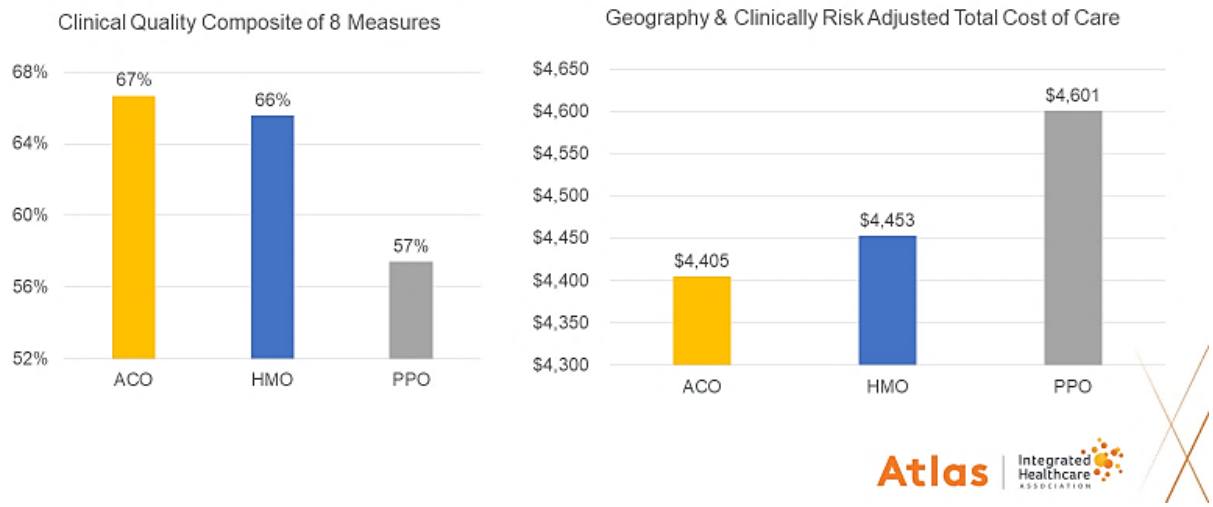
[49] Data only available for plan year 2015 and plan years 2017-18. Covered California waived data collection for plan year 2016.

[50] The 11 health insurance companies in Covered California are: Anthem Blue Cross, Blue Shield of California, Chinese Community Health Plan, Health Net, Kaiser Permanente, L.A. Care, Molina Healthcare, Oscar Health, Sharp Health Plan, Valley Health Plan, and Western Health Advantage. In the tables below, Health Net is counted twice because its reports data separately for Health Net Life (PPO/EPO products) and Health Net of California (HMO/HSP products).

[51] See more: https://www.iha.org/our-work/accountability/commercial-aco.

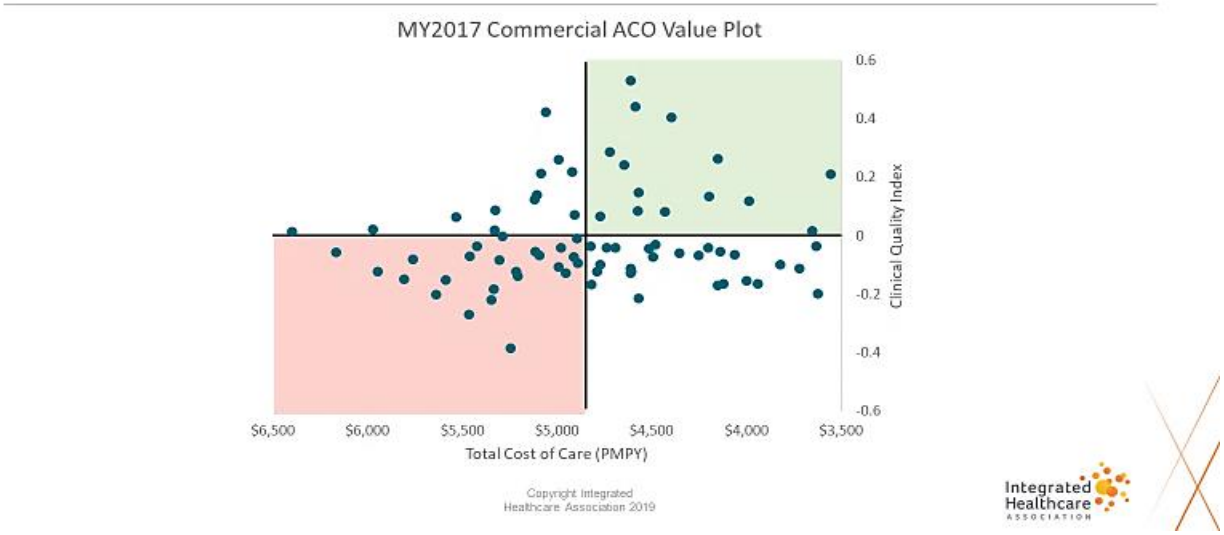
Figure 6: California Commercial ACO Performance Compared to HMOs and PPOs, 2017



Source: Integrated Healthcare Association, 2019

The aggregate ACO performance is encouraging but represents an average with wide variation among the ACOs measured (see *Figure 7. Variation in Quality and Cost in California Commercial ACO Performance, 2017*).

Figure 7: Variation in Quality and Cost in California Commercial ACO Performance, 2017



Source: Integrated Healthcare Association, 2019

The 14 “high value” ACOs in the upper right-hand quadrant — representing both lower cost and better quality — rival and sometimes exceed the performance of the best medical groups contracting with insurance companies within HMO models and one third of these high value ACOs are operating under PPO contracts (see *Figure 8: Characteristics of 14 “High Value” ACOs in California, 2017*).

Figure 8: Characteristics of 14 "High Value" ACO in California, 2017

Source: Integrated Healthcare Association, 2019

This first report from IHA comparing ACOs to other models demonstrates the potential value of integration and coordination through ACOs and that they can be implemented through all health plan products including PPOs.

The IHA Commercial ACO Measure Set reports for performance based on 2018 were recently released and health insurance companies are required to report these results to Covered California. The variation in performance among ACO contracts will be examined in cooperation with IHA, insurance companies and provider organizations and compared to the design elements MedPAC and others[52] have cited as predictors of success including two-sided risk, physician leadership (as compared to hospital leadership) and greater emphasis on advanced primary care.[53]

Section 2: Implications for the Future

Outside of the integrated delivery systems, Covered California's contracted health insurance companies that share overlapping networks are implementing a variety of ACO models or components of ACO models within their networks. Covered California enrollment in ACOs, excluding integrated delivery systems, exceeds comparisons in California and the nation. Performance variation among ACO models may be attributed to design elements such as the structure of financial incentives including downside risk, the role of physicians in sponsorship and leadership structure, the percent of budget spent in primary care and the sophistication of population health and case management

[52] The most current best evidence is documented in Chapter 8, Promotion of Integrated Delivery Systems and Accountable Care Organizations, of a companion Covered California report, Current Best Evidence and Performance Measures for Improving Quality of Care and Delivery System Reform.

[53] Primary Care Collaborative. (August 2018). Advanced Primary Care: A Key Contributor to Successful ACOs. Retrieved from: https://www.pcpcc.org/sites/default/files/resources/PCPCC%202018%20Evidence%20Report.pdf.

strategies. IHA is building a registry based on such elements for all ACOs they measure. As discussed above, Covered California is working with insurers to use the performance data from the IHA Commercial ACO measure set to establish correlations with the design elements in the registry of ACO characteristics to determine best practices and inform future contract requirements. This report cites several ways in which integrated delivery systems are outperforming network model health plans. The success of ACOs in replicating the performance of integrated delivery systems may depend on alignment in adopting common best practice design elements.

Chapter 9: Networks Based on Value

As a major strategy for effective care delivery, Covered California requires health insurance companies to select and regularly assess all clinicians, providers, hospitals and sites of care to ensure that care is safe, timely, effective, efficient, equitable, and patient-centered. Ideally, every network is designed to integrate and coordinate care, provides effective primary care and maximizes its value to enrollees.

For many consumers, whether the provider they want to see is in their network or not is the first sign of value. Assuring consumers have access to the full range of providers and treatments and that networks are composed of a range of quality providers is a central part of Covered California's review and selection process of its contracted insurers (see "Covered California Network Composition Review"). Covered California works to ensure health plan networks are designed and maintained with a deliberate strategy to promote better quality, lower cost, improved health and health equity.

This chapter on Networks Based on Value presents performance data and processes reported by health plans for contract requirements and includes assessments and observations by Covered California. This chapter is organized as follows:

Section 1. Qualified Health Plan Experience

Section 2. Implications for the Future

Highlights

- Between 2015 and 2018, more health insurance companies were assessed as having *Considered Comprehensive Factors* (cost, quality, and patient experience) or *Considered Cost Only* as criteria for selecting or contracting with providers and hospitals.
- For selecting providers, most insurers noted using provider credentialing, member satisfaction results, grievances and appeals information, and quality based on HEDIS measures. Fewer insurers reported using referral patterns to hospitals, value or cost reduction, or IHA Align Measure Perform (AMP) program results for selecting providers.
- All insurers indicated that a hospital's designation as a Center of Excellence was a selection factor and most reviewed and tracked publicly reported quality data from the Leapfrog Group, CMS Hospital Compare, and other quality-based organizations to determine whether to contract with a hospital. Fewer insurers reported evaluations of cost or participation in quality collaboratives as a factor in hospital selection.
- Hospital acquired infection rates are now reviewed routinely by health plans with their contracted hospitals. Cal Hospital Compare has provided health plans four partially overlapping lists of hospitals with consistently low performance. Covered California is tracking and learning how insurers use these lists to determine next steps.

Section 1: Qualified Health Plan Experience

Covered California's requirements for "Networks Based on Value" include multiple elements related to ensuring that network design and selection of providers considers quality and patient experience in addition to cost and efficiency.

Under current contract requirements, insurers report progress to Covered California for the following:

1. The factors used to select providers and hospitals in the health plan network, including cost, clinical quality, patient reported experience, or other factors.

2. Adopt policies and procedures to only contract with providers and hospitals that demonstrate quality and promote safety at a reasonable price. Based on a definition provided by Covered California, develop plans to exclude "outlier poor performers" on either cost or quality or document the rationale for continued contracting with poor performers, including any improvement efforts the provider or hospital has undertaken by year-end 2020.
3. Demonstrate action on high cost providers[54] by annually reporting the following:
    a. The factors a health plan considers in assessing the relative unit prices and total costs of care;
    b. The extent to which the reasons for cost factors are adjusted or analyzed by elements such as area of service, population served, market dominance, services provided by the facility (e.g., trauma or tertiary), or other factors;
    c. How such factors are used in the selection of providers and hospitals; and
    d. Identification of specific hospitals and their distribution by cost deciles or other ways providers and hospitals are grouped by costs, e.g., as a percentage of Medicare costs.

There are few best practices broadly adopted for managing networks based on value. Integrated delivery systems such as Kaiser Permanente and Sharp Health Plan have largely exclusive networks of hospitals and medical groups. This chapter includes an assessment of these integrated delivery systems but largely focuses on the various strategies adopted by health insurance companies that do not have fully integrated delivery systems and often have overlapping hospital and provider networks. Covered California adopted a common strategy in assessing hospital quality based on publicly reported data described in the "Sites and Expanded Approaches to Care Delivery" chapter. The hospital quality and safety requirements serve as a foundation on which insurers can build networks based on value.

In addition to requiring insurers to design their networks based on value, Covered California conducts annual reviews of each health plan's network (see *Covered California Network Composition Review*).

Covered California Network Composition Review

As part of its annual contracting cycles, Covered California assesses network composition including the number and types of physicians, medical groups and hospitals that are unique to particular health plans or available through multiple plans. Covered California also assesses the geographical distribution of health plan networks through drive times to hospitals and other indicators of how a health plan's distribution of providers assures consumers have timely access to care. Covered California coordinates with the California Department of Managed Health Care and the California Department of Insurance to ensure each health plan's network meets network adequacy standards and time and distance standards.

Covered California also requires its contracted insurers to include Essential Community Providers (ECPs) who serve low-income and medically underserved communities in their provider networks. Covered California provides insurers a list of ECPs each year that includes federally designated 340B providers, California disproportionate share hospitals, federally qualified health centers and Indian health and Tribal health organizations, among others. Each year, Covered California assesses the degree to which health plans have included a variety of ECPs in their networks.

[54] Covered California also requires health plans to report on the use of cost transparency tools as one of the strategies to ensure providers are not charging unduly high prices. See Chapter 10, Appropriate Interventions for health plan reporting on this topic.

Factors Used by Insurers to Select Medical Groups and Individual Providers

As described below (*Table 31. Assessment of Factors Used by Covered California Insurers to Select Physician Organizations and Individual Providers, 2015, 2017 and 2018*), Covered California assessed the number of health insurance companies using cost, quality and patient experience as criteria for selecting or contracting with a provider.[55] Between 2015 and 2018, Covered California assessment of provider selection factors found that the number of insurers that *Considered Comprehensive Factors* or *Considered Cost Only* increased from seven to 10.

Table 31. Assessment of Factors Used by Covered California Insurers to Select Physician Organizations and Individual Providers, 2015, 2017 and 2018[56]

	Number of Health Plans		
Assessment	**2015**	**2017**	**2018**
Considered Comprehensive Factors Includes cost, quality, and patient experience in selecting providers	5	7	6
Considered Cost Includes cost in provider selection	2	1	4
Considered Minimal Factors Does not include cost, quality, or patient experience in selecting providers	5	4	2

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

For plan years 2017 and 2018, health insurance companies were asked generally about factors used to select providers.[57] For both years, most insurers reported using provider credentialing, member satisfaction results and grievances and appeals information, and quality or HEDIS measures for selecting providers. While six Covered California insurers formally participate in IHA's Align Measure Perform (AMP) program, few insurers described using AMP program results for selecting providers during 2017-18.[58] Three insurers reported reviewing referral patterns of providers or provider groups to determine whether they refer to in-network hospitals or have established referral patterns to in-network hospitals. Only two insurers cited cost savings or cost reduction as a factor for selecting providers.

Factors Used by Insurers to Select Hospitals

Covered California assessed and categorized the number of health insurance companies using cost, quality and patient experience as criteria for selecting or contracting with hospitals (see *Table 32. Assessment of Factors Used by Covered California Insurers to Select Hospitals, 2015, 2017 and*

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[55] The 11 health insurance companies in Covered California are: Anthem Blue Cross, Blue Shield of California, Chinese Community Health Plan, Health Net, Kaiser Permanente, L.A. Care, Molina Healthcare, Oscar Health, Sharp Health Plan, Valley Health Plan, and Western Health Advantage. In the tables below, Health Net is counted twice because its reports data separately for Health Net Life (PPO/EPO products) and Health Net of California (HMO/HSP products).

[56] Data only available for plan year 2015 and plan year 2017-18. Covered California did not ask this question in the Certification Application for plan year 2016.

[57] Information described here is based on insurers' narrative responses to questions in the Certification Application. Covered California asked generally about factors considered and did not specifically prompt insurers about each of them. As such, insurers could be using a factor to select providers but may not have described it.

[58] For the IHA AMP program, one insurer does not formally participate but reviews the program results as a provider selection factor and another insurer is planning to participate but does not formally participate currently.

2018).[59] Covered California's assessment of hospital selection factors found that as of 2018 four insurers *Considered Comprehensive Factors,* while others considered cost. While many insurers do not currently use comprehensive factors in hospital selection, most insurers have been actively engaged in work to promote improvement in hospital quality performance as described in Chapter 11: Sites and Expanded Approaches to Care.

Table 32. Assessment of Factors Used by Covered California Insurers to Select Hospitals, 2015, 2017 and 2018[60]

	Number of Health Plans		
Assessment	**2015**	**2017**	**2018**
Considered Comprehensive Factors Include cost, quality, and patient experience in selecting hospitals	3	4	4
Considered Cost Includes cost in hospital selection	4	5	7
Considered Minimal Factors Does not include cost, quality, or patient experience in selecting hospitals	5	3	1

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

For 2017 and 2018, health insurance companies were asked generally about factors used to select hospitals.[61] For both years, all Covered California insurers indicated that they had processes to designate a hospital as a Center of Excellence which was a factor for determining inclusion of a hospital in-network. Several health plans also reviewed and tracked publicly reported quality data from the Leapfrog Group, CMS Hospital Compare, and other quality-based organizations to determine whether to contract with a hospital.

Health insurance companies considered the cost or prices charged by a hospital when determining whether to contract with them. For example, some insurers evaluated costs as a percentage of Medicare rates and used Diagnosis-Related Group (DRG) case-mix adjusted cost per discharge to identify and group hospitals by cost deciles. Similarly, other insurers developed cost indices for hospitals and used a combination of cost and quality measures to determine whether to remove the hospital from their network.

One insurer reported hospital participation in collaboratives, such as the California Maternal Quality Care Collaborative, as a factor for contracting with hospitals during 2017-18.

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[59] The 11 health insurance companies in Covered California are: Anthem Blue Cross, Blue Shield of California, Chinese Community Health Plan, Health Net, Kaiser Permanente, L.A. Care, Molina Healthcare, Oscar Health, Sharp Health Plan, Valley Health Plan, and Western Health Advantage. In the tables below, Health Net is counted twice because its reports data separately for Health Net Life (PPO/EPO products) and Health Net of California (HMO/HSP products).

[60] Data only available for plan year 2015 and plan year 2017-18. Covered California did not ask this question in the Certification Application for plan year 2016.

[61] Information described here is based on insurers' narrative responses to questions in the Certification Application. Covered California asked generally about factors considered and did not specifically prompt insurer about each of them. As such, insurer could be using a factor to select hospitals but may not have described it.

Covered California Targeting Outlier Poor Performance for Potential Exclusion from Networks

Covered California requires health insurance companies to exclude a hospital from their network if the hospital is an outlier poor performer and not working to improve safety and maternity care. To support insurers in meeting the requirement to exclude hospital outlier poor performers, Covered California has worked with Cal Hospital Compare to determine if there is a valid way to define outlier poor performance for hospitals in a way that can be implemented consistently across all insurers. This definition is based on specific measures of cost and quality, national benchmarks, analysis of variation in California performance, best evidence for quality improvement, and effective stakeholder engagement. Based on their review, Cal Hospital Compare found no single composite measure meeting these criteria was available so they provided insurers with four distinct lists of hospitals with consistently low performance based on:

1. The Hospital Acquired Condition Reduction Program (HACRP) through CMS that uses six publicly available measures in to publicly report and financially penalize hospitals that perform in the bottom 25 percent of all hospitals nationally;
2. An honor roll of top hospital performers developed by Cal Hospital Compare using the CMS HACRP metrics;
3. The Leapfrog Group's Hospital Safety Score; and
4. A report from the California Department of Public Health focused only on Hospital Associated Infections.

These tools do not meet the requirement for a single composite system, and none include key safety concerns where there is no standard publicly reported measure, like Adverse Drug Events. However, these four lists provide "signals of concern" and the measures on these lists include the five Hospital Associated Infections (HAIs) that Covered California has focused on. The greater the number of "low performance" lists a hospital appears on, the greater the concern. These lists are not yet publicly reported but have been provided to insurers for use in hospital negotiations. Insurers are responsible to notify Covered California which if any of these hospitals will be excluded from their networks or reasons for continued inclusion by year-end 2020.

Covered California's requirements for hospital quality and safety serve as a foundation for which health insurance companies can build networks based on value. As such, the requirement for excluding "outlier poor performers" and describing the factors they use to select hospitals is related to the requirement for insurers to work with hospitals to improve quality and safety, described in Chapter 11: Sites and Expanded Approaches to Care.

Assessing Relative Unit Prices and Total Costs of Care

Covered California supports strategies that promote a competitive market with restraint on prices and provides access to high quality care. Health insurance companies consider a range of processes and factors when assessing the relative unit prices and total costs of care at the hospital, medical group, or provider level. Insurer reported data shows that most insurers compared the cost of providers and hospitals to other similar providers in the market or region when assessing the costs of providers (see *Table 33. Covered California Insurer's Process and Factors for Assessing Costs of Providers and Hospitals, 2015, 2017 and 2018*). Most insurers also used specific fee schedules or fee schedules based on a percent of Medicare reimbursement in their contracts with providers. Three health insurance companies annually adjusted capitation payments to providers and hospitals or paid as a

percent of premium. One insurer used Office of Statewide Health Planning and Development (OSHPD) data to understand the cost-to-charge ratios of specific hospitals.

Table 33. Covered California Insurer's Process and Factors for Assessing Costs of Providers and Hospitals, 2015, 2017 and 2018[62]

	Number of Health Plans		
Process and Factors Used	**2015**	**2017**	**2018**
Compare the cost of providers and hospitals to other similar providers in the market or region	9	9	9
Use specific case rates, fee schedules or fee schedules based on a percent of Medicare reimbursement when contracting with providers	7	8	8
Annually adjust payments to providers and hospitals or pay as a percent of premium	3	3	3
Use Office of Statewide Health Planning and Development data to understand the cost-to-charge ratios of specific hospitals	1	1	1

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Section 2: Implications for the Future

Covered California holds health insurance companies accountable to manage variation across their networks in addition to reporting overall quality measures which reflect averages. In managing variation, enrollees should be assured that any provider they go to for care will meet high standards for quality and cost management. Variation in hospital performance was a first target since performance is publicly reported for several key safety measures. Insurers joined Covered California in focusing on a common set of measures in hospital performance evaluation and contracting. As reported in Chapter 11, this effort has led to improvements in hospital quality and safety. Covered California plans to continue to work with insurers, other purchasers, hospitals and other stakeholders to assess what can be done to establish common summary quality and cost hospital performance indicators that would appropriately be used for purposes of either targeting hospitals for improvement or exclusion from Covered California networks.

Covered California is also partnering with the Integrated Healthcare Association's (IHA) California Regional Health Care Cost and Quality Atlas to profile insurer's physicians and physician organization networks based on the wide variation in clinical quality, satisfaction, and total cost of care across the 19 Covered California regions by insurance type. Covered California encourages insurers to use the IHA Atlas data to profile their networks by displaying the cost and quality of physician organizations and physicians that serve HMO, EPO and PPO enrollees. Covered California is working with other purchasers, insurers, physician organizations and other stakeholders to define or create a standard for low-quality and high-cost physician organizations that could be the basis for targeted improvement or removing such physician organizations from their networks. As with variation in hospital networks, the first priority will be to seek ways to align efforts to improve care.

[62] Data only available for plan year 2015 and plan year 2017-18. Covered California did not ask this question in the Certification Application for plan year 2016.

Chapter 10: Appropriate Interventions

Appropriate Interventions include examining clinical interventions, such as prescription and nonprescription pharmaceutical treatments, procedures (like surgery), diagnostic tests (lab tests, X-rays, MRIs, etc.) and devices (like implants and pacemakers), to ensure they are rooted in the Institute of Medicine's six aims for ensuring every individual's care is safe, timely, effective, efficient, equitable, and patient-centered.[63] Equally important is effective consumer and patient engagement that (1) supports consumers in making decisions about health care services, treatments, and providers that are consistent with their values and preferences and (2) fosters access to care.

Appropriate Interventions is an expansive topic, but this chapter, focuses on the following: (1) pharmacy utilization management; (2) consumer and patient engagement, which includes the use of cost transparency tools and shared decision-making; (3) addressing overuse of care through Smart Care California; and (4) appropriate use of services, as measured through standard measures in the Marketplace Quality Rating System.

This chapter on Appropriate Interventions is organized as follows:

Section 1. Qualified Health Plan Experience

Section 2. Health Plan Measures Reported to the Marketplace Quality Rating System

Section 3. Implications for the Future

Highlights

- In 2018, ten insurers considered value in pharmacy formulary management and ten insurers used at least one third-party value assessment methodology (e.g. ICER Value Assessment Framework).
- All health insurance companies use a systematic, evidence-based process for monitoring off-label use of pharmaceuticals.
- Virtually all of Covered California enrollees have access to cost transparency tools to assist consumer decision making about treatments or procedures (ten of 11 insurers covering 99 percent of enrollees).
- Insurers are approaching completion of implementation of many of the recommended Smart Care California improvements to reduce opioid overuse including limiting the quantity of tablets in first prescriptions, removing barriers to medication-assisted treatment and drugs used to reverse overdoses. This collaborative work with other California state purchasers has contributed to reduced opioid prescribing and increased prescribing for buprenorphine, the leading medication to treat opioid disorders.
- Covered California is continuing to expand the scope and nature of its efforts to reduce waste and assure patients are only getting medically necessary care.

Section 1. Qualified Health Plan Experience

Qualified Health Plan Experience presents performance data reported by health insurance companies for contract requirements and includes assessments and observations by Covered California.

[63] Committee on Quality Health Care in America, Institute of Medicine. (2001). Crossing the quality chasm: a new health system for the 21st century. Washington, D.C.: National Academy Press.

Pharmacy Utilization Management

One component of appropriate interventions is the appropriate use of prescriptions and how health insurance companies consider cost and quality in determining their drug lists or formularies. Drug costs continue to increase at a higher rate than other health care costs for generics, name brands and specialty drugs across all insurance markets. Health insurance companies can put downward pressure on drug spending through a variety of mechanisms. Covered California requires insurers to describe ways they are working to achieve value in drug spending, ranging from formulary decision making to decision support tools. Covered California collects information on health insurance company activities to inform its analysis of the relative efficacy of different strategies. As part of contract requirements on achieving value in prescription drug spend, insurers annually report the following:

1. How they currently consider value in formulary selection;
2. If independent value assessment methodologies are used, which ones are used;
3. If and how construction of formularies is based on total cost of care;
4. If and how off-label use is monitored; and
5. The extent of decision support provided to prescribers and members.

Because insurers reported information in a narrative format, further data would be needed to assess the effectiveness and impact of their activities, which may be facilitated by the addition of cost data to the information currently submitted by insurers to Covered California.

Ten of 11 health insurance companies considered value in pharmacy formulary management in 2018 (see *Table 34. Covered California Insurer's Consideration of Value in Formulary and Value Assessment Methods, 2017 and 2018*). Nine insurers described the use of a value assessment methodology as part of their Pharmacy and Therapeutics (PandT) Committee, which all insurers are required to use.

Health insurance companies also report on the use of the following third-party value assessment methodologies:

- Drug Effectiveness Review Project (DERP)
- NCCN Resource Stratification Framework (NCCN-RF)
- NCCN Evidence Blocks (NCCN-EB)
- ASCO Value of Cancer Treatment Options (ASCO- VF)
- ACC/AHA Cost/Value Methodology in Clinical Practice Guidelines
- Oregon State Health Evidence Review Commission Prioritization Methodology
- Premera Value-Based Drug Formulary (Premera VBF)
- DrugAbacus (MSKCC) (DAbacus)
- The Institute for Clinical and Economic Review (ICER) Value Assessment Framework (ICER-VF)
- Real Endpoints
- Blue Cross/Blue Shield Technology Evaluation Center
- International Assessment Processes (e.g., United Kingdom's National Institute for Health and Care Excellence (NICE))

Eight of 11 insurers used at least one third-party value assessment methodology as part of its PandT Committee process in 2018. Seven insurers consider value assessment in formulary tier placement.

Health insurance companies use one of several different independent value assessment methodologies listed, but the Institute for Clinical and Economic Review (ICER) assessment is the most commonly used. ICER is considered to have a strong methodology compared to others and emphasizes

transparency, conflict-free funding, and actionable activities for plans that consider the total cost of care. ICER also includes a framework for evaluating short and long-term budget impacts, and includes a "value-based price benchmark," reflecting how each drug should be priced to appropriately reflect long-term improved patient outcomes.

Table 34. Covered California Insurer's Consideration of Value in Formulary and Value Assessment Methods, 2017 and 2018

	Number of Health Plans	
Consideration of Value	**2017**	**2018**
Consider value in pharmacy management	9	10
Use value assessment methodology as part of Pharmacy and Therapeutics (PandT) process	6	9
Use at least one third-party value assessment methodology (e.g. ICER Value Assessment Framework)	10	8
Consider value assessment in formulary tier placement	7	7

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

For constructing formularies based on the total cost of care, seven of 11 insurers used a process for analyzing drug efficacy in context of total cost of care and outcomes (see *Table 35. Covered California Insurer's Consideration of Total Cost of Care in Formulary, Off-Label Use Monitoring and Decision Support for Providers and Consumers, 2017 and 2018*).

All 11 health insurance companies engaged in systematic, evidence-based process for monitoring off-label use of pharmaceuticals, which reflects state law requirements for using nationally recognized sources for evidence-based off label monitoring.

In 2018, nine of 11 insurers provided member-specific decision support for both prescribers and consumers, of which seven provided this support at the point-of-care. Several new software products have recently become available and are now being used by Covered California's insurers to allow physicians to see pricing information on drugs they are prescribing and the availability of cheaper, equally effective alternatives. Examples of these software tools include Gemini Health's Drug-Cost Transparency Service, Sure Scripts Real-Time Prescription Benefit, and OptumRx's PreCheck MyScript.

Table 35. Covered California Insurer's Consideration of Total Cost of Care in Formulary, Off-Label Use Monitoring and Decision Support for Providers and Consumers, 2017 and 2018

	Number of Health Plans	
Consideration of Total Cost of Care	**2017**	**2018**
Analyze drug efficacy in context of total cost of care and outcomes	7	7
Use a systematic, evidence-based process for monitoring off-label use of pharmaceuticals	11	11
Offer member-specific decision support initiatives for both the prescriber and consumer, including point-of-care support software	5	7
Offer member-specific decision support initiatives for both prescriber and consumer, but not at the point of care	1	2

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Consumer and Patient Engagement

Cost Transparency Tools

Covered California supports strategies that promote a competitive market with restraint on prices and provide access to high quality care. As part of its requirements for demonstrating action on high cost providers, Covered California required insurers to report on their efforts to make variation in provider or hospital cost transparent to consumers and the use of cost transparency tools by consumers.[64] Cost transparency tools have the potential to reduce costs by enabling patients to switch to lower priced providers and publicly acknowledging high-priced providers which could lead to these providers reducing their prices.[65]

Covered California required health insurance companies with more than 100,000 enrollees to deploy online tools and 10 of the 11 insurers now do so, representing 99 percent of Covered California enrollees. *Table 36. Covered California Insurer's Use of Cost Transparency Tools, 2015, 2017 and 2018* describes the number of insurers that use cost transparency tools, what services are provided, and the percentage of enrollees with access to each type of tool. As of 2018, the tools offered to the most enrollees were Online Procedure and Treatment Cost Estimators, which were available through three different health plans to about 70 percent of enrollees. Other tools include Provider-Specific Cost Information which three health plans provide to about 21 percent of enrollees.

Table 36. Covered California Insurer's Use of Cost Transparency Tools, 2015, 2017 and 2018[66]

	Number of Insurers			Number of Enrollees with Access to Tool	Percent of Total Enrollment (1,384,030)
	2015	2017	2018	2018	
Insurers Offering Cost Transparency Tools	**6**	**9**	**10**	**1,371,720**	**99%**
Services Offered					
Online Cost and Quality Tool	1	1	1	67,070	5%
Provider-Specific Cost Information	2	2	3	289,460	21%
Online Procedure and Treatment Cost Estimator	3	3	3	974,780	70%
Online Drug Cost Lookup Tool	1	5	5	706,140	51%
Online Real-time Tracking of Out-of-Pocket Costs	3	6	7	1,218,270	88%
Planning to add Cost Information Online	3	2	0	N/A	N/A

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

The consumer utilization of available tools varied widely among Covered California's contracted health insurance companies. The tools available to the largest number of enrollees were used by 3 percent to

[64] Network design and reference pricing are also strategies in this requirement. Network design is discussed in Chapter 9: Networks Based on Value in the sections on provider and facility selection criteria. No insurers reported using reference pricing, which would require Covered California making changes to its standard benefit design.

[65] Mehrotra, Ateev. "Defining the Goals of Health Care Price Transparency: Not Just Shopping Around." *NEJM Catalyst, June* 26 (2018).

[66] Data only available for plan year 2015 and plan year 2017-18. Covered California did not ask this question in the Certification Application for plan year 2016.

7.5 percent of consumers. There are not standard national benchmarks to assess the volume and type of consumer utilization of cost transparency tools, so Covered California is in the process of determining how best to assess what volume and type of utilization best meets consumers' needs.

While there is growing research on how best to effectively engage consumers in their care, discussions about value should both educate consumers and help them work with their providers to make better choices to align their preferences and likely outcomes.[67] However, there are currently no standard benchmarks related to use of consumers tools and definitions of the types of users. Similarly, there are multiple definitions for consumer engagement, with all assuming that consumers have the knowledge and skills to understand and participate in the engagement process.[68] Covered California is reviewing these issues and the available evidence to inform future contract expectations.

Shared Decision-Making

There is clear evidence that for many "preference-sensitive" conditions, clinicians do not regularly elicit patients' preferences or provide information to support informed patient decision-making. Too often variation in care tracks with provider preferences rather than those of patients. Shared decision-making engages patients in bringing their values and preferences to bear often with the help of decision aids that present the basic science of the condition being treated, the various options for treatment and the tradeoffs such as quality or length of life. Shared decision-making is designed for preference-sensitive conditions, such as breast cancer, prostate cancer, and knee and hip replacements where more than one evidence-based treatment is available or where the evidence is incomplete or uncertain. Variation in treatment of these conditions based on patient preferences is important and the Covered California contract requirements included reporting how insurers support shared decision-making including the proportion of patients with preference sensitive conditions who have used a decision aid.

The requirement for health insurance companies to report on shared decision-making was put on hold to enable health insurance companies to focus on cost and quality tools and implement the Smart Care initiatives described below. Based on Covered California's ongoing discussions with insurers, several have contracts with vendors that publish decision aids and are using them in case management.

Evidence documents that when patients use decision aids to support shared decision-making with their clinician at the time and place decisions are made, their knowledge of their options improves, and they feel better about what matters to them.[69] There are a variety of vendors for decision aids which vary in quality and evidence supporting their effectiveness. Each insurance company and many medical groups have made their own vendor selections and therefore offer different tools. None has achieved implementation at scale and it's unlikely they will with this diversity. Covered California has an opportunity over the next several years to work with stakeholders across the delivery system to consider selecting a single vendor and to support broad adoption of shared decision-making at the point of care.

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[67] S, Delbanco, T. Delbanco, Technology and Transparency: Empowering Patients and Clinicians to Improve Health Care Value, *Ann Intern Med.* 2018;168(8):585-586.

[68] Hibbard JH. (September 2017). Refining Consumer Engagement Definitions and Strategies. Journal of Ambulatory Care Management.

[69] The most current best evidence is documented in Chapter 9: Appropriate Interventions of a companion Covered California report, Current Best Evidence and Performance Measures for Improving Quality of Care and Delivery System Reform.

Addressing Overuse of Care through Smart Care California

In 2015, Covered California joined the other state purchasers, the Department of Health Care Services (DHCS) and the California Public Employees' Retirement System (CalPERS), to form a multi-stakeholder workgroup called Smart Care California to address overuse of services that result when evidence-based practices are not being followed. This multi-stakeholder work group is facilitated by the Integrated Healthcare Association (IHA), with funding and thought leadership from the California Health Care Foundation (CHCF). Smart Care California selected three areas of focus from the list of Choosing Wisely guidelines published by the American Board of Internal Medicine Foundation in cooperation with other specialty societies: (1) low-risk (nulliparous term, singleton, vertex (NTSV)) deliveries performed without medical indication; (2) opioid overuse and misuse; and (3) imaging for low back pain.[70]

Health insurance companies are invited to participate in the development of improvement strategies and are required to adopt the guidelines developed by Smart Care California. All insurers are participating either as regular attendees or by implementing guidelines published by Smart Care California. Work is underway for adopting best practices for payment for maternity services as well as for combatting the opioid crisis. At this time, Smart Care has focused on these two areas, while overuse of imaging for low back pain, which would entail a large-scale effort to change the care patterns of thousands of physicians across California, has been on hold while resource and other implementation challenges are considered. The measure for imaging for low back pain will still be collected in Marketplace QRS and other quality measurement programs.

Health insurance companies' efforts to reduce low-risk C-section deliveries are impacting the entire maternity population served at each plan's network hospitals, not just Covered California's enrolled population. In addition, Covered California, DHCS, and CalPERS are collaboratively engaged in efforts to reduce low-risk C-sections, so the same initiatives are positively impacting their hospitals and care regardless of the source of the consumer's coverage. Further discussion of efforts to reduce low-risk C-sections is included in Chapter 11: Sites and Expanded Approaches to Care Delivery.

Smart Care California Efforts to Reduce Opioid Overuse

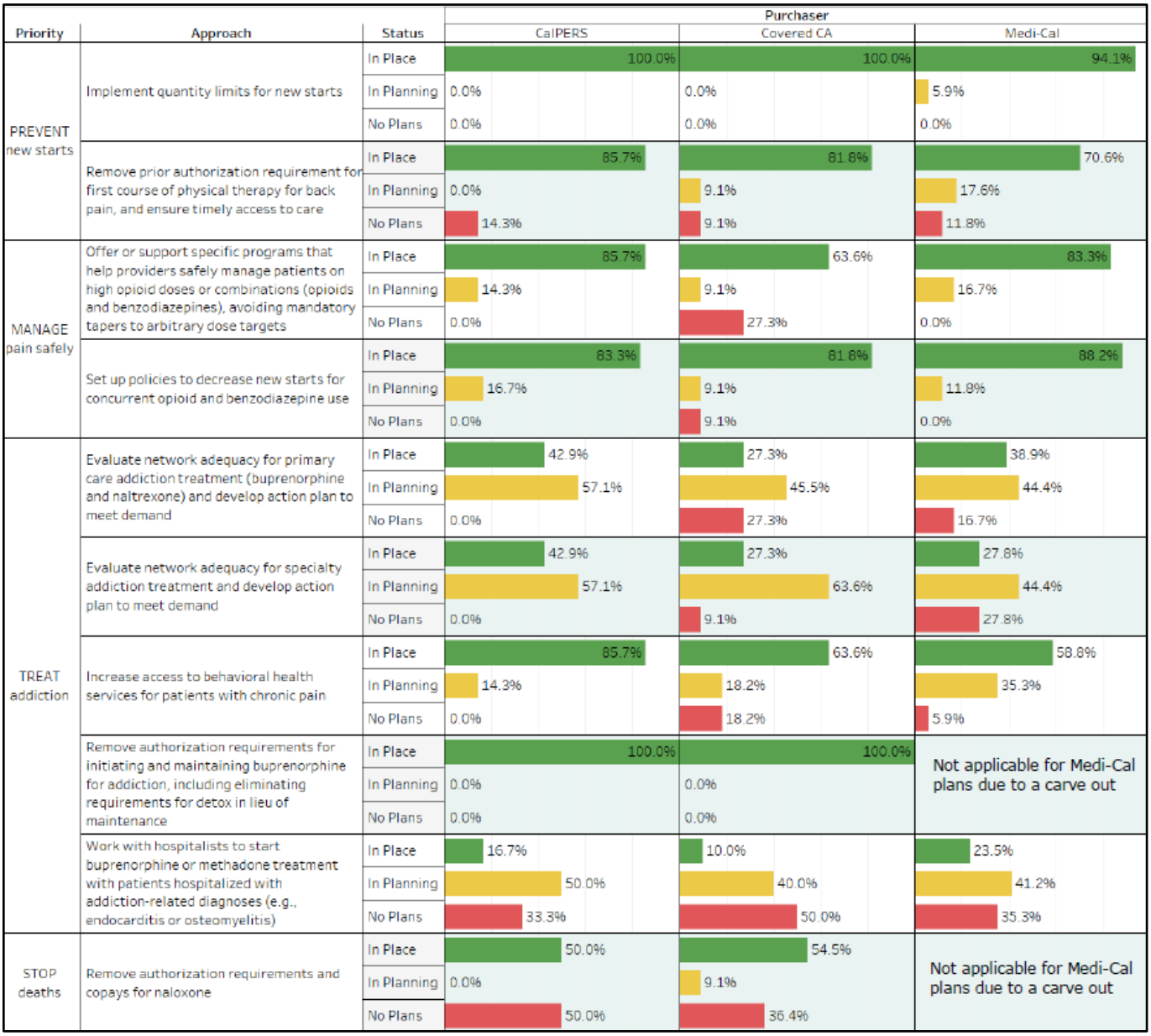
The Smart Care California work group has surveyed health insurance companies on their efforts to reduce opioid overuse in four categories: (1) preventing new starts; (2) managing pain safely; (3) treating addiction; and (4) stopping death. Comparison of performance in these areas are based on aggregated survey data from Covered California, CalPERS and DHCS is provided in *Figure 9. Smart Care California Purchaser Level Performance on Opioid Overuse Reduction, 2018*. Covered California insurers are approaching completion of implementation for many of the recommended improvements including limiting the quantity of tablets in first prescriptions, removing barriers to medication-assisted treatment and for drugs used to reverse overdoses. The table below reflects remarkable improvement as none of these recommendations were practices before Smart Care California published their guidelines. This survey will continue to be conducted annually.

According to the Smart Care survey, all 11 Covered California insurers now implement quantity limits for new starts of opioids and nine Covered California insurers have removed prior authorization for physical therapy for back pain, improving timely patient access to care and preventing new starts of opioid medications. The survey also indicates that more than half of insurers have increased access to

[70] See more: https://www.iha.org/our-work/insights/smart-care-california.

behavioral health services for patients with chronic pain, while two insurers are in the planning stages to increase access. These improvements have the potential to greatly aide in curbing the opioid epidemic in the state.

Figure 9. Smart Care California Purchaser Level Performance on Opioid Overuse Reduction, 2018

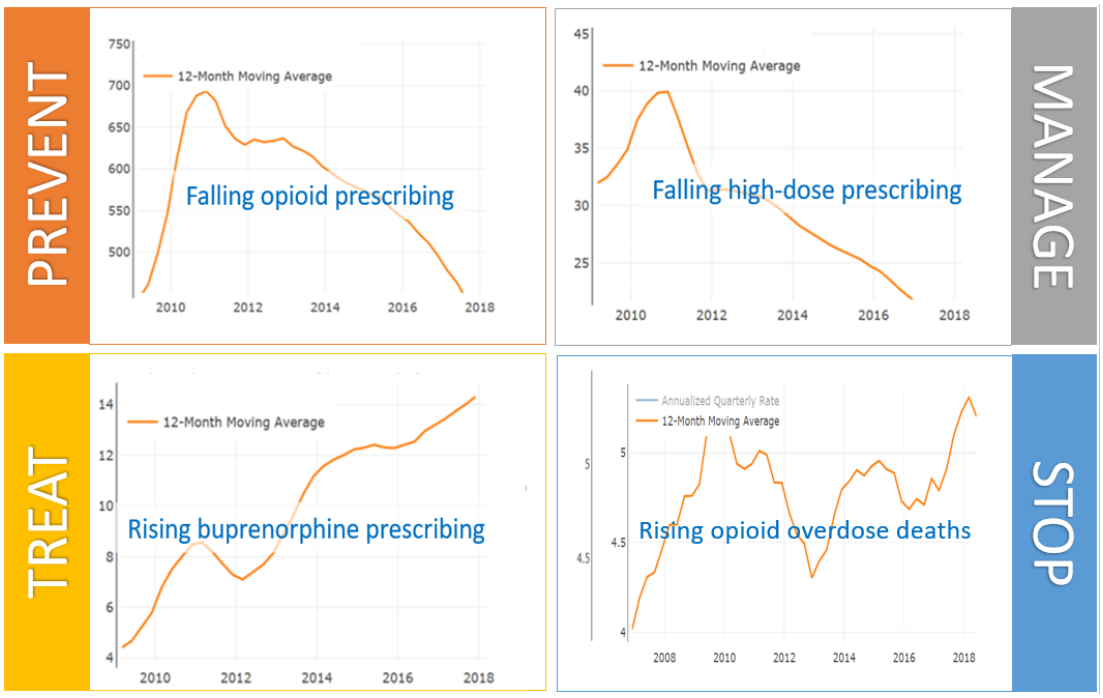


Source: Smart Care California, 2019

As seen below in *Figure 10. California 2010-2018 Progress on Opioid Overuse Reduction*, prescribing for opioids is falling and prescribing for buprenorphine, the leading medication to treat opioid disorders, is rising. But overdose deaths remain high. The reason overdoses are still such a threat appears to be

that street drugs are replacing prescription drugs as the cause of death.[71] This data implies that neither California or the nation has found the right balance for treating opioid addiction. Opioid prescriptions appear to have fallen faster than capacity for treatment has expanded.

Figure 10: California 2010-2018 Progress on Opioid Overuse Reduction



Source: California Health Care Foundation analysis of data from the California Department of Public Health
www.cdph.ca.gov/opioiddashboard

Much more needs to be done to support providers in reducing opioid prescriptions safely including expanding access to medication assisted treatment. While efforts to address the opioid epidemic have benefited from many sectors focusing needed attention on this problem, Covered California believes the Smart Care initiative is an example of how improvement can be encouraged when major purchasers — in this case Medi-Cal, CalPERS and Covered California — align to work with insurers and providers to meet a common clinical need. Additionally, Covered California is more closely tracking opioid use and medication assisted treatment use through its Healthcare Evidence Initiative database.

Section 2: Health Plan Measures Reported to the Marketplace Quality Rating System

Health Plan Measures Reported to the Marketplace Quality Rating System details health plan performance on Healthcare Effectiveness Data Information Set (HEDIS) and Consumer Assessment of Healthcare Providers and Systems (CAHPS) measures reported to the Centers for Medicaid and Medicare Services' Quality Rating System (QRS). These standard performance measures are a key mechanism used by Covered California for health plan oversight and accountability.

[71] The New York Times, "Short Answers to Hard Questions About the Opioid Crisis", Josh Katz, August 10, 2017 https://www.nytimes.com/interactive/2017/08/03/upshot/opioid-drug-overdose-epidemic.html.

See *Appendix 2: Additional Health Plan Measures Reported to the Quality Rating System*, for six Quality Rating System measures that pertain to Appropriate Interventions:

1. Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis (Table A23)
2. Appropriate Testing for Children with Pharyngitis (Table A24)
3. Appropriate Treatment for Children with Upper Respiratory Infection (Table A25)
4. Use of Imaging Studies for Low Back Pain (Table A26)
5. Annual Monitoring for Patients on Persistent Medications (Table A27)
6. Access to Information (Table A28)

These measures address the both the overuse of low value services and the appropriate use of services. The first three measures above reflect efforts to reduce overuse of antibiotics which is resulting in wide spread resistance to potentially lifesaving treatment.

Imaging for low back pain, especially CT and MRI scans, should only be used when considering surgery for intractable pain or neurologic complications related to low back pain.

Many patients with conditions like rheumatoid arthritis are on complex medications with potential side-effects. Standard routine monitoring, as measured by Annual Monitoring for Patients on Persistent Medications, may be overlooked if not tracked and implemented systematically.

As detailed under the section on shared decision-making, supporting patients with the right information to partner with their providers to decide on appropriate interventions for their care is critical not only for preference sensitive care but to increase adherence to evidence-based care.

Section 3: Implications for the Future

There is good evidence that a very high proportion of care delivered is unwarranted or delivered poorly; some diagnostic tests are overused, and there is limited information available to assess relative efficacy and value of many drugs, devices and even some surgical interventions. Genetic testing is starting to show value in guiding clinical decisions and “personalized” approaches to cancer care are being developed and tested. All these innovations come with extraordinary costs and only preliminary understanding of which patients will benefit the most.

Shared decision making requires that there is active and transparent information sharing between consumers and their providers. Cost and quality tools provide consumers with the knowledge to better engage with their own health decision making, but even among the tools that are available today there is little success engaging patients or providers in their adoption. Future improvements in technology and data sharing will lead to better consumer engagement. Covered California is continuing to monitor insurers to ensure that consumers are being provided the most reliable tools and information so that they can receive the best care at the right time. Covered California has an opportunity over the next several years to work with stakeholders across the delivery system to consider selecting a single vendor and to support broad adoption of shared decision-making at the point of care.

Over the next few years, a wide range of innovations in care delivery will have dramatic impacts on how care is provided, and the quality and cost of that care. Covered California has shown how purchasers, payers and providers can work together in adopting best practices to reduce variation in hospital performance and address overuse of opioids. Decision support to providers and patients at the point of care is particularly promising, whether through consumer cost tools integrated with the medical record, shared decision-making decision aids or point of care software integrated with electronic health record order entry to support adherence to formularies, bringing this information to where decisions are made

appears to be critical to successful adoption. Covered California is assessing the extent to which its contractual requirements can assist in prioritizing and standardizing implementation of best practices to benefit all Californians.

Chapter 11: Sites and Expanded Approaches to Care Delivery

Covered California is better understanding and promoting evidence-based health interventions and treatments beyond the traditional physician office and hospital-based care, whether on an inpatient or outpatient basis: urgent care facility, retail facilities such as drop-in clinics, at home, or through a variety of emerging telehealth strategies. Expanded approaches to care delivery also includes who provides care in addition to physicians including clinically appropriate providers such as registered nurses, pharmacists, midwives, nurse practitioners, physician assistants or non-licensed providers like community health workers.

This chapter on Sites and Expanded Approaches to Care Delivery has a different organization. "Sites" refer to the traditional medical care settings of hospitals and physician offices. Care in physician offices is covered in Chapter 7: Promotion of Effective Primary Care, while Chapter 10: Appropriate Interventions, examines various clinical interventions largely delivered in or ordered by physician offices, to ensure they are rooted in the Institute of Medicine's six aims for safe, timely, effective, efficient, equitable and patient-centered care.[72]

Hospital care is a broad topic and can include a range of system level reforms. This chapter focuses on publicly reported performance data that health insurance companies are using to establish contract requirements for hospital quality and safety, which are (1) within an insurer's oversight authority; (2) help foster alignment across contracted insurers and their contracted hospitals; and (3) benefit from the availability of publicly reported hospital performance data reflecting the experience of the hospital's entire patient population. Covered California has worked with hospitals and the California Hospital Association to select measures for which coaching programs,

Highlights

- The California Department of Public Health reports that as of 2018 there has been a statistically significant reduction in major types of hospital associated infection rates in California hospitals (CLABSI, SSI, MRSA, and C. difficile bacterial). Covered California's contract requirements — aligned with those of CMS and other purchasers — insurer engagement, and work with improvement collaboratives have contributed to 3,392 infections avoided, 251 lives saved and over $62M in one-year cost savings.
- Covered California's support for appropriate C-Sections helped 56% of California hospitals achieve the national goal of NTSV C-section rates of 23.9% or lower in 2018, representing a 12-point improvement from 2015, avoiding 7,200 C-sections over 3 years.
- The number of insurers that participated in the Smart Care California collaborative, increased from six to all 11 by 2017 with full participation continuing since then. Similarly, the number of insurers that participated in Partnership for Patients collaborative increased from two to ten insurers between 2016 and 2018.
- For insurer engagement of network hospitals, 10 insurers were assessed as having *Full Engagement* or *Engaged* for hospital safety in 2018. For maternity care, all 11 insurers were assessed as *Full Engagement* or *Engaged* for maternity care in 2018.

[72] Committee on Quality Health Care in America, Institute of Medicine. (2001). Crossing the quality chasm: a new health system for the 21st century. Washington, D.C.: National Academy Press.

quality collaboratives and change packages are available and aligned with priorities established by national consensus including CMS and Healthy People 2020.

For expanded approaches to care delivery, current requirements pertaining to (1) telehealth and (2) Centers of Excellence are discussed, while Covered California has not developed reporting or contract requirements related to many of the existing and evolving sites of care or approaches.

Qualified Health Plan Experience

For **hospital quality and safety**, Covered California has the following requirements of contracted health plans:[73]

1. Encouraging hospital participation in quality improvement collaboratives and coaching programs
2. Reducing the avoidable hospital associated infections (HAIs) starting with the metrics included in the CMS Hospital Acquired Condition Reduction Program (HACRP)
    a. Catheter associated urinary tract infection (CAUTI)
    b. Central line associated blood stream infections (CLABSI)
    c. Methicillin-resistant Staphylococcus aureus (MRSA)
    d. Clostridioides difficile (formerly Clostridium difficile bacterial infection) (CDI)
    e. Surgical site infection of the colon (SSI Colon)
3. Reducing low-risk, nulliparous term singleton vertex (NTSV) C-section rates to 23.9 percent or lower (a national Healthy People 2020 goal);[74]
4. Expanding value-based payments for hospital quality and maternity care including:
    a. Tying two percent of hospital payments to value by the end of 2019
    b. Eliminating financial incentives for hospitals or physicians to perform C-Sections; and
5. Excluding a hospital from their network initially by year-end 2020 if the hospital is an outlier poor performer and not working to improve safety and maternity care.

For **expanded approaches to care delivery**, Covered California requires health plans to use technology, including telehealth and remote home monitoring,[75] to assist in higher quality, accessible, patient-centered care.

Hospital Quality and Safety

Encouraging Hospital Participation in Coaching Programs and Collaboratives

Health insurance companies are required to encourage hospitals to participate in the Partnership for Patients coaching program, which is funded by the federal Department of Health and Human Services (HHS) to support designated Hospital Improvement Innovation Networks (HIINs).[76] In California, there are 5 HIINs which engage individual hospitals and systems to participate in trainings to reduce hospital associated infections, adverse drug events, falls, pressure ulcers, and other negative health events that occur in hospital settings.[77] This encouragement can be accomplished through hospital administrator

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[73] Currently, hospital quality and safety performance are tracked at general acute care (GAC) hospitals, because specialized hospitals (such as long-term care) have different performance benchmarks and variables to consider.

[74] First pregnancy (nulliparous), full term, no twins or beyond (singleton), and head down (vertex) or NTSV pregnancies are generally thought of as low risk. See more: https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health

[75] Telehealth services can include remote monitoring when used for disease management in between visits.

[76] See more: https://partnershipforpatients.cms.gov/about-the-partnership/aboutthepartnershipforpatients.html.

[77] In California, the five HIINs are: (1) Health Services Advisory Group, which is managed by the Hospital Quality Institute, (2) Dignity, (3) Vizient (created by the VHA/UHC merger), (4) Children's Hospitals' Solutions for Patient Safety, and (5) Premiere Inc.

engagement, letter campaigns to providers, contracting discussions, and other creative means that communicate the importance and urgency of reducing the incidence of avoidable negative health events in hospitals.

Covered California also requires insurers to engage with their network hospitals to promote awareness of (1) NTSV C-section rates, (2) availability of provider and consumer education, and (3) promote participation in data sharing and coaching offered by the California Maternal Quality Care Collaborative (CMQCC), with the goal of reducing NTSV C-sections to the national Healthy People 2020 target of 23.9 percent of deliveries or lower. The CMQCC is a multi-stakeholder organization that provides real time data sharing, quality improvement toolkits, and coaching collaboratives to improve maternal and neonatal health in several measure areas, including NTSV C-sections. Additionally, Smart Care California built consensus around a menu of payment structures to promote the goal of ending financial incentives for providing NTSV C-Sections: (1) blended case rates; (2) low risk C-section reduction as a metric for payment incentive programs; or (3) population-based payment models.[78]

As shown in *Table 37. Covered California Insurer Participation in Improvement Collaboratives*, the number of insurers that participated in Smart Care California increased from six to 11 between 2016 and 2017 and this trend of full participation continued through 2018. Similarly, the number of insurers that participated in Partnership for Patients increased from two to ten health plans between 2016 and 2018.

Table 37. Covered California Insurer Participation in Improvement Collaboratives[79]

Collaborative	2016	2017	2018
Smart Care California Focuses on outreach to reduce NTSV C-Sections through collaboration with California Maternal Quality Care Collaborative	6	11	11
Partnership for Patients U.S. Department of Health and Human Services program that focuses on reducing infections in hospitals	2	10	10

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Health insurance companies have engaged network hospitals on the importance of reducing hospital associated infections and NTSV C-sections and are spreading awareness of ways that performance can be improved, such as coaching programs through Partnership for Patients funded HIINs and CMQCC. Insurer activities range from sending tailored mail to hospitals, physicians and administrative staff, tracking measures and discussing performance in regular hospital quality meetings or contract renewal meetings, including participation in coaching programs as a metric in hospital incentive programs, hosting webinars, adjusting website content for members and providers, and visiting hospitals to distribute materials.

As summarized below (*Table 38. Covered California Insurer Engagement with Network Hospitals*), Covered California assessment of insurer engagement activities with hospitals on improving quality

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[78] Smart Care California. October 2017. Aligning Birth Payment to Reduce Unnecessary C-Section. http://www.iha.org/sites/default/files/files/page/c-section_menu_of_payment_and_contracting_options.pdf

[79] Covered California did not ask the specific collaborative participation question in 2019 QHP Certification Application (reported in 2018). The year in these tables refers to the year the information was submitted by the insurer to Covered California, so it may refer to activities in the previous year or in the first quarter of that year. For example, a summary for 2017 likely includes activities from 2016 and the first quarter of 2017.

found the number of insurers with *Full Engagement* for hospital safety tripled from three to nine between 2016 and 2017. As of 2018, 10 insurers had *Full Engagement* or were *Engaged* for Hospital Safety. For maternity care, most insurers have consistently had *Full Engagement* from 2016 to 2018, with all plans having *Full Engagement* or *Engaged* as of 2018.

Table 38. Covered California Insurer Engagement with Network Hospitals

	Hospital Safety			Maternity Care		
Assessment	**2016**	**2017**	**2018**	**2016**	**2017**	**2018**
Full Engagement Active engagement with hospitals in quality improvement includes best practices to be potentially shared among health plans.	3	9	8	9	9	8
Engaged Has initiated engagement with hospitals either through internal planning or external action.	5	1	2	1	1	3
Minimal Engagement Has not acted either internally or externally to engage with hospitals.	3	1	1	1	1	-

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Partly as a result of insurers' encouragement and other factors, including growing hospital awareness of Covered California's focus on outlier poor performance, there is now nearly universal participation in improvement collaboratives among California's hospitals. Publicly reported data on hospital participation in quality improvement programs shows a positive trend over the past four years, with 148 hospitals participating in 2014 to 251 hospitals in 2018 (see *Figure A2. California Hospitals Involved in Hospital Quality Institute Hospital Improvement Innovation Networks, 2014-18* in *Appendix 4: Additional Publicly Reported Hospital Quality and Safety Data*). Participation in the five HIIN improvement programs is near universal, with fewer than ten acute care hospitals in California not participating, according to the Hospital Quality Institute.

Collectively Reducing Avoidable Hospital Associated Infections

Covered California has focused on aligned and collaborative efforts to promote hospital safety based on the recognition that improving hospital performance in this area requires a comprehensive and cross-payer approach.

Every day, about one in 25 hospital patients nationally contracts at least one hospital associated infection (HAI).[80] These infections can significantly delay recovery, increase the expense of a hospital stay, and even result in death. Of the approximately two million American patients who acquire a HAI annually, an estimated 90,000 will die.[81] Before implementation of the Partnership for Patients program,

[80] Centers for Disease Control and Prevention. Healthcare-associated Infections. Retrieved from: https://www.cdc.gov/hai/index.html.

[81] Stone, P. W. (2009). Economic burden of healthcare-associated infections: an American perspective. Expert review of pharmacoeconomics and outcomes research, 9(5), 417-422.

it was estimated that HAIs and other avoidable hospital complications were associated with more than 400,000 deaths per year.[82,83]

Not only are HAIs harmful, they are also a burden on the healthcare system. The cost of a single case can range from just under $1,000 to nearly $50,000, with costs borne by insurers, employers, and patients through out-of-pocket expenses.[84] Depending upon the type of infection, the direct cost of HAIs to hospitals ranges from $28 billion to $45 billion.[85]

Measures to track HAIs are readily available through CMS Hospital Compare, California Department of Public Health (CDPH), and Cal Hospital Compare. Covered California determined the five HAIs to focus on through consultation with stakeholders and subject matter experts including CDPH, Cal Hospital Compare, Hospital Quality Institute (a quality improvement center within the California Hospital Association), Centers for Medicare and Medicaid Services (CMS), insurers, and consumer advocates. The criteria for selecting these measures were:

- Clinical importance;
- Robust, publicly available performance data;
- Alignment with other purchasers including CMS;
- Wide variation in performance among California hospitals; and
- Availability of coaching collaboratives with change packages to support improvement for free or minimal cost to hospitals.

Understanding Hospital Performance Variation to Target Quality Improvement Efforts

Covered California assists insurers in understanding hospital performance variation to enable better targeting of hospitals for engagement and quality improvement. Covered California displays hospital performance through graphic distributions where every California hospital's measure score is represented by a dot, and dots are color coded to denote in- or out-of-network status. The goal of these graphs is to bring attention to the variation in hospital performance on each HAI and to help insurers know which hospitals to focus on in their engagement and quality improvement efforts. For example, below *Figure 11. Sample of One Covered California Insurer's Hospital Associated Infection Incidence for Catheter-associated Urinary Tract Infection (CAUTI) — In-Network and Out-of-Network Hospitals, 2018* shows the performance of an insurer's 2018 network for CAUTI standardized infection ratios. The hospitals identified by blue dots on the right-hand side of the chart represent in-network hospitals for this insurer that have infection rates above the risk adjusted expected rate. Covered California's identification and display of hospital infection rates provides additional information for insurers to use in their design of networks and in their engagement with hospitals to encourage participation in quality improvement initiatives.

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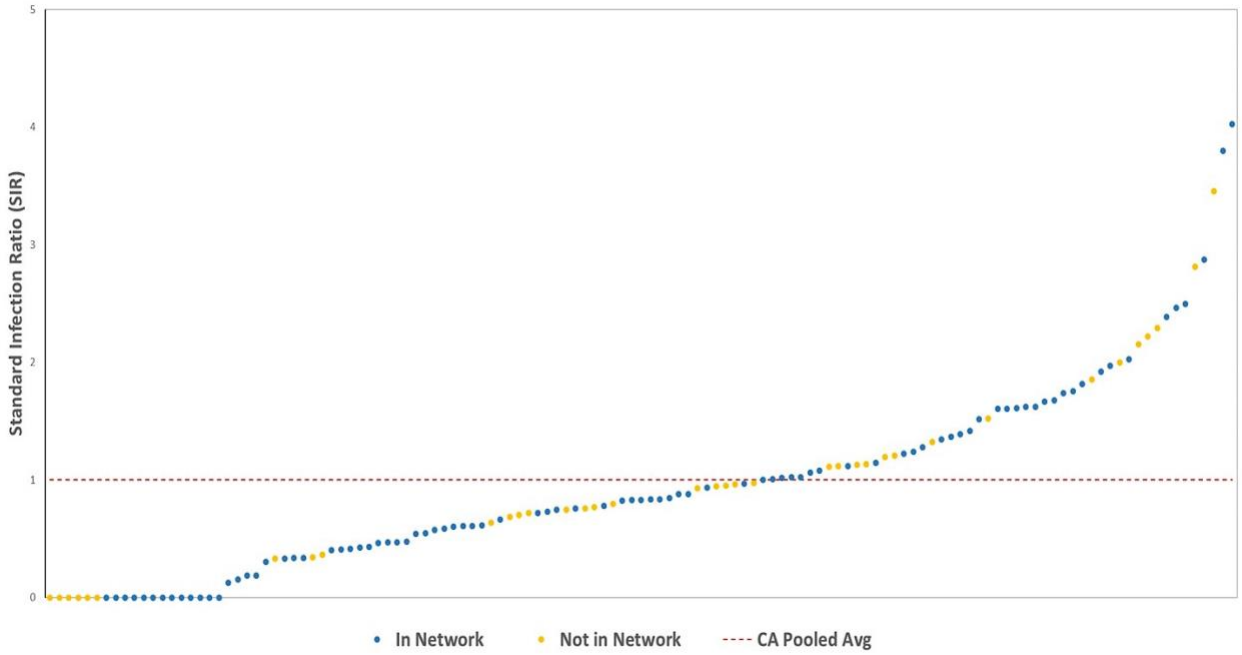
[82] James, J. T. (2013). A new, evidence-based estimate of patient harms associated with hospital care. Journal of patient safety, 9(3), 122-128.

[83] Potentially avoidable errors were grouped into the following categories: 1) errors of commission; 2) errors of omission; 3) errors of communication; 4) errors of context; and 5) diagnostic errors.

[84] Castlight and The Leapfrog Group. (2018). Healthcare-Associated Infections. Retrieved from: https://www.leapfroggroup.org.

[85] Ibid.

Figure 11. Sample of One Covered California Insurer's Hospital Associated Infection Incidence for Catheter-associated Urinary Tract Infection (CAUTI) — In-Network and Out-of-Network Hospitals, 2018



Source: 2018 Data from Cal Hospital Compare and California Department of Public Health (CDPH).

To develop tailored approaches for targeting network hospitals for improvement, insurers can also leverage the 2018 HAI reports from CDPH,[86] which list hospitals with better or worse HAI incidence than the national baseline by county (see *Appendix 4: Additional Publicly Reported Hospital Quality and Safety Data*).

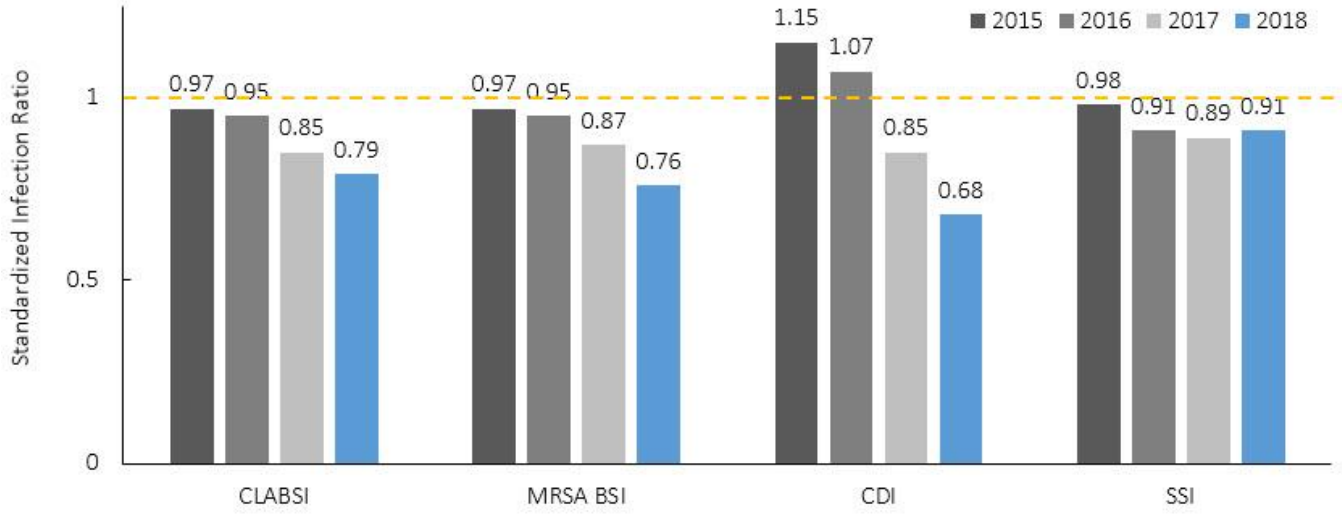
Publicly reported data on HAIs are reported at the hospital level, not the insurer level, through CDPH data on infection rate trends. According to the CDPH, there has been a statistically significant reduction in CLABSI, SSI, MRSA, and C. difficile bacterial infection rates between 2015 and 2018 (see *Figure 12. Hospital Associated Infection Incidence in California Hospitals, 2015-18*).[87]

For these four HAI measures, the above chart shows a steady drop over three years, of which C. Difficile infections were the last to show progress, but as of 2018 has dropped 41 percent since 2015. The rates are expressed as a ratio of observed over a risk adjusted expected rate based on national standards. For all infection rates to be falling and for all rates to be below the national expected ratio of 1.0 reflects concerted effort among many stakeholders in California and represents remarkable progress. CDPH does not include hospital CAUTI information in its analysis.

[86] See more: https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/AnnualHAIReports.aspx.

[87] For additional data, see C. Diff Incidence Rates in California Counties in Appendix 4.

Figure 12. Hospital Acquired Infection Incidence in California Hospitals, 2015-18



Note: Hospital associated infections are reported as a standardized infection ratio (SIR), a risk-adjusted measure managed nationally that compares observed versus expected number of complications per year. The dashed line represents an SIR of 1.0. A score of 1.0 means a hospital has an expected rate while below 1.0 is better and above is worse.

Source: California Department of Public Health. November 2019.

It is challenging to calculate the impact of hospital infections that have been prevented. However, Cal Hospital Compare, with support from IBM Watson, calculated the mortality rates of hospital associated infections and the usual costs of caring for those infections based on evidence from the literature. They have evidence to support this calculation for four of the targeted infections: CLABSI, CAUTI, SSI Colon, and C. Diff. The result, for the twelve months between October 1, 2017 and September 30, 2018, compared to April 1, 2016 to March 31, 2017, shows that 3,392 infections were avoided resulting in 251 Californian lives saved and $62 million dollars saved.

It is important to note that Covered California insurer engagement and payment strategy efforts did not create this improvement alone, but the contract requirements were likely helpful contributors to the success.[88] Covered California has partnered with existing stakeholder groups and organizations, to implement hospital quality and safety requirements that include a standard set of metrics and several common approaches to quality improvement with aligned expectations across 11 health insurance companies. Prior to 2016, health insurance companies did not find most hospitals receptive to discussion of quality performance in contract discussions and insurer medical management and network management teams were traditionally siloed internally. Importantly, under the leadership of the Hospital Quality Institute, the California Hospital Association has taken a lead in increasing the focus on quality. Health insurance companies also reported that the alignment of 11 insurers with consistent message of insurer accountability for variation and a prioritized set of measures has changed the environment and supported measurable improvement.

[88] Of note, these requirements became effective in 2017 but stakeholder discussions on the importance of quality improvement began in summer of 2015. Some plans began engaging hospitals earlier than 2017 and some as early as summer 2015.

Collectively Reducing Unnecessary C-Sections: Reduce Low-Risk NTSV C-Section Rates to 23.9 Percent or Lower

C-sections can be life-saving, but significant numbers of healthy first-time mothers are undergoing this major surgery when it is not medically necessary. Unnecessary C-sections are dangerous for the mother and baby, increasing the risk of complications such as hemorrhage, infection, transfusions, blood clots, respiratory complications, and neonatal intensive care unit (NICU) admission.[89] Roughly 90 percent of women with a prior C-Section currently deliver by C-section for future births, leading to higher risks of additional complications, including placenta previa or accreta and uterine rupture (which can cause hemorrhage, hysterectomy, or death).[90] Compared to vaginal delivery, babies born by repeat C-section have higher rates of respiratory morbidity and NICU admission rates resulting in longer hospital stays and higher medical costs.[91]

Covered California holds health insurance companies responsible to manage variation in provider performance across their contracted networks rather than manage to average performance. To that end, insurers are required to engage with their network hospitals to promote awareness of (1) low risk C-section rates, (2) availability of provider and consumer education, and (3) promote participation in data sharing and coaching offered by the California Maternal Quality Care Collaborative (CMQCC), with the goal of reducing NTSV C-sections to 23.9 percent of deliveries or lower (as set in the national Healthy People 2020 goals).

CMQCC gained national attention for contributing to California's decreasing maternal mortality rates and now works to reduce NTSV C-sections. Hospital participation in the CMQCC data collection and improvement collaborative is now nearly universal partly due to insurer encouragement and inclusion in contracting discussions with hospitals. As of July 2018, nearly 95 percent of California hospital births occur at hospitals participating in data reporting or collaboratives managed by the Maternal Data Center (MDC) within the CMQCC (see *Figure A3: Percentage of California Hospital Births at CMQCC Participating Hospitals* in *Appendix 4: Additional Publicly Reported Hospital Quality and Safety Data*).[92]

Progress to reduce NTSV C-sections has been substantial between 2015 and 2018. In 2015, the variation in C-section rates for NTSV deliveries among maternity hospitals in California was enormous, ranging from 10 to 75.8 percent. *Figure 13. Distribution of NTSV C-section Rates for Hospitals that Reported to the California Maternal Quality Care Collaborative, 2018* shows the range of NTSV C-section rates for hospitals reporting to CMQCC in 2018. The range was 6.2 to 41.1 percent with an aggregated rate of 23.3 percent and a median of 23.2 percent, which are both below the Healthy People 2020 target of 23.9 percent. The absence of the highest outliers signifies substantial change in maternity practice in the state of California.

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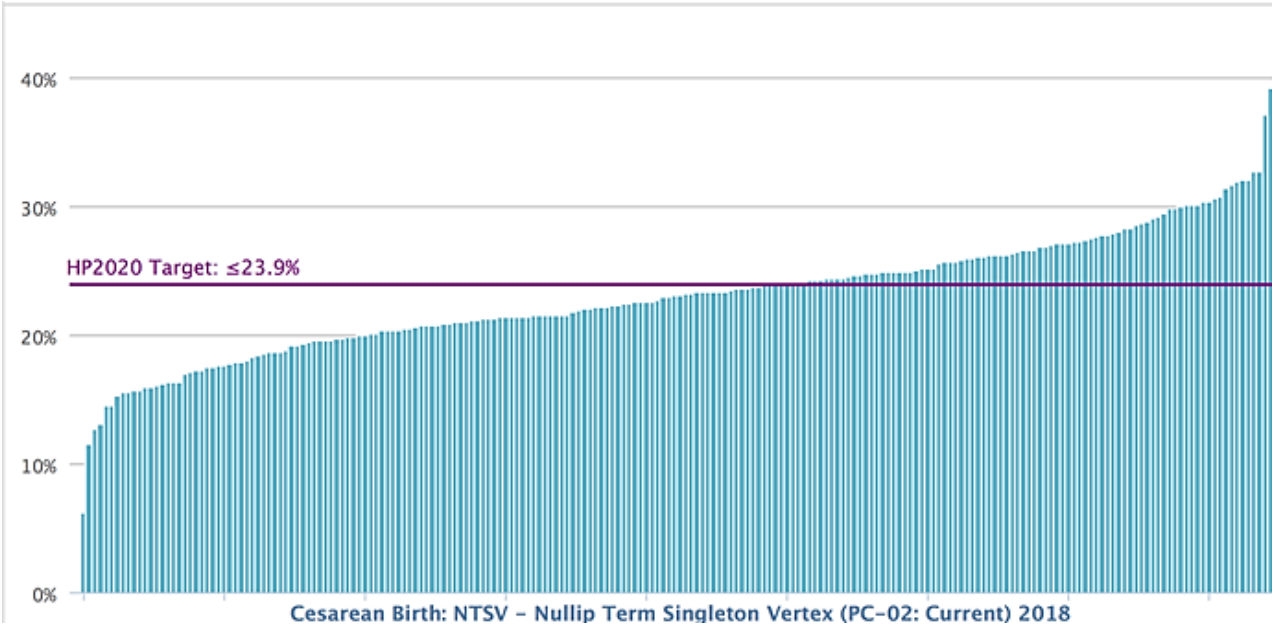
89 J. P. Souza et al., "Caesarean Section Without Medical Indications Is Associated with an Increased Risk of Adverse Short-Term Maternal Outcomes: The 2004-2008 WHO Global Survey on Maternal and Perinatal Health," BMC Medicine 8 (November 10, 2010): 71, doi:10.1186/1741-7015-8-71.

90 Smart Care California. (2017). Aligning Birth Payment to Reduce Unnecessary C-Section: A Menu of Options. Retrieved from http://www.iha.org/sites/default/files/files/page/c-section_menu_of_payment_and_contracting_options.pdf

91 Kamath, B. et al. "Neonatal Outcomes After Elective Cesarean Delivery". Obstetrics and Gynecology. 113(6):1231-1238, JUN 2009.

92 As of July 2018, 221 of 240 maternity hospitals representing nearly 95 percent of California hospital births occur at hospitals participating in data reporting or collaboratives managed by the Maternal Data Center (MDC) within the CMQCC.

Figure 13. Distribution of NTSV C-section Rates for Hospitals that Reported to the California Maternal Quality Care Collaborative, 2018



Note: Each of the blue bars represents each of the hospitals for which there is data available. HP 2020 refers to the Healthy People 2020 target of reducing NTSV C-Sections to 23.9 percent or less of deliveries.

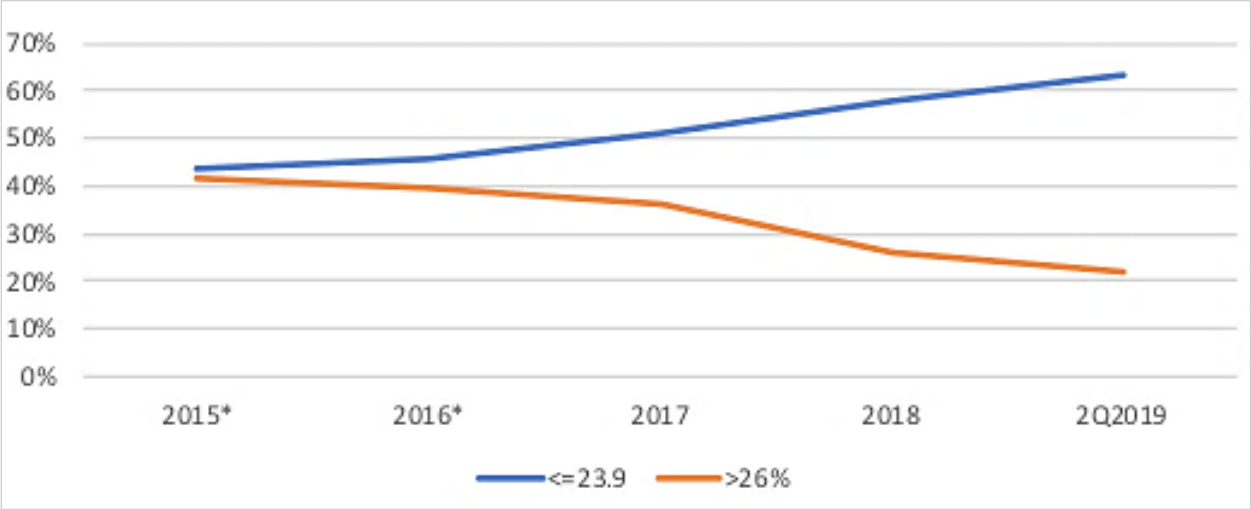
Source: CMQCC Maternal Data Center

After concerted effort by almost every maternity hospital in the state with contractual and other support from the three large state purchasers — Medi-Cal, CalPERS and Covered California — and the Pacific Business Group on Health, representing both public and private purchasers, 56 percent of California maternity hospitals that report to CMQCC (122 of 221) have achieved the national goal of NTSV C-section rates of 23.9 percent or lower.[93] On an aggregate level, CMQCC reported that 7,200 C-sections were avoided statewide from 2015 to 2018.

As of the first half of 2019, the number hospitals that participate in CMQCC and meet the NTSV C-section target was 63 percent (compared to 44 percent in 2015) and there has been a 22 percent decrease in the percent of hospitals with a rate above 26 percent (42 percent in 2015) (see *Figure 14. Hospitals with C-Sections Rates Below 23.9 Percent or Above 26 Percent Reported to the California Maternal Quality Care Collaborative, 2018*).

[93] Smart Care California. (2018). 2018 Hospital C-Section Honor Roll. Retrieved from https://www.iha.org/sites/default/files/2018_hospital_award_winners_final.pdf.

Figure 14. Hospitals with C-Sections Rates Below 23.9 Percent or Above 26 Percent Reported to the California Maternal Quality Care Collaborative, 2018



Source: CMQCC Maternal Data Center, 2019

Expand Value-based Payments for Hospitals and Maternity Care

Just as Covered California promotes changes in how physicians are paid to foster payments that encourage coordination and advanced primary care (see Chapter 7: Promotion of Effective Primary Care), it requires insurers to change payments to improve hospital quality and maternity care. Health plans are required to adopt payment methods that (1) tie at least two percent of hospital payments to value, and (2) eliminate financial incentives for hospital facilities or physicians to perform C-Sections.

Hospital Payments: Health insurance companies are required to adjust payments to hospitals so that at least two percent of overall hospital payments are tied to value for each product by the end of 2019 and increasing over the following years to at least 6 percent by year-end 2023. This can be accomplished by either withholding payment pending documentation of quality performance, bonuses, or a combination of both depending on the circumstances at each hospital. Health insurance companies are required to include the five specific HAI measures and the NTSV C-section measure, but insurers are given flexibility to include appropriate additional metrics based on their judgment and priorities such as patient satisfaction, additional clinical quality measures, safety, or readmissions. However, the entire two percent cannot be attributed to readmissions due to concern that hospitals serving a disproportionate share of disadvantaged populations may be inadvertently harmed.

Maternity Care Payments: Health insurance companies are encouraged to adjust labor and delivery payments to physicians and hospitals so that by year-end 2019 payment does not incentivize performing C-sections. To provide guidance to hospitals and insurers, Smart Care California, a public-private multi-stakeholder workgroup led by California state purchasers, built consensus around the following payment structures: (1) blended case rates; (2) low risk C-section reduction as a metric for

payment incentive programs; or (3) population-based payment models.[94] While Smart Care California emphasizes blended case rates, any of the payment structures would fulfill the requirement for payment to not incentivize performing C-sections.

As described in *Table 40. Covered California Insurer Engagement in Changing Payments to Hospitals, 2016-18*, most insurers have been *Re-contracting* with value-based payments for hospitals. As of 2018, 10 insurers were *Actively Re-contracting* or *Re-contracting.* The percent of network hospitals with value-based payments from the insurer is an indicator for the extent to which the insurer is scaling the program. Data reported for 2018 indicates wide variation in the extent to which an insurer's network hospitals have value-based payments, after excluding insurers with integrated delivery systems (Kaiser Permanente and Sharp Health Plan). Four insurers reported between 20 to 100 percent of hospitals have value-based payment contracts, two insurers reported less than 10 percent of hospitals have value-based payment contracts, and four insurers reported that 0 percent of network hospitals have value-based payment contracts.

For value-based payments for NTSV C-Sections, health plans made significant progress, from six health plans assessed as *Actively Re-contracting* or *Re-contracting* in 2016 to 10 health plans in 2018.

Table 40. Covered California Insurer Engagement in Changing Payments to Hospitals, 2016-18

	Hospital Payments			NTSV C-Sections		
Assessment	**2016**	**2017**	**2018**	**2016**	**2017**	**2018**
Actively Re-contracting Active re-contracting of network to adjust payment.	2	3	4	4	6	7
Re-contracting Describes efforts to start re-contracting payments (e.g. internal planning) and has initiated the process.	7	7	6	2	3	3
Minimal Re-contracting Has not yet started re-contracting toward value-based payment to hospitals.	2	1	1	5	2	1

Source: Covered California Staff Analysis of Qualified Health Plan Data Submitted for 2016-2018.

Covered California has worked with some insurers to amend their contract on this requirement, either because they function as a capitated integrated delivery system that has a payment structure aligned with quality performance or their population is too small to be the basis for leverage in contract negotiations to change the business model. The common elements in amendments involve continuing to track measures, engaging hospitals to improve and continually making efforts to change payment if not already aligned.

In summary, Covered California has worked with the California Hospital Association, Cal Hospital Compare, CMQCC and Smart Care California, all multi-stakeholder forums that include insurers, to adopt a focused list of maternity and safety metrics for hospitals. By working together and aligning 11 insurers on a common set of metrics and payment structure, quality performance is now part of hospital contract discussions in ways it was not in prior years. The state is seeing reductions in NTSV C-sections and avoidable hospital associated infections.

[94] Smart Care California. October 2017. Aligning Birth Payment to Reduce Unnecessary C-Section. Retrieved from: http://www.iha.org/sites/default/files/files/page/c-section_menu_of_payment_and_contracting_options.pdf.

Covered California's requirements link hospital payment reform with hospital improvement efforts. Hospital performance is improving faster than implementation of hospital payment reforms. Sustaining these improvements in hospital quality and safety will be reinforced as payment is gradually more aligned with quality and safety goals.

Expanded Approaches to Care Delivery

Telehealth

Health insurance companies are required to report the extent to which they support and use technology to assist in higher quality, accessible, patient-centered care and the utilization for enrollees on the number of unique patients and number of separate services provided for telehealth. Health insurance companies must describe whether these models are implemented in association with patient-centered medical homes, integrated delivery systems or accountable care organization models of care or are independently implemented.

All Covered California insurers offered a telehealth or web-based service in 2018, but they vary in their capabilities. Most insurers that offered a telehealth service in 2018 used a vendor with two insurers offering telehealth visits only through contracted medical groups and not as a free-standing program (see *Table 41. Covered California Insurer Telehealth Capabilities, 2015, 2017 and 2018*).

The percent of enrollees with a telehealth visit for Covered California insurers ranged from 0 percent to 59 percent in 2018. The high outlier, Kaiser Permanente, an integrated delivery system that uses telehealth as part of their model, reported that 59 percent of enrollees used telehealth or had a web visit in 2018. Oscar Health Plan reported that 17 percent of enrollees used telehealth or a web visit in 2018. Oscar Health Plan consistently and actively promotes the use of telehealth to its enrollees. Most other insurers reported that fewer than 10 percent of enrollees had engaged with care through telehealth.

Table 41. Covered California Insurer Telehealth Capabilities, 2015, 2017 and 2018

	Number of Health Plans		
	2015	2017	2018
Telehealth			
Telehealth with video through vendor	2	6	5
Telehealth through medical groups only	1	1	2
Telehealth with phone	2	2	4
Telehealth for mental health visits only	1	0	0
Web Visit using instant messaging	1	2	1

Note: 10 health plans offered a telehealth service in 2017 while all 11 health plans offered a telehealth service in 2018.

Table 42. Covered California Insurer Telehealth Cost Shares and Promotion to Enrollees, 2017-18

	Number of Health Plans	
	2017	2018
Cost-Share		
No cost-share*	4	4
Same cost as primary care or specialist visit	5	6
A $5 copay with vendor, but other services are the same an in-person visit	1	1
Promotion to Enrollees		
Promoted via email, print, online resources	5	5
Added telehealth visit cost-share next to ED cost-share on member ID card	1	1
Used as Follow up to Lab Visits	0	1
Promoted through Open Enrollment marketing	1	1
Promote on website, member portal, or mobile app	3	3
Promotes through medical groups	2	2
Did not promote telehealth services	3	1

*Note Bronze High Deductible enrollees or those with a Health Savings Account are subject to the deductible.

Source: Covered California Staff Analysis of Qualified Health Plan Submitted Data

Implications for the Future

Improving hospital quality and safety through reducing HAIs and NTSV C-section rates will continue to be areas of focus for Covered California. Additional measures will be incorporated as they are publicly reported. As acute care appropriately moves from the hospital to hospital outpatient centers and to ambulatory surgery centers, Covered California will support efforts to obtain and publicly report on the quality of care delivered in these sites. Covered California is exploring opportunities to measure volume, both in the number of patients served and the number of services delivered, as a proxy for safety at all sites of care. In addition, Covered California recognizes the need to look at additional measures or indications of health care quality or safety, including what other measures or indicators of appropriate care should be used.

The adoption of telehealth services, retail or convenience clinics and Centers of Excellence are examples of using alternative sites of care or expanded approaches to care delivery beyond the traditional hospital and physician office. Others include care at home and expanded use of technology such as eConsult and Project ECHO to facilitate integration and coordination across specialties and adoption of team-based care. Covered California is working with insurers to ensure telehealth or other technology programs are offered in the languages spoken by their enrollees and further promote the availability of translation services. Covered California is assessing how best to evaluate the extent to which these programs foster care that improves quality and patient experience while lowering costs.

Although this report heavily focuses on the hospital and physician office experience, Covered California recognizes that health care is being delivered to consumers outside of these traditional venues. Moving forward, Covered California will be evaluating quality outcomes from sites such as outpatient surgery centers, birthing centers, retail clinics and home care services. More and more consumers are turning to these non-traditional care sites and Covered California has an obligation to ensure that these sites meet its high-quality standards while keeping health care costs affordable.

Chapter 12: Summary and Implications for the Future

This report presents the initial findings of insurer progress towards meeting Covered California's contractual requirements to assure quality care and promote delivery system reform.

The most consistent finding across all domains was the remarkable variation in performance with the consistent high performance for Kaiser Permanente and Sharp Health Plan. This was true not only for measures included in the Quality Rating System, but also for disadvantaged populations when profiled for disparities. Hospitals in these integrated systems show much less variation in safety scores and both insurers have adopted best practices in primary care. Their focus on integrated, coordinated care likely explains their performance and reinforces Covered California's intent to promote ACOs to better organize care in the delivery systems of other insurers. While the integrated plans excelled, it was reassuring that, with few exceptions, most performance was between the 25th and 90th percentile nationwide for other plans across a wide range of measures. There are some measures, especially for behavioral health and preventive care, where several plans perform below the 25th percentile. However, Covered California has no outlier poor performing health plans.

Covered California worked with insurers to collect baseline data on race and ethnicity for all enrollees under 65 across all lines of business. Despite significant challenges with data quality, each insurer is moving ahead to address health disparities based on actionable differences found across a wide variety of population characteristics. This program is a priority to enhance and expand.

All Covered California enrollees now have a primary care physician and a growing number are cared for within Integrated Delivery Systems or ACOs. Significant work remains to support the implementation of advanced primary care models and to establish best practices for ACOs as they attempt to replicate the success of integrated systems.

Covered California holds health insurance companies accountable to manage variation in performance in addition to reporting overall average measurement through the Quality Rating System. Hospital performance was an initial focus using publicly reported data and supported by collaborative programs improving safety and maternity care. There has been important progress made demonstrating the value of alignment across multiple purchasers and payers as well as significant leadership from providers. Hospital care in California is safer as a result.

Covered California has established a framework and approach to systematic improvement that has started to show important results: slower cost growth, modest improvement in quality measures, adoption of more effective primary care models, progress toward implementation of integrated delivery systems and ACOs and, through collaboration with others, substantial gains in patient safety. Moreover, by requiring all insurers to stratify performance measures by race and ethnicity, Covered California has set the stage for achieving progress in reducing disparities.

Much remains to be done, especially in the arena of consistent and effective measurement that supports quality improvement strategies for better health outcomes. Covered California acknowledges that efforts to meet the long-term goals of consistent measurement would potentially increase administrative burden initially for providers and hospitals but if done effectively and carefully, would establish consistent data measurement across insurers and purchasers that targets improvement opportunities for the delivery system in quality, cost, effectiveness and equity. In the end, this would be expected to reduce administrative burden and complexity. Covered California is committed to working collaboratively and transparently to ensure that we contribute to a state where "Health Care for All" means that all Californians receive the best possible care.

APPENDICES

Appendix 1: Limitations and Major Caveats about Health Disparities Data

The data collected for the health disparities measures described in Chapter 2 is unique because it includes data for enrollees under age 65 across all lines of business for 11 insurers. Covered California cautions that it has several limitations and major caveats:

- **These are baseline results not reported for accountability:** Insurers have been required to collect ethnic and racial identity by law in California since 2003. The results were used only to determine which language translation services were needed. This is the first time ethnic and racial identity information has been used to stratify clinical outcomes data for the purpose of defining and addressing disparities. It has taken three years to establish a baseline for which strategies are being developed to reduce disparities.
- **Varying populations by insurer:** Health insurance companies collected data for their entire populations under 65 regardless of line of business. Because each insurer has different proportions of commercial and Medi-Cal populations, the results cannot be compared between insurers.
- **No formal audit process:** While insurers were encouraged to follow the measures specifications for HEDIS and PQI, the data reported by insurers has not been verified through a third-party audit as it would be for reporting to the National Committee for Quality Assurance's Quality Compass. Third-party auditors examine information practices and control procedure, sampling methods and procedures, data integrity, compliance with HEDIS specifications, analytic file production, and reporting and documentation.
- **Variation in data quality and collection:** Data quality varies by insurer, with some missing key data elements such as identification of certain groups (e.g., Native Hawaiian) and ability to identify claims using the measure specifications for admissions. Most insurers aggregated their 400-person HEDIS samples across all lines of business and a few had access to robust clinical data from electronic health records. HEDIS samples are drawn to represent the entire population but may not represent the ethnic and racial diversity of the plan's population.
- **Small denominators:** Because the health disparities measures are based on a subset of individuals with a diagnosed chronic condition and reported by six race/ethnicity categories, this results in small denominators among some groups for certain measures and make it difficult to identify actual differences in care and outcomes. Some admissions measures and American Indian/Alaskan Native populations are especially impacted by small denominators. As a result, no insurer proposed an admission measure as a focus of disparity reduction efforts. However, admissions are important enough that further work is needed to determine if interventions might be appropriate despite the small numbers.
- **Interpretation of data and identifying health Care disparities:** Health insurance companies report the numerators, denominators, and rates by race/ethnicity for each measure, and early discussions between Covered California and insurers have centered on observed rate differences in admissions, disease control, and medication management between race/ethnicity groups. An observed rate difference may require further analysis to consider confounding factors and statistical significance.

Appendix 2: Additional Health Plan Measures Reported to Quality Rating System

The following tables display the Covered California weighted average, highest and lowest performing plans, plan-specific performance, as well as national percentiles for all Marketplace plans for the remaining measures in the Marketplace Quality Rating System (QRS) measure set. A priority set of 13 measures were presented in the subject chapters of this report.

How to Interpret Quality Performance Data

Within the QRS measure set, HEDIS measures rely on claims or encounter data while CAHPS measures are collected as part of the Qualified Health Plan Enrollee Survey. Since insurers can offer multiple products that vary by network type (HMO, PPO, or EPO), the data below shows 16 total plans.

The data is listed by year the health plans reported the QRS measure set data such that the 2019 reporting year data represents health plan performance during the 2018 calendar year or measurement year and so on.

Only data for products meeting CMS participation criteria for QRS score eligibility are displayed in the tables. Blank cells indicate the following: (1) CMS participation criteria were not met for scoring because the health plan did not offer a product for two consecutive years through Covered California; (2) CMS participation criteria were met but denominator size for a given measure was below the minimum threshold for scoring; or (3) the health plan chose not to report the measure (Not Reported/NR).

The percentile values provide benchmark information for measure rates, allowing a health plan to compare its results to all other health plans and products nationally. CMS reports benchmark values that include the standardized 25th, 50th, 75th, and 90th percentile values for the numerical rates across all health plans and products. To create these benchmark values, CMS uses only measure rates that have met the minimum denominator size criteria for scoring.[95]

[95] Centers for Medicaid and Medicare Services. (2018). Quality Rating System and Qualified Health Plan Enrollee Experience Survey: Technical Guidance for 2019. Retrieved from https://www.cms.gov.

Additional Measures Related to Health Promotion and Prevention

In Chapter 3: Health Promotion and Prevention, three QRS measures are presented as potential "Priority Measures." These measures and the eight additional QRS measures pertaining to Health Promotion and Prevention are:

Potential Priority Measures

1. Breast Cancer Screening (Table 13)
2. Cervical Cancer Screening (Table 14)
3. Colorectal Cancer Screening (Table 15)

Additional Measures

4. Chlamydia Screening in Women (Table A1)
5. Adult BMI Assessment (Table A2)
6. Childhood Immunizations (Combination 3) (Table A3)
7. Immunizations for Adolescents (Combination 2) (Table A4)
8. Flu Vaccinations for Adults (Table A5)
9. Medical Assistance with Smoking and Tobacco Use Cessation (Table A6)
10. Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents (Table A7)
11. Annual Dental Visit (Table A8)

Chlamydia Screening in Women

The Chlamydia Screening measure is the percentage of women 16–24 years of age who were identified as sexually active and who had at least one test for chlamydia during the measurement year.

Table A1. Chlamydia Screening in Women for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	61 +	64 +	65 +	67 +	36%	477,683	1
Plans at 50th to 90th Percentile	44 to 61	45 to 64	48 to 65	47 to 67	46%	622,371	8
Plans at 25th to 50th Percentile	37 to 44	38 to 45	39 to 48	40 to 47	18%	245,176	3
Plans Below 25th Percentile	Below 37	Below 38	Below 39	Below 40	0%	-	0
Covered California High/Average/Low Performers							
Covered CA Highest Performer	69	73	75	73			
Covered CA Weighted Average	52	59	60	58			
Covered CA Lowest Performer	45	44	46	44			
Covered California Plan-Specific Performance							
Anthem HMO	52	52					
Anthem PPO	45	47					
Anthem EPO			48	44	5%	64,031	
Blue Shield HMO		53	51	49	7%	93,322	
Blue Shield PPO	45	48	50	49	25%	335,176	
CCHP HMO	55	55	58	59	1%	10,013	
Health Net HMO	47	50	51	47	11%	145,183	
Health Net EPO		44	58				
Health Net PPO							
Kaiser Permanente HMO	69	73	75	73	36%	477,683	
LA Care HMO	47	57	59	59	6%	84,750	
Molina Healthcare HMO	55	64	59	52	4%	56,023	
Oscar Health Plan EPO			55	46	3%	35,962	
Sharp Health Plan HMO	58	62	58	60	1%	17,335	
Valley Health Plan HMO			65	55	1%	16,366	
Western Health Advantage HMO	57	54	46	56	1%	9,386	

Adult Body Mass Index Assessment

The Adult BMI measure is the percentage of members 18–74 years of age who had an outpatient visit and whose body mass index (BMI) was documented during the measurement year or the year prior to the measurement year.

Table A2. Adult Body Mass Index Assessment for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	MN-S	95 +	94 +	96 +	35%	477,683	1
Plans at 50th to 90th Percentile	MN-S	84 to 95	85 to 94	86 to 96	24%	329,670	6
Plans at 25th to 50th Percentile	MN-S	73 to 84	75 to 85	79 to 86	12%	157,353	2
Plans Below 25th Percentile	MN-S	Below 73	Below 75	Below 79	28%	381,920	4
Covered California High/Average/Low Performers							
Covered CA Highest Performer	97	96	97	97			
Covered CA Weighted Average	79	83	82	85			
Covered CA Lowest Performer	37	37	35	67			
Covered California Plan-Specific Performance							
Anthem HMO	82	86					
Anthem PPO	76	81					
Anthem EPO			81	83	5%	64,031	
Blue Shield HMO	37	37	35	79	7%	93,322	
Blue Shield PPO	67	71	68	67	25%	335,176	
CCHP HMO	92	71	88	94	1%	10,013	
Health Net HMO	75	80	85	89	11%	145,183	
Health Net EPO		71	71	75	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO	97	96	97	97	35%	477,683	
LA Care HMO	79	82	93	95	6%	84,750	
Molina Healthcare HMO	77	84	81	86	4%	56,023	
Oscar Health Plan EPO			70	70	3%	35,962	
Sharp Health Plan HMO	92	94	96	95	1%	17,335	
Valley Health Plan HMO	90	95	95	91	1%	16,366	
Western Health Advantage HMO	81	83	88	74	1%	9,386	

*M-NS: This measure was not used in determining the overall QRS rating in 2016.

Childhood Immunizations Status (Combination 3)

The Childhood Immunization Status measure is the percentage of children 2 years of age who had four diphtheria, tetanus and acellular pertussis (DTaP); three polio (IPV); one measles, mumps and rubella (MMR); three haemophilus influenza type B (HiB); three hepatitis B (HepB), one chicken pox (VZV); and four pneumococcal conjugate (PCV) vaccines by their second birthday. The measure calculates a rate for each vaccine and one combination rate.

Table A3. Childhood Immunization Status (Combination 3) for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	MN-S	85 +	86 +	86 +	0%	-	0
Plans at 50th to 90th Percentile	MN-S	76 to 85	75 to 86	77 to 86	46%	562,433	2
Plans at 25th to 50th Percentile	MN-S	69 to 76	65 to 75	65 to 77	1%	17,335	1
Plans Below 25th Percentile	MN-S	Below 69	Below 65	Below 65	52%	637,712	4
Covered California High/Average/Low Performers							
Covered CA Highest Performer	83	90	87	84			
Covered CA Weighted Average	70	74	73	72			
Covered CA Lowest Performer	62	60	56	50			
Covered California Plan-Specific Performance							
Anthem HMO							
Anthem PPO	62	66					
Anthem EPO			64	50	5%	64,031	
Blue Shield HMO				64	8%	93,322	
Blue Shield PPO	63	60	56	63	28%	335,176	
CCHP HMO							
Health Net HMO	78	80	73	58	12%	145,183	
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO	83	85	87	84	39%	477,683	
LA Care HMO				82	7%	84,750	
Molina Healthcare HMO							
Oscar Health Plan EPO							
Sharp Health Plan HMO	67	90	80	69	1%	17,335	
Valley Health Plan HMO							
Western Health Advantage HMO							

*M-NS: This measure was not used in determining the overall QRS rating in 2016.

Immunizations for Adolescents (Combination 2)

The Immunizations for Adolescents (Combination 2) measure is the percentage of adolescents 13 years old who had one dose of meningococcal vaccine, one tetanus, diphtheria toxoids and acellular pertussis (Tdap) vaccine, and have completed the human papillomavirus (HPV) vaccine series by their 13th birthday. The measure calculates a rate for each vaccine and two combination rates.

Table A4. Immunizations for Adolescents (Combination 2) for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	MN-S	MN-S	31 +	36 +	44%	562,433	2
Plans at 50th to 90th Percentile	MN-S	MN-S	19 to 31	23 to 36	24%	311,863	4
Plans at 25th to 50th Percentile	MN-S	MN-S	15 to 19	17 to 23	27%	344,562	2
Plans Below 25th Percentile	MN-S	MN-S	Below 15	Below 17	5%	64,031	1
Covered California High/Average/Low Performers							
Covered CA Highest Performer	83	33	51	54			
Covered CA Weighted Average	63	22	34	35			
Covered CA Lowest Performer	54	11	16	16			
Covered California Plan-Specific Performance							
Anthem HMO							
Anthem PPO	54	11					
Anthem EPO			16	16	5%	64,031	
Blue Shield HMO				24	7%	93,322	
Blue Shield PPO	57	14	22	23	26%	335,176	
CCHP HMO							
Health Net HMO	58	20	24	24	11%	145,183	
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO	83	33	51	54	37%	477,683	
LA Care HMO				39	7%	84,750	
Molina Healthcare HMO			29	26	4%	56,023	
Oscar Health Plan EPO							
Sharp Health Plan HMO		23	19	23	1%	17,335	
Valley Health Plan HMO							
Western Health Advantage HMO			18	22	1%	9,386	

Note: National percentiles not scored for Reporting Years 2016 and 2017. Between Reporting Years 2016 and 2019, this measure was renamed to “Immunizations for Adolescents (Combination 2)” and expanded to include the HPV vaccine alongside the Tdap and meningococcal vaccines.

*M-NS: This measure was not used in determining the overall QRS rating in 2016 or 2017.

Flu Vaccinations for Adults

The Flu Vaccination for Adults measure is the percentage of members 18-64 years of age who received a flu vaccination between July 1 of the measurement year and the date when the QHP Enrollee Survey was completed. This is the only immunization measure that includes adults, who make up the majority of Covered California plan enrollment.

Table A5. Flu Vaccinations for Covered California Enrollees Ages 18-64 (CAHPS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	50 +	50 +	54 +	58 +	0%	-	0
Plans at 50th to 90th Percentile	40 to 50	40 to 50	43 to 54	47 to 58	62%	829,225	3
Plans at 25th to 50th Percentile	35 to 40	37 to 40	38 to 43	43 to 47	18%	238,505	2
Plans Below 25th Percentile	Below 35	Below 37	Below 38	Below 43	21%	277,500	7
Covered California High/Average/Low Performers							
Covered CA Highest Performer	57	48	51	56			
Covered CA Weighted Average	36	40	45	48			
Covered CA Lowest Performer	25	30	30	29			
Covered California Plan-Specific Performance							
Anthem HMO	25	36					
Anthem PPO	32	30					
Anthem EPO			30	41	5%	64,031	
Blue Shield HMO	27	32		45	7%	93,322	
Blue Shield PPO	34	39	48	47	25%	335,176	
CCHP HMO	32	34	37	39	1%	10,013	
Health Net HMO	31	36	36	46	11%	145,183	
Health Net EPO		44	44				
Health Net PPO							
Kaiser Permanente HMO	48	47	51	56	36%	477,683	
LA Care HMO	30	33	38	40	6%	84,750	
Molina Healthcare HMO	29	35	30	29	4%	56,023	
Oscar Health Plan EPO			35	32	3%	35,962	
Sharp Health Plan HMO	45	36	35	42	1%	17,335	
Valley Health Plan HMO	57	48	42	47	1%	16,366	
Western Health Advantage HMO	41	31	42	41	1%	9,386	

Medical Assistance with Smoking and Tobacco Use Cessation

The Medical Assistance with Smoking and Tobacco Use Cessation measure is comprised of the following components:

1. Advising Smokers and Tobacco Users to Quit: A rolling average represents the percentage of members 18 years of age and older who were current smokers or tobacco users and who received advice to quit during the measurement year.
2. Discussing Cessation Medications: A rolling average represents the percentage of members 18 years of age and older who were current smokers or tobacco users and who discussed or were recommended cessation medications during the measurement year.
3. Discussing Cessation Strategies: A rolling average represents the percentage of members 18 years of age and older who were current smokers or tobacco users and who discussed or were provided cessation methods or strategies during the measurement year.

Table A6. Medical Assistance with Smoking and Tobacco Use Cessation for Covered California Enrollees (CAHPS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	MN-S	59 +	60 +	63 +		-	0
Plans at 50th to 90th Percentile	MN-S	50 to 59	50 to 60	54 to 63		-	0
Plans at 25th to 50th Percentile	MN-S	45 to 50	45 to 50	48 to 54		-	0
Plans Below 25th Percentile	MN-S	Below 45	Below 45	Below 48		-	0
Covered California High/Average/Low Performers							
Covered CA Highest Performer			55				
Covered CA Weighted Average			39				
Covered CA Lowest Performer			37				
Covered California Plan-Specific Performance							
Anthem HMO							
Anthem PPO							
Anthem EPO							
Blue Shield HMO							
Blue Shield PPO							
CCHP HMO			51				
Health Net HMO			37				
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO							
LA Care HMO							
Molina Healthcare HMO							
Oscar Health Plan EPO							
Sharp Health Plan HMO							
Valley Health Plan HMO							
Western Health Advantage HMO			55				

*QRS did not collect this measure in 2016.

**M-NS: This measure was not used in determining the overall QRS rating in 2016.

Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents

The Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents measure is the percentage of members 3-17 years of age who had an outpatient visit with a PCP or OB/GYN and who had evidence of the following during the measurement year:

- BMI percentile documentation. Because BMI norms for youth vary with age and gender, this measure evaluates whether BMI percentile is assessed rather than an absolute BMI value;
- Counseling for nutrition; and
- Counseling for physical activity.

Table A7. Weight Assessment and Counseling for Nutrition and Physical Activity for Covered California Children and Adolescents Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	82 +	83 +	84 +	87 +	35%	477,683	1
Plans at 50th to 90th Percentile	56 to 82	63 to 83	66 to 84	69 to 87	10%	128,464	4
Plans at 25th to 50th Percentile	46 to 56	51 to 63	53 to 66	59 to 69	25%	331,886	5
Plans Below 25th Percentile	Below 46	Below 51	Below 53	Below 59	30%	408,593	3
Covered California High/Average/Low Performers							
Covered CA Highest Performer	95	94	95	94			
Covered CA Weighted Average	61	68	68	73			
Covered CA Lowest Performer	4	4	7	33			
Covered California Plan-Specific Performance							
Anthem HMO	52	68					
Anthem PPO	52	56					
Anthem EPO			64	56	5%	64,031	
Blue Shield HMO	4	4	7	60	7%	93,322	
Blue Shield PPO	48	50	53	58	25%	335,176	
CCHP HMO	68	21	81	71	1%	10,013	
Health Net HMO	54	58	62	61	11%	145,183	
Health Net EPO		65	66	63	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO	95	94	95	94	35%	477,683	
LA Care HMO	48	54	74	80	6%	84,750	
Molina Healthcare HMO	52	68	52	69	4%	56,023	
Oscar Health Plan EPO			10	60	3%	35,962	
Sharp Health Plan HMO	65	74	77	80	1%	17,335	
Valley Health Plan HMO		77	84	78	1%	16,366	
Western Health Advantage HMO	73	67	74	33	1%	9,386	

Annual Dental Visit

The Annual Dental Visit measure is the percentage of members 2–20 years of age who had at least one dental visit during the measurement year.

Table A8. Annual Dental Visit for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	55 +	57 +	55 +	55 +	0%	-	0
Plans at 50th to 90th Percentile	27 to 55	27 to 57	32 to 55	31 to 55	0%	1,396	1
Plans at 25th to 50th Percentile	9 to 27	8 to 27	13 to 32	16 to 31	94%	758,424	6
Plans Below 25th Percentile	Below 9	Below 8	Below 13	Below 16	5%	43,087	3
Covered California High/Average/Low Performers							
Covered CA Highest Performer	24	38	41	43			
Covered CA Weighted Average	17	14	20	22			
Covered CA Lowest Performer	2	7	2	3			
Covered California Plan-Specific Performance							
Anthem HMO	13	18					
Anthem PPO	24	32					
Anthem EPO			35	28	8%	64,031	
Blue Shield HMO		7	13	18	12%	93,322	
Blue Shield PPO		12	21	25	42%	335,176	
CCHP HMO							
Health Net HMO	10	12	17	20	18%	145,183	
Health Net EPO		38	41	43	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO							
LA Care HMO		13	18	18	11%	84,750	
Molina Healthcare HMO	2						
Oscar Health Plan EPO			28	21	4%	35,962	
Sharp Health Plan HMO	9	11	9	12	2%	17,335	
Valley Health Plan HMO		22	20	9	2%	16,366	
Western Health Advantage HMO	3	7	2	3	1%	9,386	

Additional Measures Related to Mental Health and Substance Use Disorder Treatment

In Chapter 4: Mental Health and Substance Use Disorder, three QRS measures are presented as potential "Priority Measures." These measures and one additional QRS measure pertaining to Mental Health and Substance Use Disorder are:

Potential Priority Measures

1. Antidepressant Medication Management (Table 16)
2. Follow Up After Hospitalization for Mental Illness (Table 17)
3. Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment (Table 18)

Additional Measures

4. Follow Up Care for Children Prescribed ADHD Medication (ADD) measure (Table A9)

Covered California is evaluating available behavioral health measures for children as part of its work in finding the right measures for subpopulations.

Follow Up Care for Children Prescribed ADHD Medication (HEDIS)

The Follow Up Care for Children Prescribed ADHD Medication (ADD) measure is the percentage of children newly prescribed attention-deficit/hyperactivity disorder (ADHD) medication who had at least three follow-up care visits within a 10-month period, one of which was within 30 days of when the first ADHD medication was dispensed. Two rates are reported:

1. **Initiation Phase:** The percentage of members 6–12 years of age as of the Index Prescription Start Data (IPSD) with an ambulatory prescription dispensed for ADHD medication, who had one follow-up visit with practitioner with prescribing authority during the 30-day Initiation Phase.
2. **Continuation and Maintenance (CandM) Phase:** The percentage of members 6–12 years of age as of the IPSD with an ambulatory prescription dispensed for ADHD medication, who remained on the medication for at least 210 days and who, in addition to the visit in the Initiation Phase, had at least two follow-up visits with a practitioner within 270 days (9 months) after the Initiation Phase ended.

Table A9. Follow Up Care for Covered California Children Enrollees Prescribed ADHD Medication (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	MN-S	53 +	63 +	51 +	59%	477,683	1
Plans at 50th to 90th Percentile	MN-S	36 to 53	41 to 63	45 to 51	41%	335,176	1
Plans at 25th to 50th Percentile	MN-S	29 to 36	35 to 41	39 to 45	0%	-	0
Plans Below 25th Percentile	MN-S	Below 29	Below 35	Below 39	0%	-	0
Covered California High/Average/Low Performers							
Covered CA Highest Performer		60	63	57			
Covered CA Weighted Average		47	60	53			
Covered CA Lowest Performer		32	58	46			
Covered California Plan-Specific Performance							
Anthem HMO							
Anthem PPO		51					
Anthem EPO							
Blue Shield HMO							
Blue Shield PPO		32	63	46	41%	335,176	
CCHP HMO							
Health Net HMO							
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO		60	58	57	59%	477,683	
LA Care HMO							
Molina Healthcare HMO							
Oscar Health Plan EPO							
Sharp Health Plan HMO							
Valley Health Plan HMO							
Western Health Advantage HMO							

*M-NS: This measure was not used in determining the overall QRS rating in 2016.

Additional Measures Related to Acute, Chronic and Other Conditions

In Chapter 5: Acute, Chronic and Other Conditions, five QRS measures are presented as potential "Priority Measures." These measures and the 11 additional QRS measures pertaining to Acute, Chronic and Other Conditions are:

Potential Priority Measures

1. Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%) (Table 19)
2. Controlling High Blood Pressure (Table 20)
3. Plan All-Cause Readmissions (Table 21)
4. Access to Care (Table 22)
5. Care Coordination (Table 23)

Additional Measures

6. Proportion of Days Covered (RAS Antagonists) (Table A10)
7. Proportion of Days Covered (Statins) (Table A11)
8. Proportion of Day Covered (Diabetes All Class) (Table A12)
9. Comprehensive Diabetes Care: Eye Exam (Retinal) Performed (Table A13)
10. Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Testing (Table A14)
11. Comprehensive Diabetes Care: Medical Attention for Nephropathy (Table A15)
12. Medication Management for People with Asthma (75% of Treatment Period) (Table A16)
13. Prenatal and Postpartum Care (Postpartum Care) (Table A17)
14. Prenatal and Postpartum Care (Timeliness of Prenatal Care) (Table A18)
15. Well-Child Visits in the First 15 Months of Life (6 or More Visits) (Table A19)
16. Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life (Table A20)

The following proportion of days covered measures track the percentage of patients adhering to their medications for their condition. Once started, adherence to medications long term is important for chronic disease management and to prevent complications. Ideally, adherence or percent of days covered should approach 100 percent, but the measure is met if it was above the 80 percent threshold. Barriers to adherence to medications may include limited knowledge or awareness of long-term treatment goals, adverse side effects, financial barriers, or forgetfulness.

Proportion of Days Covered (RAS Antagonists) (Pharmacy Quality Alliance)

Diabetes is the most common cause of renal failure. Renin Angiotensin System (RAS) Antagonists protect patients against diabetic kidney disease. This drug also treats high blood pressure which is a common co-morbidity for diabetic patients. Patients typically receive a screening test to determine whether or not they need to be prescribed these medications if not already using them for hypertension.

The Pharmacy Quality Alliance (PQA) Proportion of Days Covered RAS Antagonists measure is the percentage of patients 18 years and older who met the proportion of days covered threshold of 80 percent for RAS Antagonists during the measurement period. A higher rate indicates better performance.

Table A10. Proportion of Days Covered (RAS Antagonists) for Covered California Enrollees (PQA)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	82 +	83 +	83 +	85 +	1%	16,366	1
Plans at 50th to 90th Percentile	73 to 82	75 to 83	76 to 83	78 to 85	38%	505,031	3
Plans at 25th to 50th Percentile	67 to 73	70 to 75	72 to 76	73 to 78	3%	46,744	3
Plans Below 25th Percentile	Below 67	Below 70	Below 72	Below 73	58%	778,485	6
Covered California High/Average/Low Performers							
Covered CA Highest Performer	81	84	88	87			
Covered CA Weighted Average	67	71	75	74			
Covered CA Lowest Performer	59	59	66	63			
Covered California Plan-Specific Performance							
Anthem HMO	59	62					
Anthem PPO	59	61					
Anthem EPO			67	63	5%	64,031	
Blue Shield HMO	66	76	71	68	7%	93,322	
Blue Shield PPO	65	66	70	70	25%	335,176	
CCHP HMO	79	75	72	79	1%	10,013	
Health Net HMO	59	69	66	72	11%	145,183	
Health Net EPO		65	72	75	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO	81	82	81	81	35%	477,683	
LA Care HMO	68	79	76	73	6%	84,750	
Molina Healthcare HMO	62	59	82	65	4%	56,023	
Oscar Health Plan EPO			79	76	3%	35,962	
Sharp Health Plan HMO	78	79	88	82	1%	17,335	
Valley Health Plan HMO	72	84	79	87	1%	16,366	
Western Health Advantage HMO	68	68	66	74	1%	9,386	

Proportion of Days Covered (Statins)

The PQA Proportion of Days Covered Statins (PDC-STA) measure is the percentage of patients 18 years and older who met the proportion of days covered threshold of 80 percent for statins during the measurement period. Statins are a class of drugs that lower blood cholesterol to prevent cardiovascular disease in patients with diabetes. Almost every diabetic can be on a statin. A higher rate indicates better performance.

Table A11. Proportion of Days Covered (Statins) for Covered California Enrollees (PQA)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	77 +	78 +	80 +	82 +	0%	-	0
Plans at 50th to 90th Percentile	67 to 77	69 to 78	71 to 80	72 to 82	41%	557,359	5
Plans at 25th to 50th Percentile	63 to 67	64 to 69	66 to 71	68 to 72	1%	9,386	1
Plans Below 25th Percentile	Below 63	Below 64	Below 66	Below 68	58%	779,881	7
Covered California High/Average/Low Performers							
Covered CA Highest Performer	76	75	85	81			
Covered CA Weighted Average	59	63	68	68			
Covered CA Lowest Performer	48	47	57	51			
Covered California Plan-Specific Performance							
Anthem HMO	49	52					
Anthem PPO	53	55					
Anthem EPO			64	57	5%	64,031	
Blue Shield HMO	48	62	62	60	7%	93,322	
Blue Shield PPO	57	58	63	64	25%	335,176	
CCHP HMO	69	63	61	74	1%	10,013	
Health Net HMO	52	60	57	63	11%	145,183	
Health Net EPO		63	66	66	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO	73	75	75	76	35%	477,683	
LA Care HMO	60	68	67	63	6%	84,750	
Molina Healthcare HMO	52	47	74	51	4%	56,023	
Oscar Health Plan EPO			72	73	3%	35,962	
Sharp Health Plan HMO	76	75	85	79	1%	17,335	
Valley Health Plan HMO	70	75	71	81	1%	16,366	
Western Health Advantage HMO	60	62	61	69	1%	9,386	

Proportion of Days Covered (Diabetes All Class)

The PQA Proportion of Days Covered Diabetes All Class (PDC-DR) measure is the percentage of patients 18 years and older who met the proportion of days covered threshold of 80 percent for diabetes medications during the measurement period. These medications control blood sugar. Nearly every diabetic patient will be prescribed a medication in this group. A higher rate indicates better performance.

Table A12. Proportion of Days Covered (Diabetes All Class) for Covered California Enrollees (PQA)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	79 +	79 +	80 +	82 +	2%	26,379	2
Plans at 50th to 90th Percentile	68 to 79	69 to 79	71 to 80	72 to 82	37%	495,018	2
Plans at 25th to 50th Percentile	61 to 68	64 to 69	66 to 71	68 to 72	20%	275,281	4
Plans Below 25th Percentile	Below 61	Below 64	Below 66	Below 68	41%	549,948	5
Covered California High/Average/Low Performers							
Covered CA Highest Performer	77	80	87	86			
Covered CA Weighted Average	63	68	72	71			
Covered CA Lowest Performer	55	50	61	57			
Covered California Plan-Specific Performance							
Anthem HMO	55	60					
Anthem PPO	56	57					
Anthem EPO			63	58	5%	64,031	
Blue Shield HMO	60	59	65	65	7%	93,322	
Blue Shield PPO	60	61	66	66	25%	335,176	
CCHP HMO	77	77	69	86	1%	10,013	
Health Net HMO	57	66	67	71	11%	145,183	
Health Net EPO		50	67	66	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO	77	80	79	78	35%	477,683	
LA Care HMO	66	78	75	71	6%	84,750	
Molina Healthcare HMO	64	56	81	57	4%	56,023	
Oscar Health Plan EPO			76	70	3%	35,962	
Sharp Health Plan HMO	73	74	87	80	1%	17,335	
Valley Health Plan HMO	75	76	76	85	1%	16,366	
Western Health Advantage HMO	64	64	61	71	1%	9,386	

Comprehensive Diabetes Care: Eye Exam (Retinal) Performed

The Comprehensive Diabetes Care: Eye Exam (Retinal) Performed measure is the percentage of members 18-75 years of age with diabetes (type 1 and type 2) who had an eye exam (retinal) performed that screened or monitored for diabetic retinal disease.

Table A13. Comprehensive Diabetes Care: Eye Exam (Retinal) Performed for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	64 +	65 +	65 +	66 +	35%	477,683	1
Plans at 50th to 90th Percentile	43 to 64	45 to 65	48 to 65	49 to 66	22%	302,322	4
Plans at 25th to 50th Percentile	35 to 43	37 to 45	38 to 48	41 to 49	35%	465,232	5
Plans Below 25th Percentile	Below 35	Below 37	Below 38	Below 41	8%	101,389	3
Covered California High/Average/Low Performers							
Covered CA Highest Performer	74	74	74	77			
Covered CA Weighted Average	47	50	53	57			
Covered CA Lowest Performer	34	28	33	29			
Covered California Plan-Specific Performance							
Anthem HMO	38	43					
Anthem PPO	34	37					
Anthem EPO			38	36	5%	64,031	
Blue Shield HMO	37	33	33	46	7%	93,322	
Blue Shield PPO	35	28	37	41	25%	335,176	
CCHP HMO	46	38	44	46	1%	10,013	
Health Net HMO	51	51	52	49	11%	145,183	
Health Net EPO		39	52	29	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO	74	74	74	77	35%	477,683	
LA Care HMO	39	43	48	60	6%	84,750	
Molina Healthcare HMO	41	46	50	51	4%	56,023	
Oscar Health Plan EPO			33	30	3%	35,962	
Sharp Health Plan HMO	51	48	50	48	1%	17,335	
Valley Health Plan HMO	71	67	67	60	1%	16,366	
Western Health Advantage HMO	54	47	52	48	1%	9,386	

Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Testing

The Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Testing measure is the percentage of members 18-75 years of age with diabetes (type 1 and type 2) who had a hemoglobin A1c (HbA1c) test.

Table A14. Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Testing for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	96 +	95 +	95 +			-	0
Plans at 50th to 90th Percentile	92 to 96	92 to 95	92 to 95			-	0
Plans at 25th to 50th Percentile	89 to 92	90 to 92	91 to 92			-	0
Plans Below 25th Percentile	Below 89	Below 90	Below 91			-	0
Covered California High/Average/Low Performers							
Covered CA Highest Performer	96	96	96				
Covered CA Weighted Average	90	91	91				
Covered CA Lowest Performer	87	83	85				
Covered California Plan-Specific Performance							
Anthem HMO	88	91					
Anthem PPO	87	86					
Anthem EPO			86			64,031	
Blue Shield HMO	96	83	92			93,322	
Blue Shield PPO	87	87	85			335,176	
CCHP HMO	89	87	91			10,013	
Health Net HMO	91	90	92			145,183	
Health Net EPO		94	91			1,396	
Health Net PPO							
Kaiser Permanente HMO	96	96	96			477,683	
LA Care HMO	87	91	91			84,750	
Molina Healthcare HMO	90	93	91			56,023	
Oscar Health Plan EPO			93			35,962	
Sharp Health Plan HMO	93	94	95			17,335	
Valley Health Plan HMO	93	88	91			16,366	
Western Health Advantage HMO	96	92	93			9,386	

*This measure was not used in determining the overall QRS rating in 2019.

Comprehensive Diabetes Care: Medical Attention for Nephropathy

The Comprehensive Diabetes Care: Medical Attention for Nephropathy measure is the percentage of members 18-75 years of age with diabetes (type 1 and type 2) who had medical attention for nephropathy through a screening or monitoring test or treatment for nephropathy.

Table A15. Comprehensive Diabetes Care: Medical Attention for Nephropathy for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	94 +	94 +	94 +	95 +	8%	102,085	2
Plans at 50th to 90th Percentile	91 to 94	91 to 94	91 to 94	91 to 95	53%	717,584	4
Plans at 25th to 50th Percentile	89 to 91	88 to 91	89 to 91	89 to 91	14%	182,395	5
Plans Below 25th Percentile	Below 89	Below 88	Below 89	Below 89	26%	344,562	2
Covered California High/Average/Low Performers							
Covered CA Highest Performer	96	95	96	95			
Covered CA Weighted Average	90	92	92	91			
Covered CA Lowest Performer	86	83	86	88			
Covered California Plan-Specific Performance							
Anthem HMO	90	92					
Anthem PPO	87	88					
Anthem EPO			89	89	5%	64,031	
Blue Shield HMO	92	83	89	94	7%	93,322	
Blue Shield PPO	86	89	87	88	25%	335,176	
CCHP HMO	90	90	91	89	1%	10,013	
Health Net HMO	92	93	95	94	11%	145,183	
Health Net EPO		92	86	91	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO	94	94	94	93	35%	477,683	
LA Care HMO	90	94	94	95	6%	84,750	
Molina Healthcare HMO	93	93	93	90	4%	56,023	
Oscar Health Plan EPO			94	90	3%	35,962	
Sharp Health Plan HMO	96	95	96	95	1%	17,335	
Valley Health Plan HMO	89	89	89	90	1%	16,366	
Western Health Advantage HMO	92	92	91	88	1%	9,386	

Medication Management for People with Asthma (75% of Treatment Period)

The Medication Management for People with Asthma (75% of Treatment Period) measure is percentage of members 5–64 years of age during the measurement year who were identified as having persistent asthma and who remained on an asthma controller medication for at least 75% of their treatment period.

Table A16. Medication Management for Covered California Enrollees with Asthma (75% of Treatment Period) (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	MN-S	63 +	67 +	68 +	0%	-	0
Plans at 50th to 90th Percentile	MN-S	53 to 63	56 to 67	57 to 68	2%	26,721	2
Plans at 25th to 50th Percentile	MN-S	48 to 53	49 to 56	51 to 57	18%	229,933	2
Plans Below 25th Percentile	MN-S	Below 48	Below 49	Below 51	80%	1,026,235	5
Covered California High/Average/Low Performers							
Covered CA Highest Performer	65	64	78	62			
Covered CA Weighted Average	49	49	51	50			
Covered CA Lowest Performer	44	44	47	38			
Covered California Plan-Specific Performance							
Anthem HMO	44	44					
Anthem PPO	51	44					
Anthem EPO			50	45	5%	64,031	
Blue Shield HMO				49	7%	93,322	
Blue Shield PPO	45	46	50	50	26%	335,176	
CCHP HMO							
Health Net HMO	65	57	47	52	11%	145,183	
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO	46	48	49	50	37%	477,683	
LA Care HMO			78	53	7%	84,750	
Molina Healthcare HMO			49	38	4%	56,023	
Oscar Health Plan EPO							
Sharp Health Plan HMO	54	64	68	62	1%	17,335	
Valley Health Plan HMO							
Western Health Advantage HMO			49	58	1%	9,386	

Prenatal and Postpartum Care: Postpartum Care

The Prenatal and Postpartum Care: Postpartum Care measure is the percentage of deliveries that had a postpartum visit on or between 21 and 56 days after delivery.

Table A17. Prenatal and Postpartum Care: Postpartum Care for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	86 +	87 +	87 +	88 +	36%	477,683	1
Plans at 50th to 90th Percentile	70 to 86	74 to 87	75 to 87	74 to 88	1%	17,335	1
Plans at 25th to 50th Percentile	60 to 70	65 to 74	65 to 75	66 to 74	23%	303,350	4
Plans Below 25th Percentile	Below 60	Below 65	Below 65	Below 66	39%	520,483	4
Covered California High/Average/Low Performers							
Covered CA Highest Performer	88	87	87	88			
Covered CA Weighted Average	73	72	73	73			
Covered CA Lowest Performer	38	59	43	59			
Covered California Plan-Specific Performance							
Anthem HMO	61	66					
Anthem PPO	71	75					
Anthem EPO			76	70	5%	64,031	
Blue Shield HMO			43	62	7%	93,322	
Blue Shield PPO	71	63	68	63	25%	335,176	
CCHP HMO	65						
Health Net HMO	64	59	70	66	11%	145,183	
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO	88	87	87	88	36%	477,683	
LA Care HMO	38		63	69	6%	84,750	
Molina Healthcare HMO	60	67	61	59	4%	56,023	
Oscar Health Plan EPO			71	65	3%	35,962	
Sharp Health Plan HMO	78	80	78	83	1%	17,335	
Valley Health Plan HMO							
Western Health Advantage HMO		79	72	67	1%	9,386	

Prenatal and Postpartum Care: Timeliness of Prenatal Care

The Prenatal and Postpartum Care: Timeliness of Prenatal Care measure is the percentage of deliveries that received a prenatal care visit as a member of the organization in the first trimester, on the enrollment start date or within 42 days of enrollment in the organization.

Table A18. Prenatal and Postpartum Care: Timeliness of Prenatal Care for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	93 +	96 +	95 +	95 +	36%	477,683	1
Plans at 50th to 90th Percentile	81 to 93	85 to 96	84 to 95	85 to 95	24%	311,299	4
Plans at 25th to 50th Percentile	71 to 81	76 to 85	76 to 84	77 to 85	33%	437,884	3
Plans Below 25th Percentile	Below 71	Below 76	Below 76	Below 77	7%	91,985	2
Covered California High/Average/Low Performers							
Covered CA Highest Performer	96	96	96	96			
Covered CA Weighted Average	85	85	86	88			
Covered CA Lowest Performer	47	74	52	73			
Covered California Plan-Specific Performance							
Anthem HMO	77	87					
Anthem PPO	85	90					
Anthem EPO			88	86	5%	64,031	
Blue Shield HMO			52	78	7%	93,322	
Blue Shield PPO	83	76	83	84	25%	335,176	
CCHP HMO	87						
Health Net HMO	79	87	85	88	11%	145,183	
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO	96	96	96	96	36%	477,683	
LA Care HMO	47		80	88	6%	84,750	
Molina Healthcare HMO	60	74	71	73	4%	56,023	
Oscar Health Plan EPO			84	74	3%	35,962	
Sharp Health Plan HMO	93	92	94	92	1%	17,335	
Valley Health Plan HMO							
Western Health Advantage HMO		81	83	78	1%	9,386	

Well-Child Visits in the First 15 Months of Life (6 or More Visits)

The Well-Child Visits in the First 15 Months of Life (6 or More Visits) measure is the percentage of members who turned 15 months old during the measurement year and who had six or more well-child visits with a PCP during their first 15 months of life.

Table A19. Well-Child Visits in the First 15 Months of Life (6 or More Visits) for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	MN-S	88 +	87 +	89 +	0%	-	0
Plans at 50th to 90th Percentile	MN-S	78 to 88	77 to 87	75 to 89	42%	477,683	1
Plans at 25th to 50th Percentile	MN-S	68 to 78	67 to 77	66 to 75	30%	335,176	1
Plans Below 25th Percentile	MN-S	Below 68	Below 67	Below 66	28%	319,871	4
Covered California High/Average/Low Performers							
Covered CA Highest Performer	92	89	87	87			
Covered CA Weighted Average	57	69	70	72			
Covered CA Lowest Performer	20	33	28	36			
Covered California Plan-Specific Performance							
Anthem HMO							
Anthem PPO	51	67					
Anthem EPO			65	62	6%	64,031	
Blue Shield HMO				64	8%	93,322	
Blue Shield PPO	50	64	68	72	30%	335,176	
CCHP HMO							
Health Net HMO	20	33	28	36	13%	145,183	
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO	92	89	87	87	42%	477,683	
LA Care HMO							
Molina Healthcare HMO							
Oscar Health Plan EPO							
Sharp Health Plan HMO	33	59	53	66	2%	17,335	
Valley Health Plan HMO							
Western Health Advantage HMO							

*M-NS: This measure was not used in determining the overall QRS rating in 2016.

Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life

The Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life measure is the percentage of members 3–6 years of age who had one or more well-child visits with a PCP during the measurement year.

Table A20. Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	86 +	88 +	89 +	88 +	0%	-	0
Plans at 50th to 90th Percentile	75 to 86	76 to 88	75 to 89	76 to 88	36%	477,683	1
Plans at 25th to 50th Percentile	65 to 75	66 to 76	68 to 75	68 to 76	35%	473,223	4
Plans Below 25th Percentile	Below 65	Below 66	Below 68	Below 68	29%	384,311	6
Covered California High/Average/Low Performers							
Covered CA Highest Performer	79	85	81	79			
Covered CA Weighted Average	69	71	74	73			
Covered CA Lowest Performer	46	57	61	50			
Covered California Plan-Specific Performance							
Anthem HMO	64	66					
Anthem PPO	68	68					
Anthem EPO			69	63	5%	64,031	
Blue Shield HMO	59	64	61	65	7%	93,322	
Blue Shield PPO	68	70	73	74	25%	335,176	
CCHP HMO							
Health Net HMO	59	67	72	66	11%	145,183	
Health Net EPO		85	74				
Health Net PPO							
Kaiser Permanente HMO	79	79	81	79	36%	477,683	
LA Care HMO	46	57	66	75	6%	84,750	
Molina Healthcare HMO		66	66	58	4%	56,023	
Oscar Health Plan EPO			69	74	3%	35,962	
Sharp Health Plan HMO	71	68	69	75	1%	17,335	
Valley Health Plan HMO				50	1%	16,366	
Western Health Advantage HMO	72	57	65	66	1%	9,386	

Additional Measures Related to Promotion of Effective Primary Care

In Chapter 7: Promotion of Effective Primary Care, Covered California does not indicate any potential "Priority Measures." The two additional QRS measures pertaining to the Promotion of Effective Primary Care are:

Additional Measures

1. Rating of Personal Doctor (Table A21)
2. Rating of Specialist (Table A22)

Rating of Personal Doctor

The Rating of Person Doctor measure indicates enrollee experience related to the rating of personal doctor QHP Enrollee Survey question.

Table A21: Covered California Enrollees Rating of Personal Doctor (CAHPS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	91 +	92 +	91 +	90 +	0%	-	0
Plans at 50th to 90th Percentile	89 to 91	89 to 92	89 to 91	87 to 90	8%	110,657	2
Plans at 25th to 50th Percentile	88 to 89	88 to 89	88 to 89	86 to 87	3%	35,962	1
Plans Below 25th Percentile	Below 88	Below 88	Below 88	Below 86	89%	1,198,611	9
Covered California High/Average/Low Performers							
Covered CA Highest Performer	91	93	92	88			
Covered CA Weighted Average	88	87	90	85			
Covered CA Lowest Performer	79	85	81	83			
Covered California Plan-Specific Performance							
Anthem HMO		85					
Anthem PPO	87	90					
Anthem EPO				84	5%	64,031	
Blue Shield HMO				88	7%	93,322	
Blue Shield PPO	90	89	92	85	25%	335,176	
CCHP HMO	82	85	87	84	1%	10,013	
Health Net HMO	81	85	85	83	11%	145,183	
Health Net EPO		89					
Health Net PPO							
Kaiser Permanente HMO	91	87	92	86	36%	477,683	
LA Care HMO	88	89	87	83	6%	84,750	
Molina Healthcare HMO	79	85	81	83	4%	56,023	
Oscar Health Plan EPO			87	87	3%	35,962	
Sharp Health Plan HMO	91	93	88	87	1%	17,335	
Valley Health Plan HMO	84	87	85	84	1%	16,366	
Western Health Advantage HMO	90	89	89	85	1%	9,386	

The Rating of Specialist measure indicates enrollee experience related to the rating of specialist seen most often QHP Enrollee Survey question.

Table A22: Covered California Enrollees Rating of Specialist (CAHPS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	89 +	90 +	90 +	87 +	0%	-	0
Plans at 50th to 90th Percentile	87 to 89	88 to 90	87 to 90	85 to 87	2%	9,386	1
Plans at 25th to 50th Percentile	86 to 87	87 to 88	85 to 87	84 to 85	3%	17,335	1
Plans Below 25th Percentile	Below 86	Below 87	Below 85	Below 84	95%	562,433	2
Covered California High/Average/Low Performers							
Covered CA Highest Performer	88	90	83	86			
Covered CA Weighted Average	85	87	82	81			
Covered CA Lowest Performer	82	81	82	81			
Covered California Plan-Specific Performance							
Anthem HMO							
Anthem PPO							
Anthem EPO							
Blue Shield HMO							
Blue Shield PPO							
CCHP							
Health Net HMO	82	81	82				
Health Net EPO		90					
Health Net PPO							
Kaiser	86	90		81	81%	477,683	
LA Care				83	14%	84,750	
Molina							
Oscar			83				
Sharp	88			85	3%	17,335	
Valley							
Western Health Advantage	87			86	2%	9,386	

Additional Measures Related to Appropriate Interventions

In Chapter 10: Appropriate Interventions, Covered California does not indicate any potential "Priority Measures." The six additional QRS measures pertaining to Appropriate Interventions are:

Additional Measures

1. Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis (Table A23)
2. Appropriate Testing for Children with Pharyngitis (CWP) (Table A24)
3. Appropriate Treatment for Children with Upper Respiratory Infection (URI) (Table A25)
4. Use of Imaging Studies for Low Back Pain (Table A26)
5. Annual Monitoring for Patients on Persistent Medications (Table A270
6. Access to Information (A28)

Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis

The HEDIS Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis measure assesses adults 18–64 years of age with a diagnosis of acute bronchitis who were not dispensed an antibiotic prescription. A higher rate represents better performance.

Table A23. Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	MN-S	44 +	47 +	48 +	38%	505,031	3
Plans at 50th to 90th Percentile	MN-S	26 to 44	28 to 47	30 to 48	8%	101,371	3
Plans at 25th to 50th Percentile	MN-S	21 to 26	24 to 28	24 to 30	47%	637,712	4
Plans Below 25th Percentile	MN-S	Below 21	Below 24	Below 24	8%	101,116	2
Covered California High/Average/Low Performers							
Covered CA Highest Performer	49	52	59	59			
Covered CA Weighted Average	31	35	37	38			
Covered CA Lowest Performer	23	24	25	21			
Covered California Plan-Specific Performance							
Anthem HMO	29	26					
Anthem PPO	23	28					
Anthem EPO			32	27	5%	64,031	
Blue Shield HMO			35	29	7%	93,322	
Blue Shield PPO	27	27	28	29	25%	335,176	
CCHP HMO	36	39	52	59	1%	10,013	
Health Net HMO	28	24	25	29	11%	145,183	
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO	47	44	49	53	36%	477,683	
LA Care HMO	33	27	35	24	6%	84,750	
Molina Healthcare HMO		42	31	34	4%	56,023	
Oscar Health Plan EPO				31	3%	35,962	
Sharp Health Plan HMO	49	52	59	53	1%	17,335	
Valley Health Plan HMO				21	1%	16,366	
Western Health Advantage HMO		44	43	40	1%	9,386	

*M-NS: This measure was not used in determining the overall QRS rating in 2016.

Appropriate Testing for Children with Pharyngitis

The HEDIS Appropriate Testing for Children with Pharyngitis measure assesses children 2–18 years of age who were diagnosed with pharyngitis, dispensed an antibiotic and received a group A streptococcus test for the episode. A higher rate represents better performance.

Table A24. Appropriate Testing for Children with Pharyngitis for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	93 +	94 +	94 +	95 +	0%	-	0
Plans at 50th to 90th Percentile	81 to 93	84 to 94	88 to 94	87 to 95	42%	495,018	2
Plans at 25th to 50th Percentile	72 to 81	76 to 84	79 to 88	80 to 87	0%	-	0
Plans Below 25th Percentile	Below 72	Below 76	Below 79	Below 80	58%	693,735	5
Covered California High/Average/Low Performers							
Covered CA Highest Performer	95	94	94	93			
Covered CA Weighted Average	71	79	83	79			
Covered CA Lowest Performer	37	55	69	42			
Covered California Plan-Specific Performance							
Anthem HMO							
Anthem PPO	65	72					
Anthem EPO			71	70	5%	64,031	
Blue Shield HMO				70	8%	93,322	
Blue Shield PPO	72	73	78	78	28%	335,176	
CCHP HMO							
Health Net HMO	37	55	69	55	12%	145,183	
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO	95	94	94	93	40%	477,683	
LA Care HMO							
Molina Healthcare HMO				42	5%	56,023	
Oscar Health Plan EPO							
Sharp Health Plan HMO			92	92	1%	17,335	
Valley Health Plan HMO							
Western Health Advantage HMO							

Appropriate Treatment for Children with Upper Respiratory Infection

The HEDIS Appropriate Treatment for Children with Upper Respiratory Infection measure assesses children 3 months–18 years of age who were given a diagnosis of upper respiratory infection (URI) and were not dispensed an antibiotic prescription. A higher rate indicates appropriate treatment of children with URI.

Table A25. Appropriate Treatment for Children with Upper Respiratory Infection for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	96 +	96 +	97 +	97 +	39%	513,645	2
Plans at 50th to 90th Percentile	89 to 96	89 to 96	90 to 97	92 to 97	6%	81,366	2
Plans at 25th to 50th Percentile	82 to 89	84 to 89	84 to 90	86 to 92	55%	714,454	5
Plans Below 25th Percentile	Below 82	Below 84	Below 84	Below 86	0%	-	0
Covered California High/Average/Low Performers							
Covered CA Highest Performer	98	99	98	100			
Covered CA Weighted Average	92	93	93	94			
Covered CA Lowest Performer	88	89	83	87			
Covered California Plan-Specific Performance							
Anthem HMO							
Anthem PPO	89	89					
Anthem EPO			93	94	5%	64,031	
Blue Shield HMO			86	91	7%	93,322	
Blue Shield PPO	91	90	91	91	26%	335,176	
CCHP HMO							
Health Net HMO	88	89	88	87	11%	145,183	
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO	98	99	98	99	36%	477,683	
LA Care HMO			87	90	6%	84,750	
Molina Healthcare HMO			83	88	4%	56,023	
Oscar Health Plan EPO				100	3%	35,962	
Sharp Health Plan HMO	98	92	97	96	1%	17,335	
Valley Health Plan HMO							
Western Health Advantage HMO			94				

Use of Imaging Studies for Low Back Pain

The HEDIS Use of Imaging Studies for Low Back Pain measure assesses adults 18–50 years of age with a primary diagnosis of low back pain who did not have an imaging study (plain X-ray, MRI or CT scan) within 28 days of the diagnosis. A higher rate represents better performance.

Table A26: Use of Imaging Studies for Low Back Pain for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	84 +	84 +	86 +	86 +	1%	19,399	2
Plans at 50th to 90th Percentile	75 to 84	74 to 84	76 to 86	77 to 86	80%	1,074,401	6
Plans at 25th to 50th Percentile	70 to 75	69 to 74	72 to 76	72 to 77	8%	110,657	2
Plans Below 25th Percentile	Below 70	Below 69	Below 72	Below 72	10%	140,773	2
Covered California High/Average/Low Performers							
Covered CA Highest Performer	88	88	84	91			
Covered CA Weighted Average	80	79	79	80			
Covered CA Lowest Performer	69	69	67	71			
Covered California Plan-Specific Performance							
Anthem HMO	74	69					
Anthem PPO	76	73					
Anthem EPO			77	78	5%	64,031	
Blue Shield HMO			76	77	7%	93,322	
Blue Shield PPO	78	83	82	81	25%	335,176	
CCHP HMO	69	82	67	91	1%	10,013	
Health Net HMO	78	69	73	77	11%	145,183	
Health Net EPO							
Health Net PPO							
Kaiser Permanente HMO	88	83	82	85	36%	477,683	
LA Care HMO	73	74	76	71	6%	84,750	
Molina Healthcare HMO	86	76	74	72	4%	56,023	
Oscar Health Plan EPO			84	80	3%	35,962	
Sharp Health Plan HMO	74	72	72	73	1%	17,335	
Valley Health Plan HMO			72	78	1%	16,366	
Western Health Advantage HMO		88	77	87	1%	9,386	

Annual Monitoring for Patients on Persistent Medications

The Annual Monitoring for Patients on Persistent Medications measure is the percentage of members 18 years of age and older who received at least 180 treatment days of ambulatory medication therapy for a select therapeutic agent during the measurement year and at least one therapeutic monitoring event for the therapeutic agent in the measurement year.

Table A27. Annual Monitoring for Patients on Persistent Medications for Covered California Enrollees (HEDIS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	89 +	89 +	89 +	89 +	1%	16,366	1
Plans at 50th to 90th Percentile	84 to 89	84 to 89	84 to 89	84 to 89	57%	763,639	4
Plans at 25th to 50th Percentile	81 to 84	81 to 84	81 to 84	82 to 84	33%	445,833	3
Plans Below 25th Percentile	Below 81	Below 81	Below 81	Below 82	9%	120,788	5
Covered California High/Average/Low Performers							
Covered CA Highest Performer	88	89	90	89			
Covered CA Weighted Average	84	85	85	85			
Covered CA Lowest Performer	77	75	77	76			
Covered California Plan-Specific Performance							
Anthem HMO	84	85					
Anthem PPO	80	80					
Anthem EPO			80	81	5%	64,031	
Blue Shield HMO	84	89	85	83	7%	93,322	
Blue Shield PPO	82	82	82	83	25%	335,176	
CCHP HMO	86	84	85	82	1%	10,013	
Health Net HMO	87	86	87	87	11%	145,183	
Health Net EPO		77	77	76	0%	1,396	
Health Net PPO							
Kaiser Permanente HMO	88	87	88	88	35%	477,683	
LA Care HMO	77	86	86	89	6%	84,750	
Molina Healthcare HMO	83	89	86	84	4%	56,023	
Oscar Health Plan EPO			83	77	3%	35,962	
Sharp Health Plan HMO	88	89	88	82	1%	17,335	
Valley Health Plan HMO	82	85	90	89	1%	16,366	
Western Health Advantage HMO	83	75	80	79	1%	9,386	

Access to Information

The Access to Information measure describes enrollee experience related to the following:

- Written materials or Internet provided information needed about how plan works;
- Found out from health plan about cost for health care service or equipment; and
- Found out from health plan about cost for specific prescriptions.

Table A28: for Covered California Enrollees' Access to Information (CAHPS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	62 +	64 +	63 +	54 +	0%	-	0
Plans at 50th to 90th Percentile	55 to 62	57 to 64	58 to 63	48 to 54	74%	992,719	10
Plans at 25th to 50th Percentile	52 to 55	54 to 57	54 to 58	44 to 48	26%	352,511	2
Plans Below 25th Percentile	Below 52	Below 54	Below 54	Below 44	0%	-	0
Covered California High/Average/Low Performers							
Covered CA Highest Performer	59	61	61	53			
Covered CA Weighted Average	51	59	60	50			
Covered CA Lowest Performer	46	46	60	46			
Covered California Plan-Specific Performance							
Anthem HMO							
Anthem PPO		55					
Anthem EPO				50	5%	64,031	
Blue Shield HMO				50	7%	93,322	
Blue Shield PPO	46			46	25%	335,176	
CCHP HMO				50	1%	10,013	
Health Net HMO	52	61		51	11%	145,183	
Health Net EPO		51					
Health Net PPO							
Kaiser Permanente HMO	56	59	60	53	36%	477,683	
LA Care HMO	54			50	6%	84,750	
Molina Healthcare HMO				49	4%	56,023	
Oscar Health Plan EPO			61	53	3%	35,962	
Sharp Health Plan HMO	55			46	1%	17,335	
Valley Health Plan HMO		46		51	1%	16,366	
Western Health Advantage HMO	59	52		48	1%	9,386	

Additional Measures

Plan Administration

The Plan Administration measure (Table A 29) describes enrollee experience related to the following:

- Customer service gave necessary information/help;
- Customer service staff courteous and respectful;
- Wait-time to talk to customer service took longer than expected;
- Forms were easy to fill out; and
- Health plan explained purpose of forms.

Table A29: Plan Administration for Covered California Enrollees (CAHPS)

	2016	2017	2018	2019			
	US Benchmark	US Benchmark	US Benchmark	US Benchmark	Percent of Enrollees	Number of Enrollees	Number of Plans
Plans at 90th Percentile and Above	77 +	79 +	79 +	76 +	4%	35,962	1
Plans at 50th to 90th Percentile	70 to 77	73 to 79	74 to 79	70 to 76	49%	495,018	2
Plans at 25th to 50th Percentile	66 to 70	68 to 73	71 to 74	67 to 70	25%	252,116	4
Plans Below 25th Percentile	Below 66	Below 68	Below 71	Below 67	22%	226,958	4
Covered California High/Average/Low Performers							
Covered CA Highest Performer	79	81	80	78			
Covered CA Weighted Average	74	71	74	70			
Covered CA Lowest Performer	65	67	65	64			
Covered California Plan-Specific Performance							
Anthem HMO		68					
Anthem PPO							
Anthem EPO				69	6%	64,031	
Blue Shield HMO				69	9%	93,322	
Blue Shield PPO							
CCHP HMO	68	76	75	69	1%	10,013	
Health Net HMO	69	72	65	64	14%	145,183	
Health Net EPO		67					
Health Net PPO							
Kaiser Permanente HMO	76	70	77	73	47%	477,683	
LA Care HMO	70	75	73	70	8%	84,750	
Molina Healthcare HMO	75	71		66	6%	56,023	
Oscar Health Plan EPO			80	78	4%	35,962	
Sharp Health Plan HMO	77	81		71	2%	17,335	
Valley Health Plan HMO	65	67		67	2%	16,366	
Western Health Advantage HMO	79	79		67	1%	9,386	

Appendix 3: 2019 Marketplace Quality Rating System Measure Set

2019 Quality Rating System Measure Set

The global quality rating is a roll-up of three summary components per the following weighting:

Summary Components	Weights
Getting Right Care (HEDIS)	66%
Members' Care Experience (CAHPS)	17%
Plan Services (HEDIS and CAHPS)	17%

The QRS measure set is listed below indicating which measures are included in the three summary components, the measure type and the measure source.

QRS Summary Component	Measure Title	QRS Measure Type	Measurement Source
Getting the Right Care	Adult BMI Assessment	Clinical	HEDIS
	Annual Dental Visit	Clinical	HEDIS
	Annual Monitoring for Patients on Persistent Medications	Clinical	HEDIS
	Antidepressant Medication Management	Clinical	HEDIS
	Breast Cancer Screening	Clinical	HEDIS
	Cervical Cancer Screening	Clinical	HEDIS
	Childhood Immunization Status (Combination 3)	Clinical	HEDIS
	Chlamydia Screening in Women	Clinical	HEDIS
	Colorectal Cancer Screening	Clinical	HEDIS
	Comprehensive Diabetes Care: Eye Exam (Retinal) Performed	Clinical	HEDIS
	Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)	Clinical	HEDIS
	Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Testing	Clinical	HEDIS
	Comprehensive Diabetes Care: Medical Attention for Nephropathy	Clinical	HEDIS
	Controlling High Blood Pressure	Clinical	HEDIS
	Flu Vaccinations for Adults Ages 18-64	Survey	QHP Enrollee Survey[96]
	Follow-Up After Hospitalization for Mental Illness (7-Day Follow-Up)	Clinical	HEDIS
	Follow-Up Care for Children Prescribed ADHD Medication	Clinical	HEDIS
	Immunizations for Adolescents (Combination 2)	Clinical	HEDIS
	Initiation and Engagement of Alcohol and Other Drug Dependence Treatment	Clinical	HEDIS
	Medication Management for People with Asthma (75% of Treatment Period)	Clinical	HEDIS

[96] The QHP Enrollee Survey draws heavily from the CAHPS® Health Plan Surveys, which are used widely to assess Medicare, Medicaid, and other commercial health plan performance.

QRS Summary Component	Measure Title	QRS Measure Type	Measurement Source
	Medical Assistance with Smoking and Tobacco Use Cessation	Survey	QHP Enrollee Survey
	Plan All-Cause Readmissions	Clinical	HEDIS
	Prenatal and Postpartum Care (Postpartum Care)	Clinical	HEDIS
	Prenatal and Postpartum Care (Timeliness of Prenatal Care)	Clinical	HEDIS
	Proportion of Days Covered (RAS Antagonists)	Clinical	Pharmacy Quality Alliance (PQA)
	Proportion of Days Covered (Statins)	Clinical	PQA
	Proportion of Days Covered (Diabetes All Class)	Clinical	PQA
	Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents	Clinical	HEDIS
	Well-Child Visits in the First 15 Months of Life (6 or More Visits)	Clinical	HEDIS
	Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life	Clinical	HEDIS
Member Experience with Their Doctors and Care	Access to Care	Survey	QHP Enrollee Survey
	Care Coordination	Survey	QHP Enrollee Survey
	Rating of All Health Care	Survey	QHP Enrollee Survey
	Rating of Personal Doctor	Survey	QHP Enrollee Survey
	Rating of Specialist	Survey	QHP Enrollee Survey
Plan management of care and customer service	Appropriate Testing for Children with Pharyngitis	Clinical	HEDIS
	Appropriate Treatment for Children with Upper Respiratory Infection	Clinical	HEDIS
	Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis	Clinical	HEDIS
	Use of Imaging Studies for Low Back Pain	Clinical	HEDIS
	Access to Information	Survey	QHP Enrollee Survey
	Plan Administration	Survey	QHP Enrollee Survey
	Rating of Health Plan	Survey	QHP Enrollee Survey

Source: Quality Rating System and Qualified Health Plan Enrollee Experience Survey: Technical Guidance for 2019

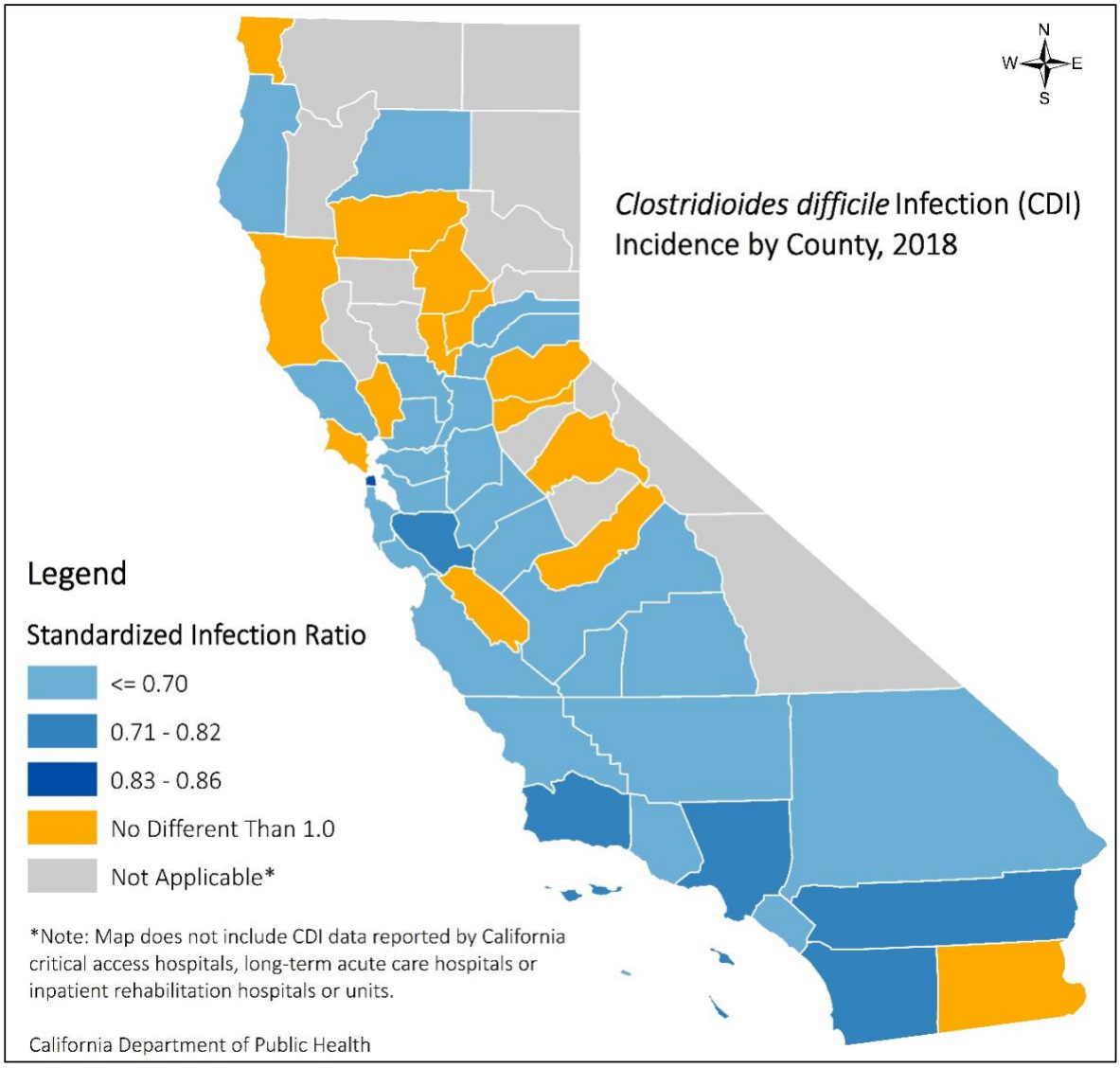
Appendix 4: Additional Publicly Reported Hospital Quality and Safety Data

CDI Incidence Rates in California Counties

Clostridioides difficile (CDI) is a bacterium that causes diarrhea and inflammation of the colon. It can be spread by healthcare workers and patients when they come in contact with contaminated surfaces. Because CDI can spread quickly among hospitals, clinics and nursing facilities, it is important to understand the infection rates by counties to inform prevention efforts.

The graphic below shows California counties' CDI incidence rates for 2018 presented as significantly lower, higher, or no different compared with the national baseline standardized infection ratio of 1.0.

Figure A1: CDI Incidence Rates in California, 2018



Source: California Department of Public Health (CDPH), November 2019

California Hospitals with Hospital Associated Infection Incidence Better (★) or Worse (x) than National Baseline, 2018

Hospitals by County	CDI	CLABSI	MRSA BSI	VRE BSI
Alameda				
Alameda Hospital		✖		
Alta Bates Summit Medical Center	★			
Alta Bates Summit Medical Center, Alta Bates Campus	★			
Eden Medical Center	★			
Highland Hospital	★			
Kaiser Foundation Hospital, Oakland/Richmond	★			★
Kaiser Foundation Hospital, San Leandro	★			
St Rose Hospital	★			
Butte				
Enloe Medical Center, Esplanade		★		
Contra Costa				
Contra Costa Regional Medical Center	★			
John Muir Medical Center, Concord Campus	★			
John Muir Medical Center, Walnut Creek Campus	★			
Kaiser Foundation Hospital, Antioch	★			
Kaiser Foundation Hospital, Walnut Creek		★		
Sutter Delta Medical Center	★			
El Dorado				
Barton Memorial Hospital	✖			
Marshall Medical Center		★		
Fresno				
Clovis Community Medical Center	★			
Community Regional Medical Center	★			
Saint Agnes Medical Center	★			
Humboldt				
St. Joseph Hospital, Eureka	★			
Kern				
Adventist Health Bakersfield	★			
Kern Medical Center	★			
Mercy Southwest Hospital	★			
Kings				
Adventist Health Hanford	★	★		
Los Angeles				
Adventist Health Glendale	★			
Adventist Health White Memorial	★			
Alhambra Hospital Medical Center	★			
Antelope Valley Hospital	★			

Hospitals by County	CDI	CLABSI	MRSA BSI	VRE BSI
California Hospital Medical Center, Los Angeles	★			
Cedars-Sinai Medical Center	★	★		
Centinela Hospital Medical Center	★	★	✖	
Children's Hospital Los Angeles	✖	★	★	
City of Hope Helford Clinical Research Hospital	✖			✖
College Medical Center	★			
Emanate Health Foothill Presbyterian Hospital		★	✖	
Emanate Health Inter-Community Hospital		★		
Emanate Health Queen of the Valley Hospital	★	★		
Encino Hospital Medical Center	★			
Garfield Medical Center	★	✖		✖
Glendale Memorial Hospital and Health Center	★			
Glendora Community Hospital	★			
Henry Mayo Newhall Hospital	★			
Hollywood Presbyterian Medical Center	★	✖		
Huntington Memorial Hospital		★		
Kaiser Foundation Hospital, Downey			★	
Kaiser Foundation Hospital, Los Angeles	★	✖		
Kaiser Foundation Hospital, Panorama City	★			
Kaiser Foundation Hospital, South Bay	★	★		
Kaiser Foundation Hospital, West LA		✖		
Keck Hospital of USC			★	
LAC/Harbor UCLA Medical Center	★			
LAC/Olive View UCLA Medical Center	★			
LAC+USC Medical Center	★	✖		
Martin Luther King Jr. Community Hospital	★			
Methodist Hospital of Southern California			★	
Mission Community Hospital	★			
Monterey Park Hospital			✖	
Northridge Hospital Medical Center	★			
Olympia Medical Center	★	✖	✖	
Pacifica Hospital of the Valley		✖		
PIH Health Hospital, Whittier	★			
Pomona Valley Hospital Medical Center	★			
Providence Holy Cross Medical Center	★			
Providence Little Company of Mary Medical Center Torrance	★	★	★	
Providence Saint John's Health Center		★		
Providence Saint Joseph Medical Center	★			

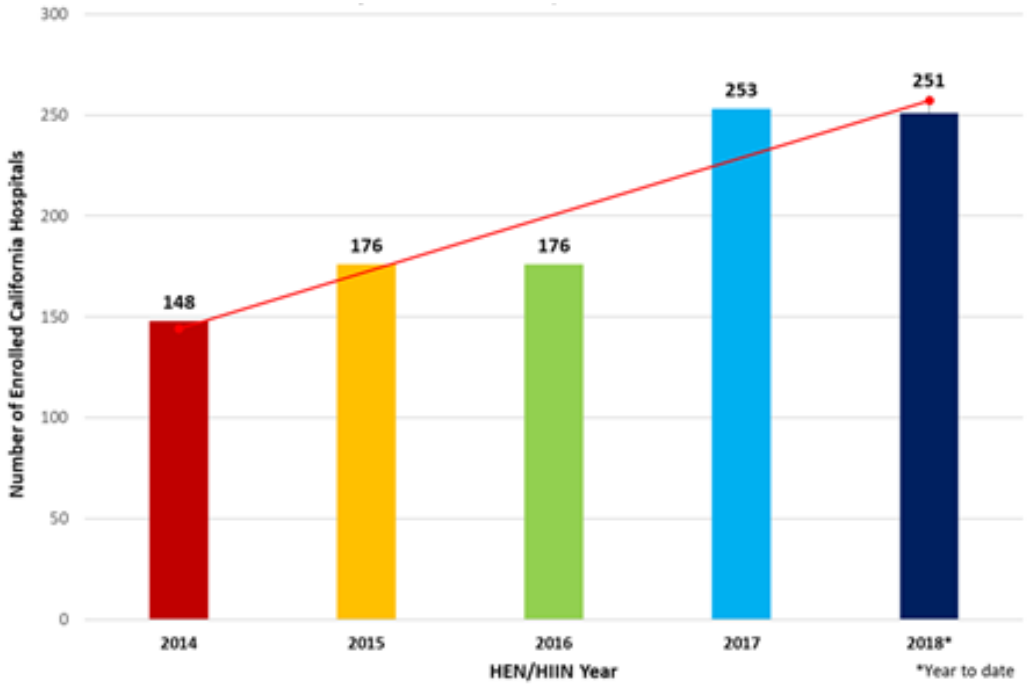
Hospitals by County	CDI	CLABSI	MRSA BSI	VRE BSI
Providence Tarzana Medical Center	★			
Ronald Reagan UCLA Medical Center				✖
Saint Francis Medical Center		★		
Saint Vincent Medical Center	✖	✖		✖
San Gabriel Valley Medical Center	★			
Sherman Oaks Hospital	★			
Southern California Hospital at Culver City	✖	✖		
Southern California Hospital at Hollywood	★			
Torrance Memorial Medical Center	★		✖	
Valley Presbyterian Hospital	★			✖
West Hills Hospital & Medical Center	✖	✖		
Whittier Hospital Medical Center	★			
Madera				
Valley Children's Hospital		★		
Merced				
Mercy Medical Center	★			
Monterey				
Natividad Medical Center	★			
Salinas Valley Memorial Hospital		★		
Napa				
Adventist Health St. Helena			✖	
Queen of the Valley Medical Center		✖		
Nevada				
Sierra Nevada Memorial Hospital	★			
Orange				
Anaheim Global Medical Center	★			
College Hospital Costa Mesa	★			
Hoag Memorial Hospital Presbyterian	★			
Huntington Beach Hospital	✖			
Kaiser Foundation Hospital, Orange County, Anaheim		★		
Los Alamitos Medical Center	★			
MemorialCare Orange Coast Medical Center	★	★		
Mission Hospital Regional Medical Center	★			
Orange County Global Medical Center	★			
Placentia Linda Hospital	★			
St. Joseph Hospital, Orange		★		
St. Jude Medical Center	★	★	★	
University of California Irvine Medical Center	★	★		

Hospitals by County	CDI	CLABSI	MRSA BSI	VRE BSI
Sharp Memorial Hospital	★		★	★
UC San Diego Health Hillcrest	★			✖
UC San Diego Health La Jolla	✖			
San Francisco				
California Pacific Medical Center, California West Campus Hospital	★			
California Pacific Medical Center, Davies Campus Hospital		★		
California Pacific Medical Center, Pacific Campus Hospital				✖
Kaiser Foundation Hospital, San Francisco	★			
Saint Francis Memorial Hospital	★			
UCSF Medical Center	✖			
UCSF Medical Center at Mission Bay				★
Zuckerberg San Francisco General Hospital and Trauma Center	★			★
San Joaquin				
Adventist Health Lodi Memorial	★			
San Joaquin General Hospital	★			
St. Joseph's Medical Center Of Stockton	★	★		
Sutter Tracy Community Hospital	★			
San Luis Obispo				
Twin Cities Community Hospital	★			
San Mateo				
Kaiser Foundation Hospital, Redwood City	★			
Kaiser Foundation Hospital, South San Francisco	★			
Santa Barbara				
Marian Regional Medical Center	★			
Santa Barbara Cottage Hospital				★
Santa Clara				
El Camino Hospital	★	★		
Good Samaritan Hospital, San Jose	★			
Kaiser Foundation Hospital, Santa Clara		★		
Lucile Packard Children's Hospital Stanford		★		
Regional Medical Center of San Jose	★			
St. Louise Regional Hospital	★			
Stanford Health Care		★	★	✖
Santa Cruz				
Dominican Hospital	★	★		
Shasta				

Hospitals by County	CDI	CLABSI	MRSA BSI	VRE BSI
Mercy Medical Center Redding	★	★		
Shasta Regional Medical Center	★			
Solano				
Kaiser Foundation Hospital and Rehab Center, Vallejo	★			
Northbay Medical Center	★			
Northbay Vacavalley Hospital	★			
Sonoma				
Kaiser Foundation Hospital, Santa Rosa	★	★		
Petaluma Valley Hospital	★			
Stanislaus				
Doctors Medical Center	★	★		
Emanuel Medical Center	★			
Kaiser Foundation Hospital, Modesto	★			
Memorial Medical Center	★			
Tulare				
Kaweah Delta Medical Center	★	✖	✖	
Sierra View Medical Center	★			
Ventura				
Adventist Health Simi Valley	★			
Community Memorial Hospital, San Buenaventura	★			
Los Robles Hospital & Medical Center	★			
Ventura County Medical Center		✖		

Source: California Department of Public Health (CDPH) 2018 HAI Annual Report.

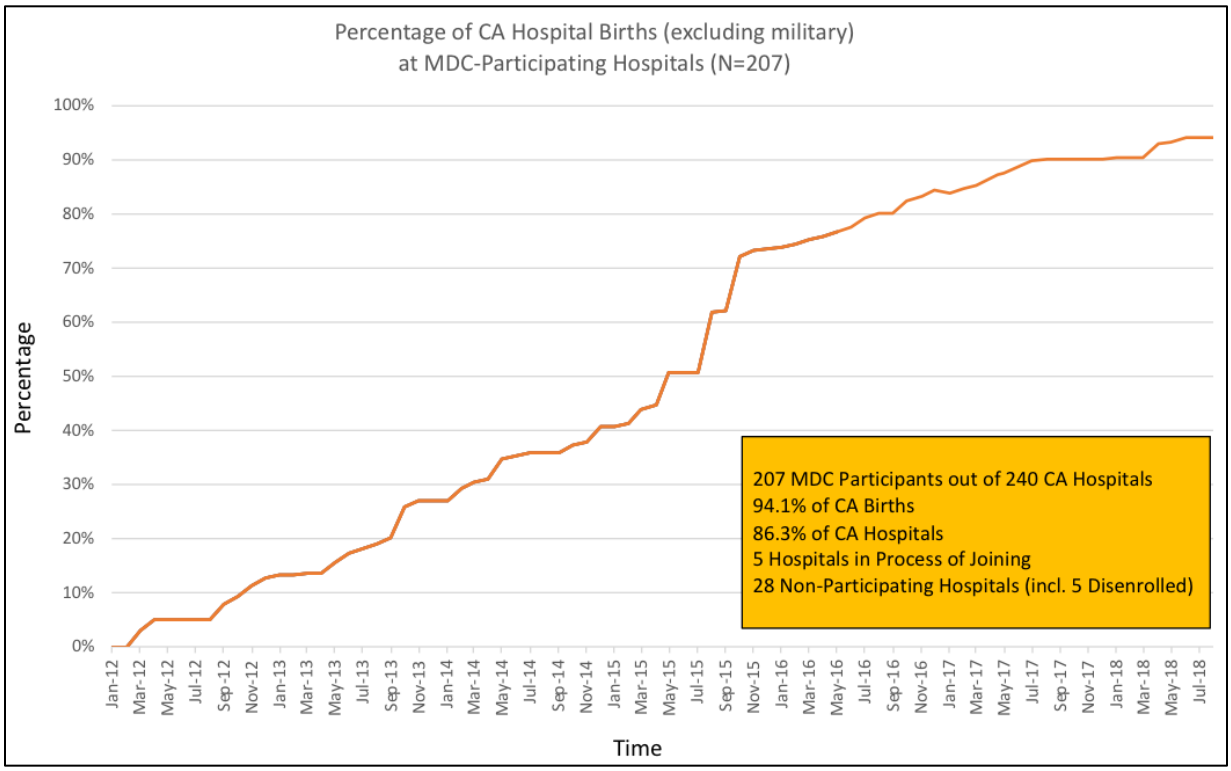
Figure A2. California Hospitals Involved in Hospital Quality Institute Hospital Improvement Innovation Networks, 2014-18[97]



Source: Hospital Quality Institute, 2018

[97] Note: The two fewer hospitals participating in the HIIN in 2018 compared to 2017 represent hospital closures. The acronym changed in 2016 from Hospital Engagement Networks (HEN) to Hospital Improvement Innovation Networks (HIINs).

Figure A3: Percentage of California Hospital Births at California Maternal Quality Care Collaborative Participating Hospitals



Source: California Maternal Quality Care Collaborative, 2018

Acknowledgements

This report describes the results of efforts that continue to evolve and began before the first individual enrolled in a health plan through Covered California in 2013. Covered California wants to acknowledge the leadership of its Board of Directors that directed it to take an active role in creating a marketplace that put consumers at the center and holds health insurance companies accountable. From the outset, Covered California was given the twin mission of expanding coverage as well as assuring and improving the delivery of high-quality, equitable and cost-efficient care.

The work represented in this report has been guided by Covered California's Plan Management Advisory Committee, composed of representatives of consumer advocates, clinicians, health insurance companies and subject-matter experts. The health insurance companies Covered California contracts with have been constructive and engaged and have welcomed having a high bar of accountability reflected in the contractual expectations. At Covered California, many have contributed to shaping the work behind this report: the leadership and staff of the Plan Management division, including James DeBenedetti, Jan Falzarano, John Bertko, Lance Lang and his predecessor as medical director, Jeff Rideout. For the research, analysis and writing of this report, thanks go to Taylor Priestley, Margareta Brandt, Vishaal Pegany, Whitney Li, Thai Lee, Allie Mangiaracino, Lindsay Petersen, and two consulting advisors, Ted von Glahn and Elliott Fisher. Thanks also go to Kelly Green, Sarah Vu, LaToya Holmes-Green, Kristen Downer, Thomas LeBlanc, Isaac Menashe and Robert Seastrom, whose assistance made the publication of this report possible.

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Covered California's First Five Years: Improving Access, Affordability and Accountability

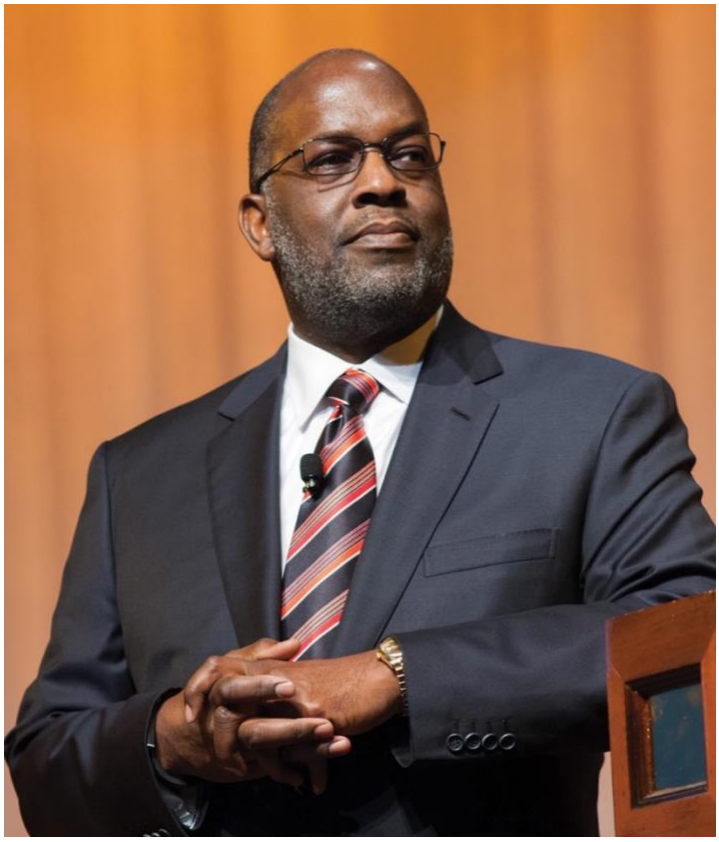
December 2019

Cover Image

This report provides data and analysis on Covered California efforts to improve the performance of California's health care system and to ensure that its members receive affordable, high quality care. The people featured on the cover are individuals who have benefited from these efforts. Their stories — and those of others told here https://www.coveredca.com/real-stories/ — go beyond the data to provide personal perspectives on what Covered California has achieved over the past five years.

Suggested citation: Covered California. (2019). Covered California's First Five Years: Improving Access, Affordability and Accountability.

Dedication



Bernard J. Tyson

January 20, 1959 – November 10, 2019

Covered California dedicates this report to the memory Bernard J. Tyson, chairman and CEO of Kaiser Permanente. Mr. Tyson devoted his life to helping others, leading the way in the state and nation to examine and address health disparities and support the expansion of affordable health care in America. We take inspiration from his leadership and remain committed to his vision ensuring quality health care for all.

Dec. 18, 2019

In 2010, California became the first state in the nation to enact legislation to establish a state-based health insurance exchange under the auspices of the Patient Protection and Affordable Care Act (ACA). Covered California was officially established in 2011 as an independent state entity governed by a Board of Directors, followed by the subsequent development of a vision statement that has guided Covered California since its inception: *To improve the health of all Californians by assuring their access to affordable, high-quality care.*

Covered California was established by California, for Californians, and our independent board has provided critical leadership as we have engaged the range of partners across the state in crafting and implementing the Affordable Care Act. Under the leadership of our board, in particular board chairs Diana Dooley, former Health and Human Services (HHS) Secretary and our current chair, HHS Secretary Mark Ghaly, MD., Covered California has been held to the highest standard of public accountability. With their direction, Covered California has leveraged its role to create and foster a marketplace where plans compete and are held accountable. The guidepost of all of our efforts is what will benefit consumers.

The work of Covered California has been enabled and guided by legislative and executive branch leadership in the state that has fully embraced the Affordable Care Act. In recent years it has sought to actively build on and go beyond the ACA on the path to universal coverage. Almost 10 years ago, the republican governor, Arnold Schwarzenegger, signed into law the establishment of Covered California, laying the groundwork for today's structure of an independent, self-funded advocate for California's consumers. Gov. Jerry Brown used one of the most important tools of the ACA — the ability to expand state Medicaid programs — to bring millions of Californians into coverage through Medi-Cal. And, Gov. Gavin Newsom has launched bold programs that defend consumers in California by reinstituting the mandate rolled back nationally. He and the legislature have also built on and gone beyond the ACA to expand financial help to almost 1 million Californians, including first-in-the-nation help for middle class Californians, many whom were paying large portions of their income for health care coverage.

While Covered California has focused on effectively implementing the ACA, we have also been mindful of our responsibility to share data on what is and is not working to inform both our efforts and the work of policymakers in California and nationally. It is in this vein that we release "Covered California's First Five Years: Improving Access, Affordability and Accountability," which provides an overview of Covered California's activities and achievements in its first five years, during which we have provided health insurance to millions of Californians.

There have been many individuals and organizations that have contributed to Covered California's achievements to the benefit of California consumers — policymakers, health insurers, consumer advocates, counties, community-based organizations and agents, to name a few. This said, Covered California specially dedicates this report to Bernard J. Tyson CEO, of Kaiser Permanente, who recently passed away. Bernard embodied unparalleled passion and leadership. His work to transform health care delivery, and his drive for justice in health care and quality have left a lasting imprint on California and the nation.

Sincerely,

Peter V. Lee
Executive Director

Covered California's First Five Years: Improving Access, Affordability and Accountability

Introduction

The United States health care system has long faced serious problems: inadequate access to care, uneven quality, rising costs and persistent racial, ethnic, socioeconomic and geographic disparities. The passage of the Patient Protection and Affordable Care Act in 2010 created an opportunity to address these problems. California has undertaken a range of efforts to implement and even go beyond the Affordable Care Act, such as its early expansion of coverage through its Medicaid program, and, more recently, its decision to provide state-funded subsidies to secure greater affordability as it reintroduces the individual responsibility to have health insurance. These new subsidies supplement federal subsidies and give first-in-the-nation support to middle-class Californians.

In addition to providing resources to expand coverage, the Affordable Care Act authorized the creation of state-based health insurance marketplaces with the capacity and authority to influence how health care is delivered. California was the first state to pass legislation to form a state-based marketplace. Covered California — the largest state-based marketplace in the nation — has worked to leverage its authority and influence to lower health care costs and improve the health and health care not only for its enrollees and those in the individual market, but also for all Californians.[1] Key accomplishments of the past five years are summarized on the following page.

This report describes provides an overview of how California — the state government, Covered California, and other stakeholders — are working together to improve health system performance and the impact that has been achieved over the past five years. A companion report — Covered California Holding Health Plans Accountable for Quality and Delivery System Reform — describes how Covered California is holding itself and its contracted health insurers accountable for assuring quality care and promoting delivery system reform. It provides detailed descriptions of Covered California's work to assure that its contracted insurers are actively working to deliver high-quality care, address health disparities and promote improvements in how care is delivered.

[1] Beginning with the inaugural 2014 plan year and updated in 2017, Covered California set forth standards and strategies for quality improvement and delivery system reform in its qualified health plan contract, specifically in the section of the contract titled "Attachment 7: Quality, Network Management, Delivery System Standards and Improvement Strategy". See more: https://hbex.coveredca.com/insurance-companies/PDFs/Attachment-7_2020_Clean_Final-Model.pdf. Covered California is in the process of working to update its contract terms for the 2022-24 plan years and is seeking to provide concrete requirements that will address the "Triple Aim" of lowering costs, improving quality and improving health outcomes with a focus on promoting health equity.

California's First Five Years Implementing the Affordable Care Act: Major Impacts in Affordability and Accountability

California was the first state to establish a state-based marketplace — under a Republican governor — and ever since then has sought to implement the Affordable Care Act as effectively as possible for the benefit of the state's consumers. State actions included expanding Medi-Cal, the state Medicaid program; building Covered California as the public entity responsible for creating a consumer-driven marketplace and holding health plans accountable; and most recently, enacting reforms to stabilize insurance markets and further improve affordability. This report, "Covered California's First Five Years: Improving Access, Affordability and Accountability," describes in detail both the strategies and their impacts. Major impacts include:

- Coverage expansion reduced the uninsured rate in California from 17 percent in 2013 to 7.2 percent in 2018, the largest drop in any state.
- Stable participation by health insurers has contributed to robust competition that, along with healthier enrollment, has saved unsubsidized enrollees more than $1,000 annually, with estimated savings to enrollees and the federal government of $12.5 billion from 2014 to 2018. At the same time, enrollees remained more satisfied with their health plan and overall health care than those in other states.
- Covered California's 11 health insurance companies are responding to requirements to address disparities in health care, which will likely affect not only their Covered California enrollees, but also their estimated 19.5 million enrollees in California.
- Two health insurance companies with integrated delivery systems, Kaiser Permanente and Sharp Health Plan, are ranked in the top 10 percent of all U.S. health insurers in most measures of quality. Quality performance across the other nine insurers, however, was highly variable and often in need of improvement.
- Covered California's push toward delivery reform to improve value and system performance has resulted in about 25 percent of enrollees being cared for in an Accountable Care Organization (ACO) in 2018, far exceeding state and national benchmarks. Analysis of variation among diverse models should identify best practices and assist ACOs in fulfilling their potential to match the performance of integrated delivery systems.
- By aligning with other stakeholders, Covered California has helped achieve important gains in hospital patient safety, in the prevention and treatment of opioid use disorders and in the reduction of low-risk C-section rates.

This report focuses on the four core approaches Covered California has taken to improving health system performance:

1. **Create an effective consumer-driven marketplace:** Covered California operates an effective consumer-driven marketplace, creating a level playing field where consumers benefit from meaningful competition and expanded enrollment. High enrollment, a healthier risk mix than is seen nationally and robust competition have helped to slow premium growth and to lower costs, which is likely to have saved enrollees and the U.S. Treasury an estimated $12.5 billion over the past five years.
2. **Hold health insurance companies accountable for improving quality and advancing delivery reform:** Covered California holds health insurers accountable through its selection of who can participate in the marketplace and through an array of reporting and performance requirements. Covered California also requires insurers to promote advanced primary care[2] as well as integrated and coordinated care. There is a documented association of these approaches with better care, and an increasing proportion of Covered California enrollees are receiving care through these approaches. Although meaningful improvement on many key quality measures has been achieved, marked variation in performance across insurers underscores the benefit of care that is integrated and coordinated, and it reveals that much more improvement is possible.[3]
3. **Align efforts to foster systemic change:** Covered California recognizes the imperative of working with others to change how care is delivered. By working with other purchasers, providers and consumers, Covered California has helped catalyze major gains in patient safety, maternity care, the prevention and treatment of opioid use, and in performance measurement for both hospitals and physician practices.
4. **Use data and evidence to drive continuous improvement:** Covered California continuously reviews and reflects on what is working to improve care in order to refine future requirements and inform multi-stakeholder collaborations in ways that will increase impact while reducing burdensome, unnecessary requirements.

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[2] There are several key attributes of advanced primary care models. These models maintain continuous patient-provider relationships. They are person- and family-centered, comprehensive and equitable, team-based and collaborative, and coordinated and integrated, accessible, and high-value. See more: https://www.pcpcc.org/about/shared-principles.

[3] The details of contract requirements related to improving quality and delivery system reform are set forth in the section of the contract titled "Attachment 7: Quality, Network Management, Delivery System Standards and Improvement Strategy". See more: https://hbex.coveredca.com/insurance-companies/PDFs/Attachment-7_2020_Clean_Final-Model.pdf.

National Context and California Responses

The Affordable Care Act's Core Domains; Recent Federal Actions to Undercut or Reinforce the ACA; and California's Actions to Protect, Reinforce, and Build on the ACA

The Affordable Care Act (the ACA or the Act) has had an indelible impact on the lives of millions of Americans throughout the nation. It has provided a solid and resilient foundation of transformative policies upon which the promise of affordable, high-quality health coverage has been realized by many individuals and families since its enactment nearly 10 years ago. Among its fundamental tenets are four groundbreaking consumer-protective policies that serve as cornerstone principles to successful health reform in our nation:

- **Ensure Meaningful Coverage for Everyone**
- **Concretely Address Consumer Affordability**
- **Foster Consumer Choice**
- **Hold Health Plans Accountable**

When fully and properly implemented, as it has been in California, the ACA has delivered on each of these areas resulting in healthy, stable markets where millions of consumers have gained access to affordable, high-quality coverage that gives them financial protection and peace of mind knowing they can get care when in need. At the same time, some states have chosen to forgo implementation of some of the keystone provisions of the ACA. For example, while the vast majority of states have chosen to expand their Medicaid programs, 14 states[4] have elected not to expand Medicaid coverage, leaving millions of uninsured, low-income adults without an affordable coverage option. In addition, in the past three years, multiple federal policy actions have diminished the integrity of the Act by reversing key ACA policies; reducing or eliminating federal support designed to improve affordability and maintain healthy, stable enrollment; and, promoting non-ACA-compliant plans that leave consumers vulnerable to exclusion or inadequate coverage when in need of care.

In stark contrast to federal efforts to undo the ACA, California not only continues to fully embrace the Act by taking actions to counter or respond to federal policies, it has also implemented policies that build on the ACA in significant ways to the benefit of consumers. Through the leadership of the Governor and Legislature, the state has made significant investments to bolster affordability and expand access to coverage by offering state subsidies that offer additional financial assistance to those currently receiving federal subsidies and, for the first time in the nation, extend financial assistance to consumers with incomes over 400 percent of the federal poverty level who are not eligible for federal subsidies. Covered California continues to leverage its role to create and foster a marketplace where plans compete and are held accountable to rigorous contractual standards, and to promote healthy, stable enrollment through significant investments in marketing and outreach which helps keep costs low and fosters robust choice among plans. Consumers, both on- and off-exchange, reap the benefits of these efforts through lowered premiums, choice, and quality among plans.

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[4] Status of State Medicaid Expansion Decisions; November 2019; Kaiser Family Foundation https://www.kff.org/medicaid/issue-brief/status-of-state-medicaid-expansion-decisions-interactive-map/

The bulk of this report documents how Covered California has implemented the ACA and displays the results of those actions. Those results are the best evidence available to-date of what happens when states' seek to deliver on the promise of the Affordable Care Act and stand in stark contrast to the results in much of the nation — where millions of low-income Americans have no option for Medicaid, where millions of middle-class Americans have been priced out of coverage, and where there is often limited competition with health plans not being held accountable. Before reviewing these results, however, it is important to put them in the context of: (1) the goals the Affordable Care Act sought to achieve; (2) recent changes in federal policies; and (3) how California has acted to ensure the tools of the ACA are fully used to benefit its consumers.

The following outlines the differences between federal action and that of California to protect and build on the key principles of the ACA:

1. **Meaningful Coverage for Everyone**
   The ACA enacted landmark market reforms to ensure that no one can be turned away from coverage and that once a consumer got coverage, they would have access to affordable high-quality care. It prohibits plans from denying coverage on the basis of pre-existing conditions and from discriminating against consumers based on health status, price, or other factors. It prohibits annual and lifetime coverage limits and requires plans to cover a standard set of 10 essential health benefits to ensure consumers have comprehensive coverage that will protect them when they need care. These policies contrast to those in the individual market prior to the ACA where consumers were either rejected from coverage, or, when they did get coverage, got "swiss-cheese" coverage that failed to offer the care they needed when they sought care. (See Appendix, Chart 1: Meaningful Coverage for Everyone.)

2. **Concretely Address Consumer Affordability:** The ACA's expansion of Medicaid provided coverage for millions of low-income Americans across the country, and the provision of federal premium and cost-sharing subsidies helped bring coverage within reach of millions more. The Act also set forth critical market stabilization policies designed to foster healthy risk and stable enrollment that help lower premiums such as the individual mandate and penalty, an expanded open enrollment period, risk selection protection (reinsurance, risk adjustment and risk corridors), and marketing and navigator programs to promote enrollment. Offering subsidized enrollment and other policies were key to getting a large and healthy population enrolled in the individual market to keep premiums low for those not eligible for subsidies. In addition to programs targeting the individual market, the ACA also took steps to address underlying health care costs, such as building on payment reforms in Medicare to move away from fee-for-service — which can promote unneeded services — and the establishment of the Center for Medicare and Medicaid Innovation to foster new delivery systems to lower costs both for those enrolled in public programs and those enrolled in the private marketplace. (See Appendix, Chart 2: Consumer Affordability.)

3. **Foster Consumer Choice:** The ACA aims to harness competition and choice in the market in order to improve coverage, affordability, access to care, and consumer satisfaction. Consumer choice relies on plan participation with the need for a stable market that provides health plans some certainty regarding the number and health status of enrollees being a vital element. The Act also set forward policies such as reinsurance and risk adjustment to

foster plan participation and ensure choice among consumers. (See Appendix, Chart 3: Foster Consumer Choice.)

4. **Accountability:** Ensuring accountability among plans is a core principle of the ACA which provides tools to ensure plans spend the majority of premiums on health care and meet quality standards. It also provides flexibility for states, like California, to impose rigorous standards for qualified health plans to benefit consumers. (See Appendix, Chart 4: Health Plan Accountability.)

This report and its companion, Covered California Holding Health Plans Accountable for Quality and Delivery System Reform, detail how California and Covered California have worked to both protect and implement the ACA as effectively as possible. It also includes the results of those actions. While it is outside of the scope of this report to assess and analyze how the ACA has been implemented in other states or the results of that implementation, in many ways the indications are clear that states that have taken advantage of and expanded the tools of the ACA have seen greater success in enrollment than those states that have adopted the policies intended to undo the ACA.

California Creating an Effective Consumer-Driven Marketplace

Design Principles and Early Work

California embraced the Affordable Care Act's goal of improving health care coverage by expanding health care access and creating a marketplace that works for consumers. As presented in a 2017 Covered California report, Key Ingredients to Creating a Viable Individual Market That Works for Consumers: Lessons From California, California's success in expanding coverage and creating a competitive marketplace can be attributed to the following actions:

- **Early policy actions that promoted market stability:** Early policy actions were critical to success. Expanding California's Medicaid program, known as Medi-Cal, allowed millions to gain coverage directly, while also benefiting those in the individual market. States that expanded Medicaid have seen a more dramatic reduction in their rates of uninsured residents and have individual market premiums that are 7 percent lower than states that did not expand their Medicaid program.[5]
- **Active negotiation:** Through active and extensive vetting and negotiations with health insurance companies on rates, network composition and delivery-system requirements, Covered California ensures that consumers have a choice among multiple insurers that are stable and provide value.[6]
- **Ensuring that plan designs promote access and enable comparison shopping:** All plans sold in Covered California, and in the off-exchange individual market where the vast majority of enrollment is in plans that "mirror" Covered California plans in benefits

[5] Sen, A. P., and DeLaria, T. C. (2016). The effect of Medicaid expansion on marketplace premiums. Washington D.C.: Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation.

[6] Covered California decided against a "clearinghouse" model — in which any health insurance company and plan design is accepted — and instead chose to take a more active role in fostering competition in the marketplace and value among plan choices for consumers.

and price,[7] are designed to promote access to needed care, including having most outpatient care, such as primary care visits and lab tests, not being subject to any deductible for Silver and higher metal tiers.[8] Benefit designs and cost-sharing levels are the same across all of Covered California's 11 health insurance companies for each metal tier, which enables apples-to-apples comparison of premiums, providers and quality.

- **Extensive marketing and outreach:** Selling health insurance is uniquely difficult. While sick individuals are motivated to buy health insurance, healthier people need to be reminded of the value of coverage. In Marketing Matters: Lessons From California to Promote Stability and Lower Costs in National and State Individual Insurance Markets, Covered California describes how investments in marketing have attracted a healthier risk pool, helped to lower premiums and encouraged health insurance company participation.

Through the combined effects of these actions, the state of California and Covered California in particular have demonstrated the positive impacts of effective policies and implementation of the Affordable Care Act, including:

- **Biggest drop in uninsured rate in the nation:** The uninsured rate in California has decreased from over 17 percent in 2013 before the implementation of the Affordable Care Act to 7.2 percent in 2018, representing the largest overall drop in the rate of uninsured in the nation.[9] Because a large portion of California's residents are undocumented, the progress in getting those eligible for state and federal programs covered has been even more striking, with the eligible uninsured rate dropping to about 3 percent in the same period.[10]
- **Unsubsidized Californians have some of the lowest premium increases in the nation due to a healthy risk mix:** Covered California has maintained a vibrant and large unsubsidized individual health care market, where those without subsidies benefit from California consistently being among the states enrolling the healthiest risk pool in the nation. Between 2014 and 2019, the average national benchmark premium has increased by over 79 percent, while in California the average premium increase was 45 percent (see Figure 1. California and National Benchmark Premium Growth — 2014 to 2019). Many states across the nation have maintained enrollment of those receiving subsidies, largely from strong renewals, while new enrollment has plummeted and the

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[7] Off-exchange mirror plans are identical to plans sold in Covered California, having the same benefit design and gross premium.

[8] Outpatient services include primary care visits, specialist visits, urgent care, lab tests, X-rays, imaging and other services. Bronze plan enrollees can have three primary care or specialist visits without needing to satisfy a deductible. Further details on how this alignment of benefit design with delivery reform promotes better care can be found here.

[9] United States Census Bureau, 2013 American Community Survey (2013). American Community Survey Tables for Health Insurance Coverage. Retrieved from: https://www.census.gov/data/tables/time-series/demo/health-insurance/acs-hi.2013.html; and United States Census Bureau, 2018 American Community Survey (2018). American Community Survey Tables for Health Insurance Coverage. Retrieved from: https://www.census.gov/data/tables/time-series/demo/health-insurance/acs-hi.2018.html

[10] Dietz, M, Graham-Squire, D, Becker, Chen, X, Lucia, L, and Jacobs, K. (2016, August). Preliminary CalSIM v 2.0 Regional Remaining Uninsured Projections. UCLA Center for Health Policy Research & UC Berkeley Labor Center. Retrieved from: http://laborcenter.berkeley.edu/pdf/2016/Preliminary-CalSIM-20-Regional-Remaining-Uninsured-2017.pdf.

unsubsidized enrollment has dropped dramatically.[11] Fortunately, this has not been the reality for California's consumers. The steep increases in premiums in the rest of the nation have two main impacts:

- First, there was a dramatic decrease in the number of new enrollments. In the individual markets in the states served by the federal marketplace ("FFM," or federally facilitated marketplace), new enrollment has declined by 38 percent between 2016 and 2018 — dropping from 4 million new enrollees to 2.5 million, while in California new enrollment in the same two years dropped 9 percent (from roughly 425,000 to 388,000).[12] Garnering new enrollment is vital to make sure those who need insurance buy it and to keep the risk pool as healthy as possible (which keeps costs low for those not receiving subsidies and the federal government) since generally healthier individuals are more apt to leave coverage.
- Second, in the same two-year period — from 2016 to 2018 — the national unsubsidized individual market enrollment declined by 2.3 million, a decrease of 44 percent, for the on and off-exchange individual market. However, there was only a 17 percent drop in unsubsidized enrollment in California in those two years (see Figure 2: Unsubsidized Enrollment in Individual Markets – Federally Facilitated Marketplace (FFM) States Compared to California: 2015-2018).[13] This means that if the nation's rate of coverage were similar to California's, there would be about 1.5 million more Americans with individual market coverage from those two years alone.

By keeping costs down through the relatively healthy risk mix, California has successfully retained a large unsubsidized individual market — almost one million Californians as of 2019 — who are enrolled in good coverage that will meet their needs in the event of major health events.

And additional indication of California's success compared to much of the nation can be found in a recent study conducted on health care costs.[14] This study found that while California was one of the most expensive states in the nation for health care – as measured by the average costs for seven common procedures paid in the commercial market – the 2019 premiums in the individual market were 5 percent lower than the national average, even though in 2015 California individual market premiums were 9 percent higher than the national average.

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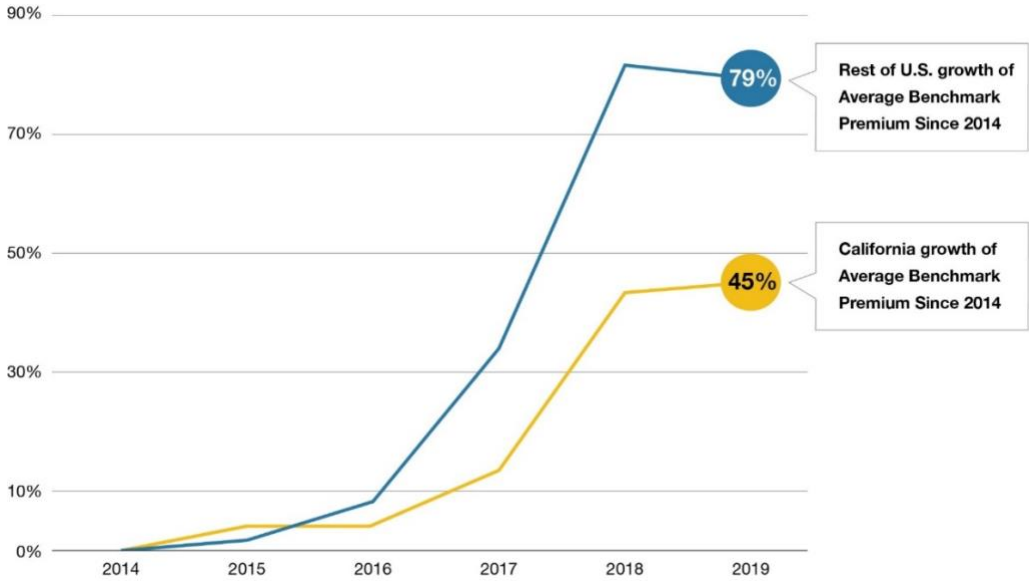
[11] Keith, K. (2019, August 13). CMS Issues New Reports on Marketplace Enrollment. Health Affairs blog. Retrieved from https://www.healthaffairs.org/do/10.1377/hblog20190813.981115/full/.

[12] Centers for Medicare and Medicaid Services (CMS). "Marketplace Open Enrollment Period Public Use Files" for 2017, 2018 and 2019: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/index

[13] Analysis of data from Centers for Medicare and Medicaid Services (CMS). "1 Trends in Subsidized and Unsubsidized Enrollment" (August 12, 2019): https://www.cms.gov/CCIIO/Resources/Forms-Reports-and-Other-Resources/Downloads/Trends-Subsidized-Unsubsidized-Enrollment-BY17-18.pdf

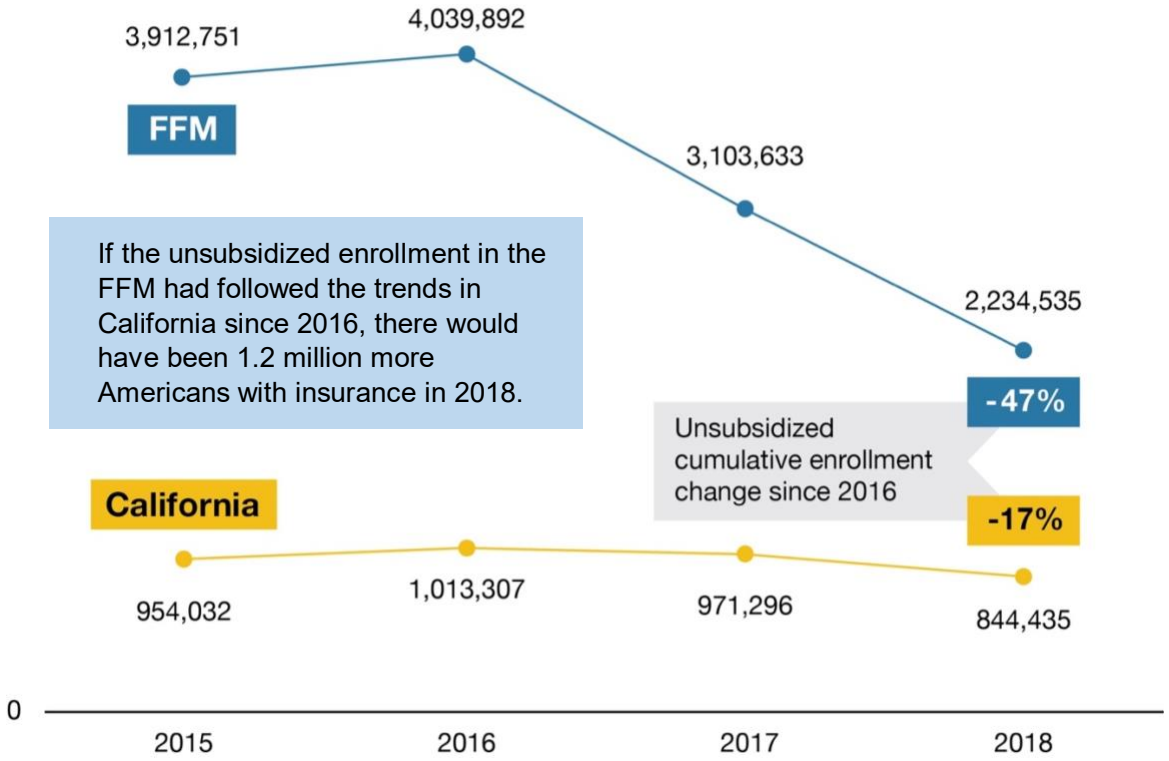
[14] Scheffler, R, Arnold, D and Fulton, B. (October 2019). The Sky's the Limit: Health Care Prices and Market Consolidation in California. California Health Care Foundation. Retrieved from: https://www.chcf.org/wp-content/uploads/2019/09/SkysLimitPricesMarketConsolidation.pdf.

Figure 1. California and National Benchmark Premium Growth — 2014 to 2019



Source: Covered California analysis of CMS Data. Retrieved from https://www.cms.gov/.

Figure 2: Unsubsidized Enrollment in Individual Markets — Federally Facilitated Marketplace (FFM) States Compared to California: 2015-2018



Source: CMS, Trends in Subsidized and Unsubsidized Enrollment, August 12, 2019.

- **Robust competition driving value for consumers:** Continuous participation by 10 health insurance companies since the launch of Covered California in 2014 and the addition of one insurer in 2016 promotes robust competition in the marketplace, which helps keep premium costs low for consumers. Health insurance companies know that if they are priced significantly higher than their competition, consumers will "vote with their feet." California's individual marketplace has been marked by stability and broad choice of insurer, with ten health plans participating in the exchange market place from 2014 through 2020 and a totally of eleven plans now in the market. Economic analysis has demonstrated the effect of increased competition on lowering costs in the individual insurance markets[15] — in California 87 percent of enrollees can choose from at least three insurers, with 56 percent having five or more. The robust competition in California contrasts to many other areas around the nation. The number of issuers participating in exchanges nationally has seen dramatic fluctuation nationally over the past five years, with significant growth in the number of health plans participating in exchanges in the past two years (2019 and 2020). While one-in-ten exchange enrollees nationally will be in markets with only one insurer in 2020, that represents a dramatic decrease from 2018, when 26 percent of enrollees had only one insurer. Nonetheless, most of the nation still suffers from far less consumer power to drive their markets, with 67 percent of enrollees nationally outside of California being able to choose three or more health insurers (and 27 percent five or more).[16] The enrollment within each insurer is a testament to the fact that health care is local, with local health insurance companies often having significant enrollment in the areas they serve — providing important competition (see Table 1. Statewide and Regional Enrollment for Covered California Insurers — 2019).

[15] Unpublished research from Wes Yin, PhD, University of California, Los Angeles, communication, December 2019.

[16] Kaiser Family Foundation analysis downloaded December 2019, with additional analysis by Covered California to separately identify California-specific enrollment options.

Table 1. Statewide and Regional Enrollment for Covered California Insurers — 2019

Health Insurance Company	Total Enrollment	Percent of Statewide Enrollment	Percent of Service Area Enrollment	Service Area Description
Kaiser Permanente	477,683	34.3%	**38.2%**	Nearly statewide*
Blue Shield of California	428,498	30.8%	**30.8%**	Statewide
Anthem	64,031	4.6%	**35.1%**	Northern counties, Santa Clara and Central Valley
Valley Health Plan	16,366	1.2%	**28.3%**	Santa Clara
LA Care	84,750	6.1%	**21.8%**	Los Angeles
CCHP	10,013	0.7%	**19.7%**	San Francisco and San Mateo
Health Net	191,650	13.8%	**17.7%**	Greater Sacramento Area, North Bay Area, San Francisco, Central California and Southern California
Sharp Health Plan	17,335	1.2%	**15.9%**	San Diego
Molina Healthcare	56,023	4.0%	**7.5%**	Southern California
Oscar Health Plan	35,962	2.6%	**6.6%**	San Francisco, Los Angeles and Orange
Western Health Advantage	9,386	0.7%	**7.3%**	North Bay Area and Greater Sacramento Area

Note: Service area enrollment is calculated by dividing the insurers' enrollment by the total enrollment in the service area. *Kaiser Permanente has a presence in all regions in California, but in some regions offers partial coverage. Blue Shield of California is the only insurer with a full presence in every ZIP code in California.

- **Lower premiums have benefited unsubsidized consumers and the federal Treasury:** Savings in lower per-person premiums have largely benefited unsubsidized California enrollees and the U.S. Treasury. Between 2014 and 2018, Covered California's risk scores were approximately 20 percent below the national average for the individual market, resulting in likely savings of approximately $2.5 billion per year for enrollees and the U.S. Treasury, which translates to approximately $12.5 billion in savings over this five-year period (see Figure 3. California's Combined Impact on Lowering Costs in the Individual Market — 2014-2018 [in billions]).[17,18] The savings to the U.S. Treasury resulting from lower Advanced Premium Tax Credits are important,

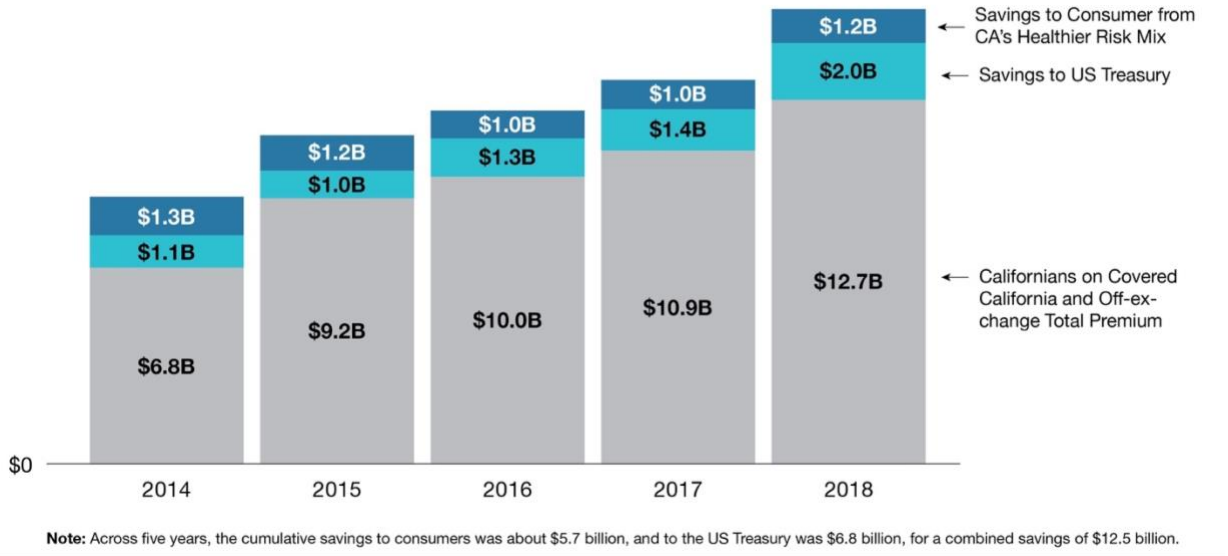
[17] For risk score differences, see: Bingham, A., Cohen M., and Bertko J. (2018). National vs. California Comparison: Detailed Data Help Explain the Risk Differences Which Drive Covered California's Success. Health Affairs blog. Retrieved from https://www.healthaffairs.org/do/10.1377/hblog20180710.459445/full/. Covered California analysis savings derived using data from CCIIO (see risk-adjustment reports), CMS (effectuated enrollment snapshots, such as this example), and Covered California's own administrative data. Savings were determined by holding observed enrollment constant and estimating hypothetical premiums if the risk mix in California had mirrored that of the rest of the nation in each of the respective years (using the enrollment-weighted average risk score for all states for which risk adjustment data are reported, excluding California).

[18] The 2018 Covered California Silver-tier gross premium increased by an additional 12.5 percent to provide insurers with funding to pay cost-sharing reductions (CSR) in certain Silver-variant plans because of the end of the CSR payments from Centers for Medicare and Medicaid Services (CMS).

but the lower premium costs for unsubsidized enrollees are especially so. On an annual basis, the lower costs to unsubsidized enrollees mean their average annual premium is $1,080 to $1,560 less than those enrollees would have paid if the risk mix had been similar to that seen in the rest of the nation (see Figure 4. California's Healthier Risk Mix Leads to Lower Premium Costs for Unsubsidized Enrollees).

These reduced costs not only mean real savings for unsubsidized enrollees, but for many, the lower annual costs are the difference between buying insurance and going without coverage. Because those most likely to be financially motivated to drop coverage are healthier individuals, these lower costs encourage healthier individuals to get or retain coverage, which in turn helps foster a healthier risk mix.

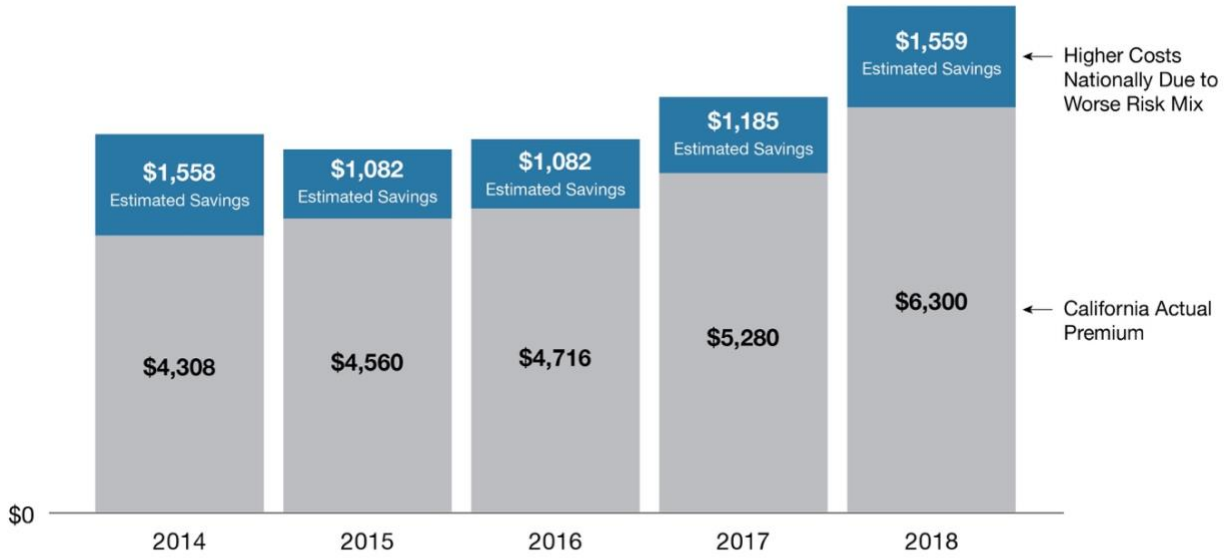
Figure 3. California's Combined Impact on Lowering Costs in the Individual Market — 2014-2018 (in billions)[19]



Note: Across five years, the cumulative savings to consumers was about $5.7 billion, and to the US Treasury was $6.8 billion, for a combined savings of $12.5 billion.

[19] Covered California analysis of data is derived from CCIIO (see risk-adjustment reports), CMS (effectuated enrollment snapshots, such as this example), and Covered California's own administrative data. Savings were determined by holding observed enrollment constant and estimating hypothetical premiums if the risk mix in California had mirrored that of the rest of the nation in each of the respective years (using the enrollment-weighted average risk score for all states for which risk adjustment data are reported, excluding California).

Figure 4. California's Healthier Risk Mix Leads to Lower Premium Costs for Unsubsidized Enrollees[20]



Note: In the period from 2014 to 2018, the cumulative average premium increase in California was one-third lower than the increase for the rest of the US: relative to 2014, the average premium in 2018 was 76 percent higher in the rest of the US, compared to 46 percent in California. In 2018, a large average premium increase was driven by the gross premium for the Covered California Silver tier (the most commonly chosen tier) increased by an additional 12.5% due to the elimination of the Cost-Sharing Reduction (CSR) payments from Centers for Medicare and Medicaid Services (CMS).

State Actions for 2020 Promote Affordability and Continued Market Stability

Recent federal policy changes that include zeroing out the individual mandate's penalty and other changes[21] have destabilized insurance markets nationwide. Although California's market has been stable, with robust competition among 11 health insurance companies and premium increases that have been about half of national rates, the Legislature and governor acted in 2019 to assure continued stability and affordability. This effort was accomplished by banning short-term health plans, establishing a California individual mandate and penalty to be in effect while the federal penalty remains set at zero and funding a state subsidy program that expands financial assistance above the Affordable Care Act's income limits.[22]

The new subsidies include first-in-the-nation efforts to build on the Affordable Care Act and provide financial help to the middle class (those with incomes of 400 to 600 percent of the federal poverty level), many of whom have experienced high health care costs with little help.

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[20] Covered California analysis of data is derived from CCIIO (see risk-adjustment reports), CMS (effectuated enrollment snapshots, such as this example), and Covered California's own administrative data.

[21] Other actions include reduced marketing to promote enrollment in the federal marketplace and the promotion of short-term, limited-duration policies that have gaps in covered benefits, underwrite consumers based on health status and that are composed of enrollees who are not part of the common risk pool that helps to foster a healthy risk mix and lower premiums.

[22] Senate Bill 106 (Committee on Budget and Fiscal Review, Chapter 55, Statutes of 2019) provides the appropriations for the state subsidy program, along with income eligibility and specified funding allocation by eligibility levels. Senate Bill 78 (Committee on Budget and Fiscal Review, Chapter 38, Statutes of 2019) is the omnibus health trailer bill that establishes the individual mandate and penalty, as well as the requirements for the state subsidy program.

These policies are predicted to result in 229,000 newly insured Californians. They have helped keep premium increases to an all-time low of 0.8 percent for 2020, the lowest since the 2014 launch of Covered California. In contrast to 2020 rate changes in many other parts of the nation — which have largely been attributed to downward adjustments of major over-pricing that occurred over the past two years or the effect of state-administered reinsurance programs — the lower rate increases in California follow years of relatively moderate premium increases (see Figure 5. California's 2020 Policies to Protect and Go Beyond the Affordable Care Act).

Figure 5: California's 2020 Policies to Protect and Go Beyond the Affordable Care Act

Holding Health Insurers Accountable for Improving Quality and Advancing Delivery Reform

Covered California's Approach to Contracting

Covered California has established a rigorous health insurer selection and vetting process focused on how effectively insurers meet consumers' needs. It has specific contractual requirements that health insurance companies must meet to participate in Covered California. The individual market in California is an important and attractive market for health insurance companies considering Covered California's enrollment of about 1.4 million in 2019, of whom about 85 percent receive subsidies. There are also an estimated 850,000 "off-exchange" consumers who purchase directly from health insurance companies and do not receive subsidies but benefit from an effective marketplace. While Covered California has directly addressed consumers' health care costs by promoting healthier enrollment and fostering price competition among its insurers within the marketplace, the agency's contractual expectations have broader impacts and are intended to promote improvement in the underlying cost and quality of health care for all Californians.

The Affordable Care Act established a minimum set of quality standards that "qualified health plans" must meet to be available to consumers who enroll through the marketplace. These include participating in a nationally standardized Quality Rating System and submitting a Quality Improvement Strategy each year. As a state-based marketplace, Covered California went

beyond these standards to select health insurance companies, define contractual requirements and other processes intended to ensure that its contracted insurers meet consumers' needs and contribute to improving health and care delivery for all Californians. These requirements include participation in Covered California's Healthcare Evidence Initiative, a combined medical claims database reflecting the care provided by Covered California's health insurers. This data, which is managed under contract by IBM Watson Health, provides the ability to analyze patterns of utilization and care across and among Covered California's insurers.[23] Examples of other oversight, accountability and improvement processes are:

- **Network composition review**: As part of its annual contracting cycles, Covered California assesses network composition, the number and types of physicians, medical groups and hospitals that are unique to particular health insurers or available through multiple insurers, drive times to hospitals and other indicators of how a health plan's distribution of providers assures consumers have timely access. The health insurance companies also report network changes and financial performance quarterly.
- **Utilization review:** Covered California reviews Healthcare Evidence Initiative claims data with its health insurance companies to identify trends in emergency room, hospital and physician utilization and determine potential areas for improvement or further investigation. Health insurance companies share claims and encounter data with Covered California monthly.
- **Studies for targeted improvement:** Covered California commissions and provides to its health insurance companies analyses of specific areas to better understand cost-drivers and to foster improvement by assessing plan-level variation, such as a review of potentially wasteful prescription drug use and spending and variation in prescribing patterns for diabetes and HIV.
- **Regular meetings with health insurers:** In addition to the annual negotiating sessions, which include a review of quality and cost issues, Covered California holds regular quality-assessment meetings with each health insurance company throughout the year. These meetings, which are chaired by Covered California's chief medical officer, review areas for improvement and opportunities for the insurer to align with other efforts in California (see "Alignment: Working with Others to Promote Improvement" below).

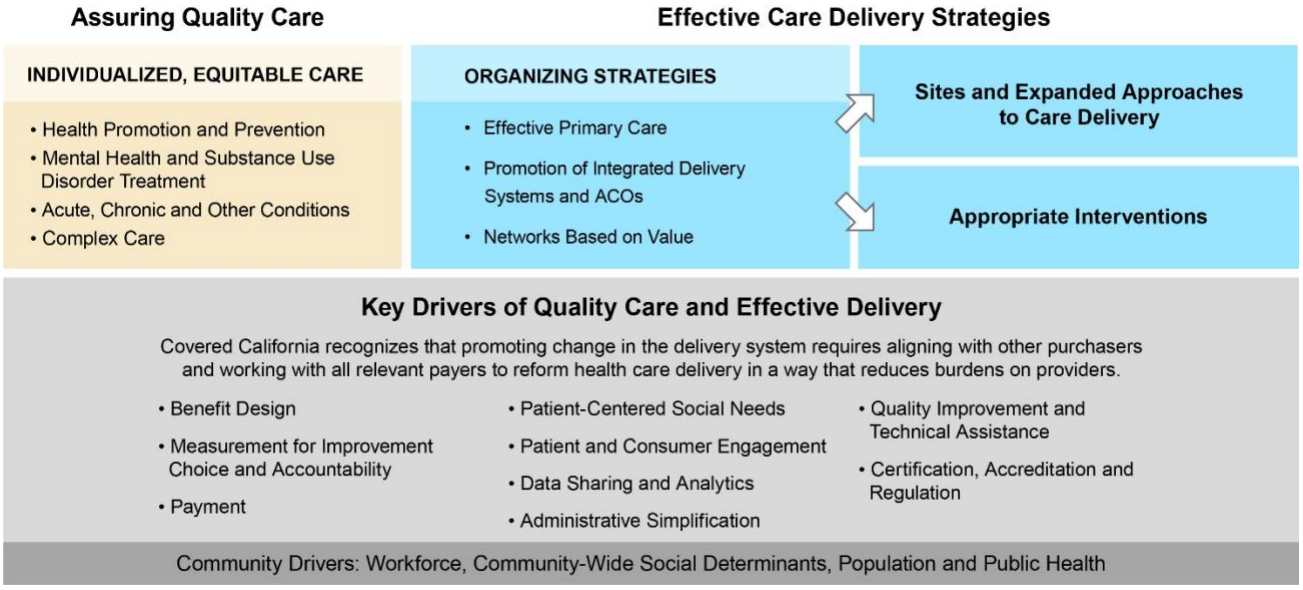
For these areas, Covered California has shared data with its health insurance companies to foster improvement. It intends to release enrollment-wide, and, as appropriate, plan-specific results in the future.

[23] Newly enacted state legislation (Assembly Bill 929, Chapter 812, Statutes of 2019) further clarifies the importance of Covered California using detailed utilization and encounter data to ensure that consumers are able to choose from plans that offer the best value and to evaluate impact on the health delivery system through lower costs, quality improvement, and disparity reductions.

An Overarching Framework Guides Accountability and Improvement Initiatives

These processes have been anchored in the expectations detailed in the contract between Covered California and its health insurance companies (see Attachment 7: Quality, Network Management, Delivery System Standards and Improvement Strategy). To update its contractual expectations, Covered California has developed a revised comprehensive framework for evaluating and improving health system performance (see Figure 6. Covered California's Framework for Holding Health Plans Accountable for Quality Care and Delivery Reform). The framework is composed of two main strategies: assuring quality care and effective care delivery. Substantial work under current contract requirements has been accomplished in each of the two strategies and is summarized in this report, with additional details provided in a companion report: Covered California Holding Health Plans Accountable for Quality and Delivery System Reform.

Figure 6. Covered California's Framework for Holding Health Plans Accountable for Quality Care and Delivery Reform



Assuring Quality Care

Covered California's overarching goal is to ensure that all Californians — whether they are striving to stay healthy or currently needing treatment — receive individualized, equitable care. Regardless of their circumstances, race, gender, or where they live, health insurers are expected to ensure that every individual receives care that is personalized, delivered in the right setting at the right time, does not cause harm and is as cost-effective as possible.[24,25] A key

[24] In the current contract, Covered California focused health equity efforts on the reduction of health disparities. While inclusive of health-disparities reduction, the revised framework of Individualized Equitable Care is intended to capture the broad goal of care that is individualized to address an individual's health needs.

[25] These goals are consistent with the six attributes of health care quality identified by the Institute of Medicine: safe, timely, effective, efficient, equitable and patient-centered. See more: Committee on Quality Health Care in America, Institute of Medicine, (2001). Crossing the quality chasm: a new health system for the 21st century. Washington, D.C.: National Academy Press.

element of this goal is to identify and reduce racial and ethnic health disparities, which has been central to Covered California's mission since its inception.

Assuring quality care requires a high degree of collaboration among Covered California, health insurance companies and providers. Health insurance companies are required to collect diverse measures[26] and implement robust quality improvement strategies. Annually reported quality measures are key to assessing progress and understanding variations in performance across providers and health plans, as well as comparing Covered California health plan performance to marketplace plans nationally. The accompanying report, Covered California Holding Health Plans Accountable for Quality and Delivery System Reform, provides health plan-specific results in multiple domains and presents early findings from an ongoing initiative to understand and reduce racial and ethnic disparities in care.

Insights From Variations and Trends in Measured Performance

One approach to tracking performance has been through the calculation of annual global quality ratings for each plan, which are now summarized in a rating scale of one to five stars. Since 2014, Covered California has included global quality scores in its consumer-facing information, and as of fall 2016, Covered California has used the federal Quality Rating System results, which are based on standard quality of care measures (Healthcare Effectiveness Data Information Set) and patient experience of care measures (Consumer Assessment of Healthcare Providers and Systems).[27, 28] The Quality Rating System calculates a global star rating and three summary component scores on: medical care, care experience, and plan experience for each health plan based individual market experience compared to a national marketplace benchmark.

Although there have been some changes to the scoring methodology that limit year-to-year comparisons, Covered California's health plans have improved on the marketplace star ratings between the 2016 and 2019 reporting years. There remains, however, substantial variation in scores across insurers with Kaiser Permanente and Sharp Health Plan, two insurers with integrated and coordinated delivery system models, consistently performing among the best in the nation. The performance of physicians and physician organizations that contract with other Covered California insurers varies: some physician organizations perform well, but many have significant opportunity for improvement.

To more sharply focus accountability efforts among health insurers, Covered California examined over 40 measures used by the national marketplace Quality Rating System to determine star ratings. Covered California is proposing to prioritize a subset of 13 measures that were selected based on the following criteria: (1) health impact, (2) extent of health plan

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[26] Health insurance companies are required to participate in the CMS Marketplace Quality Rating System, which entails the collection of measures from the Healthcare Effectiveness Data Information Set (HEDIS) and Consumer Assessment of Healthcare Provider and Systems (CAHPS).

[27] Prior to the launch of the federal Quality Rating System (QRS) in the fall of 2016, Covered California used non-exchange historical performance on patient-experience survey measures (CAHPS) and QRS beta testing results to calculate a Covered California-specific rating using a one to four-star scale.

[28] For plan year 2020, the federal marketplace (healthcare.gov) will begin displaying global ratings and the three summary component scores for each qualified health plan. Center for Consumer Information and Insurance Oversight and Center for Clinical Standards and Quality, Centers for Medicaid and Medicare Services. (2019). Quality Rating Information Bulletin. Retrieved from https://www.cms.gov/.

variation, (3) performance improvement opportunity, (4) alignment with other California accountability programs, and (5) balance across domains of care, such as prevention, chronic-illness care and behavioral health. Additionally, three of the 13 measures overlap with the measures currently collected by race/ethnicity for health disparities reduction interventions.

Performance trends on these 13 measures are presented in Table 2. Covered California's Weighted Average Health Plan Performance for Candidate Priority Quality Rating System Measures, 2016-19. Each entry is the weighted average by enrollment for all health plans on the specific measure, and therefore represents the experience of the average enrollee. Entries are color-coded to show where the weighted average falls among national percentiles for marketplace plans. For all measures, a higher rate indicates better quality of care or better patient experience except the All-Cause Hospital Readmissions for which a lower score means better performance.

Table 2. Covered California's Weighted Average Health Plan Performance for Candidate Priority Quality Rating System Measures, 2016-19

	2016*	2017	2018	2019
Individualized, Equitable Care				
Rating of All Health Care	80	81	83	78
Rating of Health Plan	73	76	78	73
Prevention				
Breast Cancer Screening Ages 50-74	74	70	72	72
Cervical Cancer Screening Ages 21-64	59	62	65	64
Colorectal Cancer Screening Ages 50-75	51	55	58	58
Chronic Illness Care				
Controlling High Blood Pressure	63	63	66	66
Diabetes: Hemoglobin A1c (HbA1c) Control (<8%)	58	60	63	64
Behavioral Health				
Alcohol & Drug Disorders: Initiation & Engagement Ages 13+	21	23	26	25
Antidepressant Medication Management		57	60	61
Follow-up After Hospitalization for Mental Illness	56	60	53	50
Care Coordination and Access to Care				
All-Cause Hospital Readmissions**	86	80	74	71
Care Coordination	81	81	83	79
Access to Care	70	71	77	72
Key: Percentile of U.S. Qualified Health Plan Scores:	< 25	25-50	50-90	≥ 90

*Some measures were not used in the Quality Rating System scoring in 2016 and therefore do not have scores or associated percentiles. **This table mostly reports percent scores. The All-Cause Hospital Readmissions measure is an exception. It is a ratio of the observed rate to the expected rate x100, and therefore a lower score represents better performance; if the observed rate is above expected (poorer performance) the score would exceed 100.

The performance of the 11 health insurance companies in Covered California on these priority measures and on the additional 29 measures as detailed in the report, Covered California Holding Health Plans Accountable for Quality and Delivery System Reform, provide both overall and plan-specific performance information that Covered California and its contracted plans are using to inform quality improvement efforts. Some major observations are:

- **High levels of consumer satisfaction with their health plan and health care:** As evident from the Rating of All Health Care and Rating of Health Plan measures, there is generally high satisfaction among Covered California enrollees with their health plans (with 95 percent of enrollees enrolled in plans with satisfaction that is above the 50th percentile nationally) and with their care (with 75 percent of enrollees enrolled in plans reporting satisfaction that is above the 50th percentile nationally). The data reveal, however, that further improvement remains possible.
- **Wide variation in performance among insurers:** The weighted average of these important measures is a broad indication of how care is being delivered and provides the generally positive news that, for most measures, enrollees in Covered California's plans receive care at or above the national average. The more important finding, however, is that for each measure there is wide variation in the care being delivered among the 11 contracted health insurance companies (see companion report for plan-specific data).
- **Improvement in performance would be potentially life-saving and clinically meaningful for hundreds of thousands of Californians:** The wide variation in performance is particularly meaningful for measures related to managing diabetes and hypertension that help point to important opportunities to reduce the morbidity and mortality attributable to those conditions. Better performance on these indicators means there would be fewer adverse events and more saved lives. Research suggests that a one percent reduction in HbA1c reduces diabetes-related deaths by 21 percent and myocardial infarctions (heart attacks) by 14 percent.[29] For every 10 percent reduction in HbA1c (e.g., 10 to 9 or 9 to 8) the risk of progression to blindness fell 44 percent, progression to kidney failure fell 25 percent, and loss of sensation in the feet by 30 percent.[30]

  Another study estimated the effect of having all health plans nationally achieve the levels found at the 90th percentile on measures focused on diabetes and cardiovascular disease (similar to what is seen for Kaiser Permanente in California). This would result in 2.3 million fewer heart attacks (a reduction of 22 percent), 800,000 fewer strokes (a reduction of 12 percent) as well as reduced incidence of several other less common complications over a 10-year period.[31] The researchers estimated that approximately 4.9 million years of life would have been saved during this same period.

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[29] Stratton, I. M., Adler, A. I., Neil, H. A., Matthews, D. R., Manley, S. E., Cull, C. A., … Holman, R. R. (2000). Association of glycaemia with macrovascular and microvascular complications of type 2 diabetes (UKPDS 35): prospective observational study. BMJ (Clinical research ed.), 321(7258), 405–412. doi:10.1136/bmj.321.7258.405

[30] Nathan, D. M., Bayless, M., Cleary, P., Genuth, S., Gubitosi-Klug, R., Lachin, J. M., … DCCT/EDIC Research Group (2013). Diabetes control and complications trial/epidemiology of diabetes interventions and complications study at 30 years: advances and contributions. Diabetes, 62(12), 3976–3986. doi:10.2337/db13-1093

[31] Note these estimates are from a 2008 study based on the Archimedes simulation model. At the time, impacts were modeled for the U.S. population of 210 million adults ages 18-85 over a ten-year period, 1995-2005: Eddy, D. M., Pawlson, L. G., Schaaf, D.

- **Strong performance by Kaiser Permanente and Sharp Health Plan underscore potential for improvement and the importance of fostering care that is integrated and well-coordinated:** For most measures, the performance of Kaiser Permanente and often Sharp Health Plan are among the best in the entire nation — scoring in the 90th percentile. This very positive performance is a clear indication of what is possible when care is effectively coordinated. In contrast, the overall performance of the other nine contracted health insurance companies usually falls between the 25th and 90th percentile compared to national performance — with wide variation among insurers and between different measures. Other data has shown that when measuring performance at the level of the medical group, there are groups in California that perform as well as Kaiser Permanente and Sharp Health Plan on clinical performance indicators.[32] The high levels of performance observed by some plans and providers reveals what is possible and informs Covered California's high expectations for all its insurers. These findings also underscore the benefits of integrated and coordinated care, which has the potential of being delivered both by integrated delivery systems under a single health insurer's umbrella or through accountable care organizations.
- **Relatively low scores on some consumer-reported experience measures warrant further research and improvement across all insurers:** Covered California identifies four priority CAHPS measures. Of those measures, two that relate to enrollees' overall satisfaction were described above and provide an important positive indicator of overall Covered California health insurer performance. However, Covered California health insurers generally have worse scores than the rest of the nation on the Access to Care and Care Coordination measures, with the majority of insurers below the 25th percentile and none above the 50th.[33] It is important to note that the CAHPS results for marketplace plans nationwide are highly compressed with a difference of only a few points among each percentile, and all results are relatively high compared to other measures. Also, California's demographic diversity includes greater numbers of people in race/ethnicity groups who tend to give plans lower scores. This suggests insurers may not meet the needs of all groups equally. Covered California sees these consumer-experience scores as reason for concern and as an important focus for continuing research. Covered California is working with its health insurance companies to assure improvement in these areas and is seeking to expand the number and sources of measures that can best assess consumers' experience in getting care as it relates to access, care coordination and other important quality domains.
- **Behavioral health presents a significant improvement opportunity:** The relatively low scores in the categories "Engagement of Alcohol & Other Drug Abuse or Dependence Treatment" and "Antidepressant Medication Management" for members with depression highlight important areas for insurer and provider focus. In addition, while the weighted average score for "Follow-Up After Hospitalization for Mental Illness"

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[32] Integrated Healthcare Association. (2019). Top 10% Performers AMP Commercial HMO (MY 2018). Retrieved from: https://www.iha.org/sites/default/files/resources/my_2018_top_ten_honorees.pdf.

[33] The Access to Care measure indicates whether enrollees had access to urgent care or immediate care as soon as needed and were able to access a specialist when needed. The Care Coordination measure indicates whether the enrollee's experience of receiving care was coordinated across different providers and services.

is above the 50th percentile nationally, the fact that this measure has fallen in the period from 2016 to 2019 warrants attention by Covered California and its contracted insurers to assure appropriate discharge planning and member outreach by care-management teams.

Efforts to Understand and Address Health Disparities

Covered California has the overarching goal of achieving the best possible health and health care for each individual. Achieving this goal requires addressing social and economic disparities. Covered California is therefore working with its health insurance companies to reduce health disparities and promote health equity on four fronts: (1) identifying the race/ethnicity of all enrollees, (2) measuring how quality varies by race/ethnicity, (3) conducting population-health improvement activities and interventions to narrow observed disparities in care, and (4) promoting community health initiatives that foster better health and healthier environments and promote healthy behaviors.

Several of Covered California's contracted health insurance companies have been actively engaged in efforts to understand and address health care disparities for many years. Four of Covered California's health insurance companies, Health Net, Kaiser Foundation Health Plan of Southern California, L.A. Care, and Molina Healthcare representing 36 percent (503,220 out of 1,384,030) of enrollment in 2018 earned the National Committee for Quality Assurance's (NCQA) Distinction in Multicultural Health Care (MHC), a program that recognizes organizations that provide culturally and linguistically sensitive services and work to reduce disparities in health and health care.

Covered California is in its third year of a multiyear initiative to measure how quality varies by race/ethnicity and by insurer. In recognition that care patterns based on race/ethnicity — and the interventions to address gaps — likely need to cut across where consumers get their coverage and to overcome small sample sizes, health insurance companies have submitted data for their entire population under age 65 including their other commercial and Medi-Cal populations. This approach to data collection makes direct comparison of scores between insurers unreliable since their populations and data quality differ. Baseline data, however, has revealed important and actionable variation based on race/ethnicity for each insurer. Additionally, even accounting for differences in measurement and populations, the findings suggest that on at least some measures, the health insurers with integrated delivery systems report better quality scores for all groups — to levels that are among the best in the country. While some of these insurers have long invested in and hired staff to support culturally competent care, this finding suggests that integrated and coordinated approaches to care delivery may improve care for those at greatest risk and help to reduce racial or ethnic disparities in quality.

Given the need to look at health care disparities and health equity across the entire population and to promote interventions that apply to racial and ethnic populations regardless of their source of insurance coverage, Covered California is working to expand its disparities-reduction work with other purchasers, particularly Medi-Cal.

Delivery System Reform: Promoting Effective Care Delivery Strategies

The second pillar of Covered California's strategy is to hold health insurance companies accountable for adopting effective care delivery strategies. As indicated above, this focus is based on evidence showing that how care is organized and paid for can contribute to higher-

quality care. For any given hospital or physician practice, only a relatively small percentage of their patients are Covered California enrollees and those enrolled through Covered California today may be covered through an employer, Medicare or Medi-Cal next year. Because of these dynamics, Covered California seeks to promote changes in how care is delivered for its enrollees in ways that can also promote better care for all Californians who use the providers in Covered California's health plans.

Covered California's efforts focus on three organizing strategies: (1) Effective Primary Care, (2) Integrated Delivery Systems and Accountable Care Organizations and (3) Networks Based on Value. These strategies are expected to encourage providers and insurers to help patients choose the settings that are best for them (e.g., substituting safer outpatient or home-based care for hospital-based care) and to choose the best treatment for that patient. Choosing the "best" treatment means ensuring patients are offered evidence-based treatments and, where more than one treatment is clinically reasonable, ensuring that the decision about which treatment to provide is rooted in an understanding of the patient's values and preferences. What follows is an overview of Covered California's initiatives related to the three organizing strategies.

Effective Primary Care

The benefits of strong and effective primary care to both health and health care have long been recognized.[34] Covered California is striving to ensure that all enrollees can experience the benefits of strong primary care systems through several approaches. In California and in much of the nation, virtually all consumers enrolled in a health maintenance organization (HMO) are matched with a primary care physician; however, this is not the case for those enrolled in other types of plans — preferred provider organizations (PPO) or exclusive provider organizations (EPO). In January 2017, Covered California required that all enrollees be matched to a primary care physician or other primary care clinician, such as a nurse practitioner.[35] The purpose was to bring the primary care physician match concept to the PPO and EPO environment so that all consumers benefit from a single point of contact to help them navigate the health care system. A primary care physician can provide continuity, address most health care needs, help consumers select the proper specialist, coordinate their care with other providers and ensure that they understand their treatment options.

By the end of 2017 and each year since then, virtually all consumers enrolled in a Covered California health plan either selected or were matched with a primary care physician. For EPO and PPO products, this means that about 500,000 enrollees in Covered California are now matched and provided direct access to a primary care clinician upon enrollment. While there are a few large employers that have implemented similar programs, this is the largest effort of this type in the nation, and Covered California is working with health insurers to help all enrollees

[34] A major report by the Institute of Medicine underscored the importance and value of primary care in the 1990s: Donaldson, M. S., Jordy, K. D., Lohr, K. N., and Vanselow, N. A. (Eds.). (1996). Primary care: America's health in a new era. National Academies Press. A more recent summary of the evidence for primary care is: Starfield, B., Shi, L., and Macinko, J. (2005). Contribution of primary care to health systems and health. The Milbank quarterly, 83(3), 457-502.

[35] While having a primary care physician is important, enrollees in PPO plans can still choose to navigate the health care system on their own and do not need permission from their primary care physician to seek treatment or a referral to see a specialist.

understand the value of primary care and to evaluate the impact of primary care physician matching on utilization, cost and quality.

Covered California also encourages its health insurers to move away from fee-for-service and toward payment approaches that support primary care and reward improved care and lower overall costs. While payment strategies to primary care physicians vary widely, significant increases were observed for shared savings and capitation-based payments between 2015 and 2018.[36] By 2018, 10 health insurance companies were initiating deployment of such payment models to primary care physicians.[37]

Finally, a growing body of evidence shows that advanced models of primary care greatly improve the care delivered to patients. The percentage of Covered California enrollees cared for by patient-centered medical home-recognized practices (PCMH) grew by the end of 2018 to 560,000 representing 40 percent of all enrollees. While a substantial portion of that enrollment is credited to the wide adoption of the PCMH model within the Kaiser Permanente system, even outside of that system, PCMH enrollment increased from 3 percent to 11 percent.

Beyond formal PCMH recognition, several health insurers are supporting clinical transformation to advanced primary care that emphasizes accessible, data-driven, team-based care.[38] The biggest barrier to full adoption of advanced primary care, despite the structural changes to payment described above, remains inadequate revenue to support well-rounded care teams, underscoring the importance of continued efforts to reform primary care payment. For health insurers to make these investments, performance measurement will likely need to go beyond PCMH recognition-process measures to include outcomes that reflect the impact advanced primary care can have on improving quality and reducing the total cost of care.

Promotion of Integrated Delivery Systems and Accountable Care Organizations

Integrated and coordinated care is widely recognized as a vital contributor to delivering good outcomes and high quality at an affordable cost[39] and Covered California has worked with insurers to expand enrollment in integrated models of care. Nationally, the Centers for Medicare and Medicaid Services (CMS) is leading a drive to implement value-based payment models including integrated and coordinated delivery models such as ACOs.

Leavitt Partners tracks the growth and spread of ACOs, including the new models supported by CMS and their commercial and Medicaid analogs.[40] As of 2018, 10 percent of the U.S. population, or 32.7 million Americans, were cared for in ACOs in commercial, Medicaid and Medicare markets. This includes every state, with penetration ranging from 2 percent to more

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[36] Covered California notes that capitation to medical groups does not always cascade to individual providers who remain paid FFS.

[37] The total number of unique health insurance companies in Covered California is 11. However, this measure considers 12 health insurers because Health Net reports data separately for its Health Net CA and Health Net Life products.

[38] There are several key attributes of advanced primary care models, including: person and family-centered; maintain continuous patient-provider relationships; comprehensive and equitable; team-based and collaborative; and coordinated and integrated; accessible; and high-value. See more: https://www.pcpcc.org/about/shared-principles

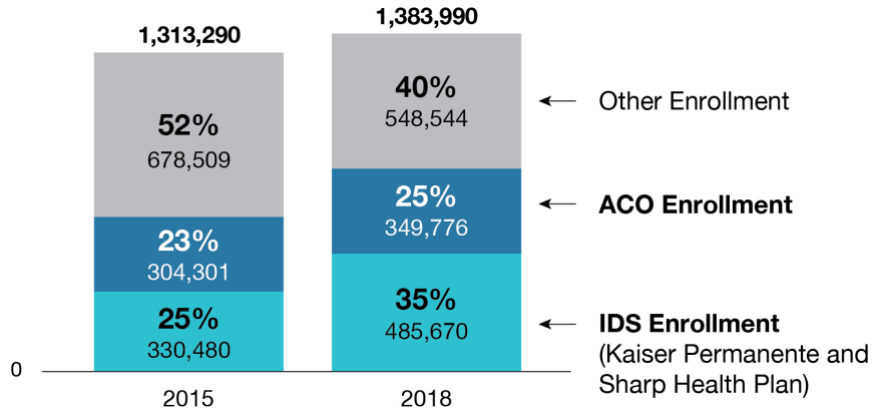
[39] Among the best studies providing evidence is based on the Atlas compiled by the Integrated Healthcare Association: https://atlas.iha.org/

[40] Muhlestein et al. (2018). Recent Progress in The Value Journey: Growth of ACOs and Value-Based Payment Models in 2018. Health Affairs blog. Retrieved from https://www.healthaffairs.org/do/10.1377/hblog20180810.481968/full/.

than 20 percent. Leavitt Partners reports that between 10 to 15 percent of Californians are cared for in such models.

In 2018, 60 percent of Covered California enrollees were cared for in an integrated delivery system or an accountable care organization, which represents a 12-percentage point increase from 2015. While much of this growth is due to enrollment in Kaiser Permanente's and Sharp Health Plan's integrated delivery systems, even after excluding these two systems, 25 percent of Covered California enrollees were cared for in an ACO in 2018, which equates to 350,000 consumers and a 2-percentage point increase from 2015 (see Figure 7. Covered California Enrollment in Integrated Delivery Systems [IDS] or Accountable Care Organizations [ACO], 2015 and 2018). It is this latter statistic that is most comparable to the national data from Leavitt Partners; based on this report, California has greater penetration of these new models than the overall U.S. Covered California not only has an ACO enrollment that is more than two-times the national average, but that even in California it appears that Covered California enrollees are far more likely to be enrolled in ACOs than are Californians with other sources of coverage (with 25 percent enrollment when excluding those enrolled with Kaiser Permanente or Sharp Health Plan, compared to the Leavitt Partners estimate of California enrollment of 10 to 15 percent).

Figure 7. Covered California Enrollment in Integrated Delivery Systems (IDS) or Accountable Care Organizations (ACO), 2015 and 2018



Health insurance companies are supporting integrated care in other ways. Nine health insurers reported offering technical support, data-sharing support, or promotion of participation in health information exchanges for providers in 2018, an increase from four health insurers in 2015. Covered California has also seen a steady increase in the number of insurers using other common components of integrated coordinated care such as population health management support. Insurers are also required to report performance of different ACO models using the Integrated Healthcare Association's (IHA) Align Measure Perform Commercial ACO Measure Set starting in 2019. IHA has reported the first results under this measure set, showing that a mix of ACOs, built on both HMO and PPO platforms, while varying significantly, are performing about as well as capitated physician organizations in HMOs and significantly better than regional aggregates of PPO providers. Covered California is beginning to use this data to identify best practices and inform future contract requirements.

Networks Based on Value

Access, affordability and consistent quality performance are core to Covered California's mission to expand the availability of coverage and improve health and health care while

lowering costs. A starting point of Covered California's assessment is to go beyond the well-established network adequacy provisions for all plans in California that are set and overseen by the California Department of Managed Health Care and, for a very small portion of enrollees, the California Department of Insurance. Covered California assesses the number and types of providers and facilities including the mix of providers, the unique providers across plans and access to essential community providers.

Covered California looks beyond standard access measures because of the wide variation in unit price and total costs of care charged by providers, with some providers charging far more for care irrespective of quality, contributing to the high cost of care — with little documented correlation between higher cost and better quality. To help enrollees understand their out-of-pocket costs, 10 of the 11 health insurance companies provide online cost transparency tools. This means that 99 percent of Covered California enrollees have access to tools that aide in their health care decision making process. These tools offer information ranging from provider-specific cost shares of common inpatient and outpatient elective procedures to real-time tracking of their out-of-pocket costs to prescription drug prices. However, utilization of these tools is low, ranging from less than 1 percent to 39 percent among all insurers. More research is needed to understand the low utilization rates. Encouragingly, insurers are focused on increasing the use of these cost transparency tools through patient outreach and education.

On the quality front, while a number of physicians, physician organizations and hospitals provide outstanding care, some lag significantly. Covered California holds insurers accountable to manage this variation and promote improvements across all contracted providers.

For selecting providers, most insurers reported using HEDIS quality of care measures, in addition to considering provider credentialing, member satisfaction results, and grievance and appeals data. While most insurers participate in the Integrated Healthcare Association's Align Measure Perform performance-improvement program, few reported using results to inform provider selection. In contracting with hospitals, most health insurance companies reported reviewing and tracking publicly reported data from The Leapfrog Group, CMS Hospital Compare, and other quality-based organizations, but few actively considered this data in network design.

Covered California required its health insurance companies to describe how they consider quality and cost in their design of networks and to consider establishing policies to exclude hospitals that are low-performing "outliers" (whether low quality or high cost). To support health insurers in meeting the requirement to exclude outlier poor performers that are not improving, Covered California has worked with Cal Hospital Compare to track and trend performance and to define outlier poor performance for hospitals in a way that can be implemented consistently across all health insurance companies. Importantly, all 11 Covered California health insurers aligned around a common set of measures of cost and quality, which sends a clear message to hospitals on the need to reduce variation to assure a common standard of safety.[41]

Going forward, Covered California is partnering with the Integrated Healthcare Association's California Regional Health Care Cost and Quality Atlas to profile provider networks for variation in clinical quality, satisfaction, and total cost of care. Health insurance companies and providers

[41] Initial hospital measures included five hospital acquired infections and low risk C-section rates.

are looking to Covered California to work through appropriate multi-stakeholder processes to define low-quality and high-cost providers. Covered California's goal is to influence providers to improve their performance. The first report on how the contractual expectation that insurers either exclude or justify continued contracting with outlier poor performers is currently planned to be released by year-end 2020, which will inform future contract expectations for how insurers address outlier hospitals and other providers that are low quality or high cost, or both.

Alignment: Covered California Working With Other Purchasers, Insurers and Providers to Accelerate Improvement

Meaningful improvement is difficult when health insurance companies and providers are faced with diverse incentives, inconsistent performance measures, and conflicting priorities from public and private purchasers. Covered California is working to accelerate improvement in three ways: (1) working with other payers and purchasers to align payment models so that hospitals, medical groups and clinicians participate in uniform, value-enhancing financial incentives (discussed above); (2) working to align performance measures across health insurers and purchasers, both to focus priorities and reduce burden on hospitals and clinicians; and (3) encouraging or requiring health insurers to ensure that the providers in their networks are participating in the major quality improvement collaboratives in California.

Covered California is playing an active role by participating in governance structures of quality improvement collaboratives and requiring or encouraging insurers to mandate provider participation in range of collaboratives (see Table 3. Major Quality Improvement Collaboratives in which Covered California Participates). These quality improvement collaboratives seek to improve care for all Californians, so benefits will accrue not only to Covered California's enrollees, but also to those with employer-based coverage, Medi-Cal and Medicare.

Table 3. Major Quality Improvement Collaboratives in which Covered California Participates

Program	Purpose
The Integrated Healthcare Association	Aggregates data to promote and support performance measurement and improvement of physician organizations and ACOs.
California Quality Collaborative	Leads collaborative quality improvement initiatives, most prominently in chronic disease management, advanced primary care and behavioral health integration.
Cal Hospital Compare	Publishes and tracks hospital performance measures and has created a new patient safety honor roll aligned with metrics important to Covered California.
Partnership for Patients	A federally funded program that focuses on reducing infections and other avoidable complications in hospitals through supporting designated Hospital Improvement Innovation Networks.
The California Maternal Quality Care Collaborative	Leads the state's effort to achieve the Healthy People 2020 goal of no more than a 23.9 percent low-risk C-section rate.
Smart Care California	A multi-stakeholder initiative led by California state purchasers to reduce avoidable low-risk C-sections and address the opioid epidemic through payment reform, sharing best practices and an honor roll.

Based on data reported to Covered California, health insurer participation and active engagement by insurers to foster greater hospital and provider participation in these quality improvement collaboratives have increased substantially over the past four years. For example, Smart Care California collaborative participation increased from six to all 11 health insurers since 2016. Similarly, the number of health insurers that worked to engage their contracted hospitals in the Partnership for Patients collaborative increased from two to 10 health insurers since 2016.

These initiatives are having an important impact.

- The California Maternal Quality Care Collaborative and Smart Care California C-section initiatives have helped hospitals achieve a 12-percentage point reduction in C-sections among low-risk women, avoiding an estimated 7,200 C-sections through year-end 2018.
- The Partnership for Patients program, in which Covered California's contracting helped assure broader participation, has helped hospitals reduce the incidence of hospital associated infections by more than 20 percent between 2015 and 2018, the last year for which data is available. With the improvement in reducing hospital associated infections, best estimates are that 3,392 infections were avoided resulting in 251 California lives and $62 million saved in a 12-month period between 2017 and 2018.[42]
- Through Smart Care California, Covered California and other state purchasers have worked with their health insurers to foster adoption of proven approaches to addressing the opioid crisis. Each day in 2017 about 13 Californians died from a drug overdose with opioids accounting for half of those deaths (primarily prescription pain relievers, heroin and fentanyl).[43] Opioid prescriptions are falling and prescriptions for Medication Assisted Treatment are rising through the widespread implementation of Smart Care guidelines for health insurers and purchasers that include best practices for formulary management and network management.[44] However, deaths have not fallen, as too many people previously dependent on prescription opioids have turned to street drugs.[45,46] Much more needs to be done to support providers in reducing opioid prescriptions safely and expanding access to medication-assisted treatment.

Additional details on these initiatives are provided in the full companion report, Covered California Holding Health Plans Accountable for Quality and Delivery System Reform.

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[42] Cal Hospital Compare, with support from IBM Watson, calculated the mortality rates of hospital acquired infections and the usual costs of caring for those infections based on evidence from the literature for four of the targeted infections. Full report available on request.

[43] Centers for Disease Control and Prevention. (2017). Drug Overdose Deaths. Retrieved from: https://www.cdc.gov/drugoverdose/data/statedeaths.html.

[44] Integrated Healthcare Association. (2019). Curbing the Opioid Epidemic Checklist for Health Plans and Purchasers. Retrieved from: https://www.iha.org/sites/default/files/files/page/pdf_healthplansopioidchecklist.pdf.

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Continuous Improvement: Refining the Quality Care and Delivery Reform Strategy

Although the findings presented above point to meaningful progress on many fronts, the data documents variation in performance across plans and providers that reveals a substantial gap between current performance and what is possible. Much more needs to be done to understand the underlying causes of the variation, identify and test approaches to improvement, and work with both providers and insurers to ensure that progress continues. Covered California continues to work with all stakeholders to refine its approach to assuring quality and promoting effective delivery reform. Covered California draws on multiple sources of information and insight for this work, including ongoing meetings with health insurance companies to review their quality improvement initiatives, identify challenges they face and clarify opportunities to do better based on ongoing reviews of evidence in the field.[47]

Examples of insights and areas for targeted improvement identified by Covered California based on the range of data sources it relies on are:

- **The need to identify and engage enrollees who could benefit from preventive and wellness services:** Although smoking cessation and obesity management are critical to population health improvement, several insurers were unable to collect meaningful data, primarily due to the lack of access to clinical data or a practical way to implement universal health risk assessments. Ongoing efforts to update plan requirements are examining both the feasibility of collecting clinical data to improve identification and better tracking of program availability and participation rates.

- **Performance of many health plans needs to improve in multiple domains:** Covered California contracted health plans generally perform well overall on the Quality Rating System measures, typically in the 25th to 90th percentile range nationally. However, there are some measures that several plans perform poorly on, scoring below the 25th percentile, such as Breast Cancer Screening, Antidepressant Medication Management, and Care Coordination. While most of the measures for which Covered California health plans perform relatively poorly are not among those identified as priority measures for Covered California, the ability of integrated systems, such as Kaiser Permanente and Sharp Health Plan, to achieve scores consistently in the 50th to 90th percentile range is a clear indicator of what is possible with well-coordinated and integrated care. Covered California is working to assess what factors contribute to better performance among non-integrated plans and how the performance of integrated systems can be replicated across California with the goal of ensuring that all plans in California deliver care that is as good or better than national benchmark performance.

[47] To gain additional insights, Covered California regularly engages outside experts. Recently, it engaged two outside consulting firms to review its strategic approaches, the measures used, and the evidence of impact of different strategies to improve care. The firms also offered guidance on how to increase the effectiveness and impact of Covered California's accountability initiatives. Health Management Associates and PricewaterhouseCoopers delivered two reports that were released in July 2019, Current Best Evidence and Performance Measures for Improving Quality of Care and Delivery System Reform and Health Purchaser Strategies for Improving Quality of Care and Delivery System Reform. Covered California is using this material as it continues its stakeholder engagement with health insurance companies, providers, consumer advocates, and the broader public to help inform which efforts Covered California should continue, discontinue or revise in the upcoming 2022-24 health plan contract.

- **The need to improve access to and quality of behavioral health services:** Health insurance companies reported a range of activities to improve access to behavioral health services, including increasing provider capacity, implementing telehealth services, and adopting new billing codes that support care collaboration. Health insurance companies also described a broad spectrum of integration efforts, from increased coordination with carve-out vendors to embedded behavioral health staff in primary care clinics.

  While there appears to be an increase in the percentage of enrollees cared for in integrated behavioral health models between 2015 and 2018, Covered California observed data inconsistencies. Requirements are being updated to require better standardization to support meaningful tracking and trending of behavioral health integration. Because monitoring outcomes for behavioral health is a major gap, Covered California is considering requiring the use of patient-reported outcome measures, such as the use of Patient Health Questionnaire-9 (PHQ-9) to screen for and monitor depression. Covered California is also more closely tracking opioid use and medication assisted treatment through its Healthcare Evidence Initiative database.

- **Better measurement is needed related to the care for patients with complex needs:** There are no standard quality measures for complex care. Most health insurance companies reported identifying at-risk enrollees with algorithms and other proprietary technology based on claims and utilization data. Based on current best evidence, Covered California is considering a hybrid method of population stratification starting with automated data to identify high-cost enrollees combined with survey data such as health risk assessments, behavioral health screening, screening for social needs or measuring patient activation to determine enrollees who are likely to continue to be high risk and high cost. Covered California is also considering using its own claims data warehouse to track rates of inpatient and Emergency Department use, Emergency Department follow-up among complex-care patients, and the use of the Transition of Care HEDIS measure, which would require collection of discharge information that includes test results.

Conclusion

Serious problems with the performance of the U.S. health care system persist 20 years after two major reports called attention to the significant gaps in quality and safety confronting the United States and 10 years after passage of the Affordable Care Act, which was intended to expand coverage and improve health care. Health care costs continue to rise,[48] the quality and safety of care is uneven[49,50] and while many patients still fail to receive needed, evidence-based care,[51] waste and overuse continue to be widespread.[52,53]

As is summarized in this report, Covered California has been engaged in efforts to help expand coverage, assure quality and promote delivery reform since its inception and is now engaged in a multi-year process to work with others across the state to address these challenges and improve health and health care for all Californians. While there has been progress, there have also been challenges — as should be expected given the size and complexity of the health care system and the position of Covered California within that system.

At the same time, California has made substantial progress through approaches that can inform the strategies of other public and private purchasers, states and the federal government. This progress was achieved thanks to policy changes enacted by the California Legislature, to specific actions taken by Covered California, and, importantly, to the willingness on the part of health insurers and providers in California to join in this work.

Much remains to be done and in the full companion report, Covered California Holding Health Plans Accountable for Quality and Delivery System Reform, each section highlights implications for the future. These implications include the finding that further advances in performance measurement will be important in order to better identify opportunities for improvement, particularly for behavioral health and complex patients. Continued work to align public and private payers can help to strengthen incentives and reduce administrative burdens on providers and plans. Continued efforts to strengthen primary care and transition toward integrated delivery systems and ACOs are likely to offer benefits to both enrollees and providers. Most importantly, however, data and evidence should help guide decisions about how best to improve the performance of the health care system.

Covered California is committed to working collaboratively and transparently to ensure that it contributes to a state where "Health Care for All" means that all Californians receive the best possible care.

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Chart 1. Meaningful Coverage for Everyone

Key ACA Provisions

Guaranteed Issue and Renewal: Requires plans to enroll consumers regardless of health status, age, gender, or other factors.

Protections for Pre-Existing Conditions: Plans cannot exclude, deny coverage, or charge more based on pre-existing conditions.

Standard Comprehensive Benefits: Requires plans to cover categories of essential health benefits ensuring comprehensive coverage when care is needed.

No Annual or Lifetime Limits on Benefits

Actuarial Value: Standardizes value of coverage by tiers so consumers know on average how much their plan will pay for health care costs.

Federal Policy Actions	California Policy Actions
Promote plans and arrangements that can exclude consumers based on health status and pre-existing conditions, set coverage limits, and exclude benefits, not cover all essential health benefits: • Short-term, limited-duration insurance, including urging Navigators to promote short-term plans rather than directing consumers to comprehensive coverage through the federal Exchange. • Unregulated health care sharing ministries • Association Health Plans which do not have to meet essential health benefit and other requirements. Proposals to ability of consumers to automatically renew their coverage – a longstanding standard practice in the insurance industry – forcing consumers to reapply for coverage each year. Pulled back from planned federal efforts under prior administration to promote better standardization of benefit designs to protect consumers and foster competition on cost/value.	Ban the sale of short-term, limited duration insurance. Require agents certified by Covered California to disclose to consumers a comparison of protections of ACA coverage and risks of health care sharing ministries; Require agents to disclose number of health care sharing ministries sold. Prohibit small businesses and self-employed with no employees from enrolling in Association Health Plans. Require Patient-Centered Benefit Designs not only covering all essential health benefits but enhancing value and access to care by eliminating deductibles for outpatient services for most enrollees.

Chart 2. Consumer Affordability

Key ACA Provisions

Medicaid Expansion: Providing coverage to millions of low-income Americans.

Financial Support to Help Americans Afford Coverage:

- Premium Tax Credits to help subsidize monthly premiums
- Cost-Sharing Reductions: Reduces out-of-pocket costs for certain low-income consumers.

Individual Mandate and Penalty: Requires consumers to maintain coverage if "affordable" to them or pay a penalty, which fosters healthier enrollment lowering costs for all consumers.

Open Enrollment Period: Protects health of the market by ensuring consumers don't enroll into coverage only when they need it.

Support marketing and outreach: Advertising and navigator promotion are done nationally and required elements of state "blueprints" to operate as state-based marketplaces o promote enrollment and foster healthy market risk mix.

Enacted federal reinsurance: To help lower premiums, foster plan participation, and maintain a healthy risk mix.

Federal Policy Actions	California Policy Actions
Promote policies that may encourage barriers to Medicaid enrollment such as work requirements, while 14 states have not expanded Medicaid **Nullified the individual mandate** by reducing the penalty to $0 effective 2019. **Eliminated direct funding for the ACA-required Cost-Sharing Reductions subsidy program** (and appears to be considering denying states' abilities to have the effective workarounds that deliver the greatest benefit to consumers). **Virtual elimination of Marketing spending and large reductions in Navigator support:** Cut federal funding for federal exchange and Navigators minimizing promotion of enrollment, comprehensive coverage, and awareness of federal subsidies. **Maintain a short six-week open enrollment period:** (from Nov. 1 to Dec. 15 in contrast to enrollment period of Nov. 1 to Jan. 31 implemented in 2016 to 2017) **No support for federal reinsurance:** States may apply for reinsurance waivers, but significant state funding required to initiate and maintain a state-based reinsurance program. **Areas in which federal action have continued, reinforced and potentially sought to go beyond the ACA include:** • Continued support for Medicare payment changes to reward value over volume • Support for CMMI's piloting of payment changes • Consideration of federal policies to limit consumer-exposure to surprise billing and policies to directly address high pharmaceutical costs	**Expanded Medicaid:** California has both used the ACA and done state-only expansion of its Medi-Cal program. **Enacted State Mandate:** Restored the penalty effective 2020, resulting in lower premiums and greater stability in the market. **Implemented Silver-Loading CSR Workaround:** Established an effective workaround to the elimination of direct federal funding – which many other states also implemented – resulting in increased federal spending and likely marginally larger subsidies for some groups. **Significant investments in Marketing and Outreach**: to promote stable enrollment, foster a healthy risk mix, and lower premiums, Covered California directly spends over $100 million to promote stable enrollment leading to healthy risk mix; funds a network of over 100 community groups through its Navigator Program; and coordinates with contracted health plans to maximize their marketing and agent commission payments. **Full three-month open enrollment:** Operates a longer open enrollment period, for 2020 running through Jan. 31, to promote enrollment (with coverage effective Feb. 1 even for consumers enrolling near the deadline) **Going Beyond the ACA:** Established new state subsidies in 2020 for low- and middle-income Californians to make coverage more affordable. • Low-income Californians will get financial help in addition to federal subsidies • For the first time, middle-income Californians will receive subsidies to help with premium costs.

Chart 3. Consumer Choice

Federal Policy Actions	California Policy Actions
No reinstatement of federal reinsurance program • States with may apply for state-based reinsurance program, however, need for state resource investments may be cost-prohibitive and/or difficult to sustain over the long-term. **Fostered instability and uncertainty through various policy actions:** • Elimination of direct funding for cost-sharing reductions. • Reduction of individual mandate penalty to $0. • Encouraging and promoting enrollment in non-ACA compliant plans which can result in less healthy risk in the market and can add costs when consumers cannot get care covered. • Cut marketing and outreach funding	**Require standard benefit designs both on Covered California and in the off-Exchange market** • Creates parity and stability across the entire individual market. • Requires plans to compete on price, networks, and service to consumers. **Negotiate with plans premiums, network design and other key areas.** • Improves affordability across the market as Covered California negotiated prices are available both on- and off-Exchange **Help plans understand the risk mix and to price right.** • Aids in fostering competition, affordability, and ensuring plans bring value to consumers.

Chart 4. Health Plan Accountability

Federal Policy Actions	California Policy Actions
Allow states to lower Medi-Cal Loss Ratios (allowing plans to spend less on health care costs and more on administration and profit) under certain circumstances. **Stated requirement on plans to reduce disparities,** but minimal oversight or guidance given to plan on how to meet quality domain standards. **Continues to allow any plan to participate in a marketplace** irrespective of value brought to the market.	**Selective contracting with plans.** • Covered California qualified health plans must meet rigorous standards and demonstrate value to consumers. • Rejects QHP applicants that do not demonstrate they can meet standards or bring sufficient market value to consumers. **Actively Negotiating with plans.** • Help plans understand the risk mix and to price right. • Has rejected QHP applicants. • Required network design changes **Covered California's contracts include rigorous quality standards and requires selected QHPs to adopt Quality Improvement activities selected in collaboration with stakeholders, including:** • Selecting providers based on quality • Measuring and narrowing disparities in care • Supporting advanced primary care and integrated/coordinated care models • Promoting quality improvement initiative addressing hospital quality, maternity care and the opioid epidemic

Acknowledgements

This report describes the results of efforts that continue to evolve and began before the first individual enrolled in a health plan through Covered California in 2013. Covered California wants to acknowledge the leadership of its Board of Directors that directed it to take an active role in creating a marketplace that put consumers at the center and holds health insurance companies accountable. From the outset, Covered California was given the twin mission of expanding coverage as well as assuring and improving the delivery of high-quality, equitable and cost-efficient care.

The work represented in this report has been guided by Covered California's Plan Management Advisory Committee, composed of representatives of consumer advocates, clinicians, health insurance companies and subject-matter experts. The health insurance companies Covered California contracts with have been constructive and engaged and have welcomed having a high bar of accountability reflected in the contractual expectations. At Covered California, many have contributed to shaping the work behind this report: the leadership and staff of the Plan Management division, including James DeBenedetti, Jan Falzarano, John Bertko, Lance Lang and his predecessor as medical director, Jeff Rideout. For the research, analysis and writing of this report, thanks go to Taylor Priestley, Margareta Brandt, Vishaal Pegany, Whitney Li, Thai Lee, Allie Mangiaracino, Lindsay Petersen, and two consulting advisors, Ted von Glahn and Elliott Fisher. Thanks also go to Kelly Green, Sarah Vu, LaToya Holmes-Green, Kristen Downer, Thomas LeBlanc, Isaac Menashe and Robert Seastrom, whose assistance made the publication of this report possible.

CoveredCA.com

State of California

The followin information has been prepared summarizin the individual g health insurance market in the State of California. g

Milliman, Inc. (Milliman) has prepared the information contained g in this report from publicly available sources. The information was based on calendar year 2014 throu h calendar year 2019 data g dependin on the most currently available data source. g

CY 2017 Financial Results g

The avera e monthly individual market enrollment (both on and off marketplace) in the State of California was 2,361,000 in 2017. The followin fi ure illustrates the financial results for calendar g year (CY) 2017. CY 2017 financial metrics are based on medical loss ratio data reported to the Centers for Medicare and g Medicaid Services (CMS). Medical loss ratio (MLR) is presented as a percenta e of adjusted earned premiums, consistent with g the federal MLR definition. g

In a re ate for 2017, insurers in the State of California reported an approximate underwritin loss of $242 million, representin (2%) of health insurance premiums. Financial results reflect risk adjustment transfer payments for each year.

FIGURE 1: CY 2017 INDIVIDUAL MARKET FINANCIAL RESULTS g

FINANCIAL METRICS	2017 g
Preliminary Federal Medical Loss Ratio g	92% g
nderwritin Gain/(Loss) Ratio g	(2%)
nderwritin Gain/(Loss) ($ millions) g	$-242
Individual Market Enrollment	2,361,000 g g

Note: Values have been rounded

From 2014 throu h 2016, insurers participatin in California's g individual market experienced a cumulative underwritin ain of g approximately $333.9 million, or 1% of health premiums. g

- Insurers' financial results for CY 2017 represent a nominal decline relative to the initial years of ACA implementation.
- As a percent of health premiums, annual underwritin ain/(loss) has ran ed from (2%) to 6% durin the 2014 throu h 2017 time period. g

g

Enrollment and Financial Assistance

Between approximately 1,321,000 and 1,399,000 avera e monthly individuals are estimated to have purchased covera e throu h the insurance marketplace durin the last four years.

- Marketplace enrollment from 2018 to 2019 is estimated to have increased by 26,000 individuals. This estimate assumes the percenta e of individuals activatin and maintainin health insurance covera e durin 2019 is similar to prior years. g
- Marketplace enrollment represented approximately 56% of total individual market enrollment in 2017.
- The number of marketplace enrollees receivin a premium subsidy has increased by 74,000 from 2016 to 2019. In 2019, 88% of marketplace enrollees are estimated to receive a premium subsidy.
- The number of marketplace enrollees receivin a cost-sharin reduction (CSR) plan has decreased by 67,000 from 2016 to 2019. In 2019, 43% of marketplace enrollees are estimated to receive a CSR plan.

FIGURE 2: CALIFORNIA MARKETPLACE ENROLLMENT

	2016	2017	2018	2019 g
Individual Marketplace Enrollment	1,339,000	1,321,000	1,373,000	1,399,000
Individuals Receivin a Premium Subsidy	1,154,000	1,129,000	1,197,000	1,228,000
Individuals Receivin CSR Plan	671,000	650,000	603,000	604,000

Note: Values reflect estimated avera e monthly effectuated enrollment. Please see the methodolo y paper for more information on the estimate methodolo y.

PREMIUM SUBSIDIES WILL BENEFIT QUALIFYING INDIVIDUALS IN THE STATE OF CALIFORNIA BY $7.0 BILLION IN 2019. g

- For qualifyin individuals, premium subsidies have reduced out-of-pocket premium expenditures between approximately $4,100 and $5,700 durin the four-year period.
- In 2019, the avera e annual premium subsidy value per qualifyin individual was $5,700.

The followin fi ure illustrates chan es in the avera e premium subsidy value received by qualifyin households in the marketplace.

FIGURE 3: SUMMARY OF AFFORDABLE CARE ACT SUBSIDIES

ANNUAL AVERAGE VALUES	2016	2017	2018	2019
o n d i		$4,500	g	$5,700

Note: Individual marketplace premium reflects ross premium for premium subsidy-eli ible individuals prior to federal financial assistance. Premium subsidy values reflect twelve month effectuated enrollment period per APTC enrollee.

National summary information alon with the methodolo y and assumptions underlyin our analysis can be found at http://us.milliman.com/ACA-state-profiles/

Summary of individual market enrollment and Affordable Care Act subsidies

By Paul R. Houchens, Jason A. Clarkson, Zachary Fohl | 26 November 2019

Executive summary

Following the introduction of the Patient Protection and Affordable Care Act (ACA), the individual health insurance marketplace has experienced continuous changes. To support understanding of the condition and stability of the individual market, we have prepared our third annual profile of the individual health insurance market for each state along with the District of Columbia (DC).

Profiles of the individual health insurance market for the 50 states and the District of Columbia

These state profiles summarize insurer financials, marketplace enrollment[1],[2] and federal assistance provided to households purchasing insurance coverage through the insurance marketplaces, incorporating recently released data from the 2019 open enrollment period [2] and estimated 2019 effectuated enrollment [3] . The table below summarizes our estimates of effectuated marketplace enrollment and associated federal financial assistance for calendar year (CY) 2016 through CY 2019 time period. Historical data has been updated based on published data subsequent to the release of previous reports.

As illustrated in the table, aggregate premium assistance expenditures materially increased between 2017 and 2018 but are estimated to slightly decrease from 2018 to 2019. These changes are primarily attributable to national composite subsidy benchmark premiums increasing by 34% in 2018 but declining by (1%) in 2019.[4] Assuming stable marketplace enrollment, federal premium assistance expenditures for 2020 are likely to continue to decline as a result of a (3%) subsidy benchmark premium decrease. [5] Premium rate decreases for 2019 and 2020 are partially attributable to several states implementing state-based reinsurance programs (as discussed below).

	2016	2017	2018	2019
Average monthly marketplace enrollees	10,007,000	9,763,000	9,895,000	9,842,000
Average monthly premium subsidy recipients	8,396,000	8,228,000	8,578,000	8,601,000
Average monthly CSR subsidy recipients	5,634,000	5,597,000	5,199,000	5,003,000
Annual premium subsidy[1]	$3,500	$4,500	$6,200	$6,900
Annual CSR subsidy payments[1,2]	$1,000	$1,000	N/A	N/A
Aggregate premium subsidy ($ millions)[3]	$29,228	$36,836	$53,279	$59,887
Aggregate CSR subsidy payments ($ millions)[2]	$5,393	$4,998	N/A	N/A
Aggregate premium & CSR subsidy payments ($ millions)	$34,629	$41,834	$53,279	$59,887

Notes

1. Values have been rounded and reflect estimated annual per capita amounts.

2. CSR subsidy payments reflect estimated benefits received by marketplace consumers prior to the discontinuation of CSR payments on October 12, 2017.[6]

   a. Amounts exclude CSR subsidy payments provided to Medicaid-eligible consumers in Arkansas and New Hampshire, which were estimated to be approximately $500 million in 2016 and 2017.

   b. Following the termination of CSR payments in 2017, premium rates have been increased by insurers to reflect the loss of direct federal CSR subsidy funding, resulting in an increase to premium subsidy amounts.

3. Aggregate premium subsidy amounts exclude federal pass-through funding related to 1332 Waiver approvals.

This information is vital to state, federal, and insurer stakeholders for several reasons:

1332 State Innovation Waiver (1332 Waiver). The number of states with approved 1332 Waivers has increased from three in 2018 to 13 as of October 2019, with 12 of the approved 1332 Waivers including reinsurance provisions. [7] State-based reinsurance programs

hav b come a common approach to adh ring to 1332 Waiv r r quir ments of cov ring at l ast as many individuals und r curr nt law, while not increasing the federal deficit. Under these programs, federal pass-through funding is generated from the reduction to federal premium subsidies provided to consumers. These programs also assist in enabling marketplace coverage to be more affordable for consumers not eligible for advanced premium tax credits (APTC).

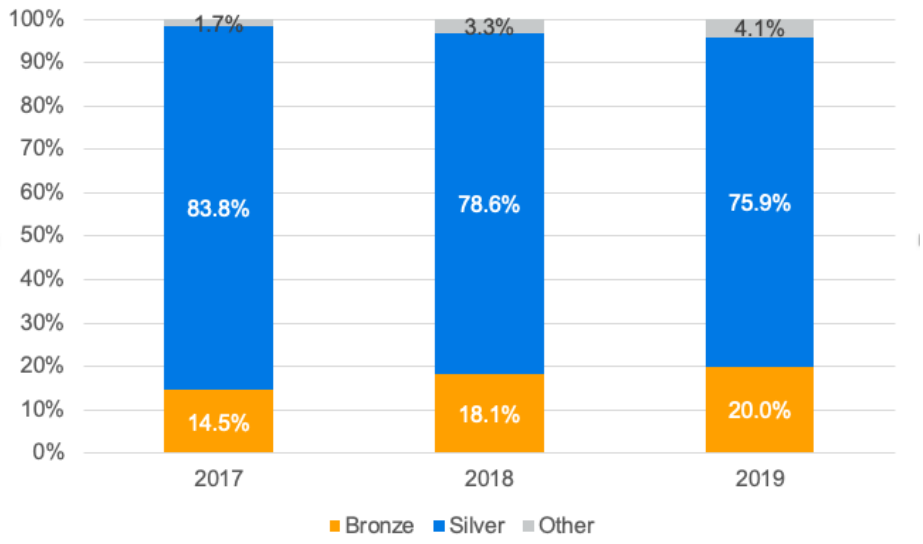
In 2018, approximately $250 million in federal pass-through funding was provided to the three states operating a reinsurance g program under a 1332 Waiver. [8] The amount of 1332 Waiver federal pass-through funding is expected to exceed $1 billion by 2020. Each state profile provides estimated federal expenditures on APTC and cost-sharing reduction (CSR) subsidies along with the number of individuals receiving these subsidies from CY 2016 through CY 2019. This information can enable a state to better understand the g funding and coverage requirements that must be adhered to under Section 1332 of the ACA.

Insurer stability. On an aggregated basis, insurers reported financial losses in the individual market in CY 2010 [9] through CY 2016, with CY 2017 marking the first year of financial gains in recent history. [10] Year-end financial reporting for CY 2018 suggests further financial improvement, with insurer margins approaching 10% of premium. Insurers' return to profitability is anticipated to result in favorable premium changes in future years, with many states having experienced marketplace premium decreases in 2019 and minimal increases nationally for 2020. [11,12] The state profiles contain key financial metrics for CY 2017 and CY 2018, providing further insight into insurer financial stability in each market.

Marketplace enrollment.Average monthly marketplace enrollment has remained stable in recent years, with minimal changes in the g number of premium subsidy recipients between CY 2018 and CY 2019. However, during this same time period, the number of consumers receiving CSR subsidies has diminished. In many states, the population eligible for CSR subsidies have the ability to select a low cost (or often no cost) bronze-level plan as a result of CSR loading on silver-level plans [13] (resulting from the discontinuation of direct CSR funding effective October 2017[14]). When selecting a bronze plan, the recipient forgoes CSR subsidies in lieu of lower upfront premium costs. Enrollment patterns in recent years have demonstrated that this is perceived as an attractive trade-off for many individuals.

Bronze plans often have high member cost sharing requirements (capped at $7,900 and $15,800 for individual and family coverage, respectively, in 2019[15]), which may exceed affordable levels for the low-income population electing to purchase bronze coverage over a CSR plan. This dynamic has the potential to result in increases in provider bad debt and other related expenses. Each state profile g includes information related to the number of individuals receiving premium subsidies and CSR subsidies over time, which can assist g stakeholders in understanding the extent to which this could be occurring in a given market. The figure below illustrates changes in the distribution of marketplace selections by metal level for persons with income between 100% and 250% of the federal poverty level (FPL). Bronze-level selections have increased from approximately 15% of total plan selections in 2017 to 20% in 2019.

Figure 1: Metal Level Selections for Persons with income between 100% and 250% FPL g



Note: Data reflects only states reporting metal-level household income data for the Centers for Medicare and Medicaid Services (CMS) marketplace open enrollment report in each year.

Marketplace premium. Marketplace premium changes from 2016 to 2019 varied by state due to a number of factors, including insurer profitability, risk pool morbidity, the treatment of CSR payment termination [16] , and the availability of reinsurance through one of the approved 1332 Waivers. States with high insurer profits in CY 2018 or recently approved 1332 Waivers are likely to have experienced

lo , or even negative, marketplace premium increases in CY 2019. Figure 1 and Figure 3 of our state profiles provides insight into this dynamic. g

Methodology and assumptions

The information contained in this report and the 51 state market profiles was prepared through the use of publicly available data sources and estimates of effectuated marketplace enrollment. Effectuated marketplace enrollment includes the population that has made premium payments and is actively enrolled in a marketplace policy. Data underlying our analyses is based on information from CY 2016 through CY 2019.

Insurer financial results

Financial results for CY 2017 were summarized through the use of annual Medical Loss Ratio Reporting Data (MLR Data), which was publicly released by the Center for Consumer Information and Insurance Oversight (CCIIO) within CMS. [17] Financial results for 2018 were based on statutory statement financial data submitted through the National Association of Insurance Commissioners' Supplemental Health Care Exhibit (SHCE). SHCE data was not available for California and Massachusetts because a material number of companies operating in these markets do not complete NAIC statutory financial statements. Individual market financial information from the MLR and SHCE Data is inclusive of marketplace enrollment, off exchange (marketplace) enrollment, and enrollment on transitional products. Further information related to CY 2017 and CY 2018 insurer financial results can be found in our annual research report on the commercial health insurance market. [18] Additional adjustments were made to the data for observed reporting issues or data variances relative to statutory financial statements.

Marketplace enrollment and subsidy value

CMS released effectuated enrollment summaries for the insurance marketplace on a national and state level for 2016 through 2019. [19,20,21] Effectuated marketplace enrollment was provided separately for total marketplace enrollment, APTC enrollment, and CSR enrollment.

APTC: Payments are made directly to the insurance company by the federal government on behalf of the qualifying members to make out-of-pocket premiums more affordable for lower-income households. The amount of the premium tax credit varies for each qualifying household based on its income relative to the FPL and the price of the second-lowest-cost silver plan (commonly known as the "subsidy benchmark plan") that the household can purchase in the insurance marketplace. Qualifying households must have income between 100% and 400% of the FPL and must not be eligible for other sources of affordable minimum value coverage.

CSR: The ACA requires insurers participating in the individual insurance marketplace to automatically provide a reduced level of cost sharing to qualifying households. Reduced cost sharing takes the form of CSR variations of base silver plans on the marketplace. The CSR variants include reductions to cost sharing such as deductibles, copayments, coinsurance, and out-of-pocket maximums. The magnitude of the reduction to required plan cost sharing varies based on the income level of the qualifying households purchasing such coverage. Qualifying households must have income between 100% and 250% [22] of the FPL and must not be eligible for other sources of affordable minimum value coverage.

The effectuated marketplace enrollment data also includes the average APTC on a national and state level. We relied on CY 2019 marketplace open enrollment report (OER) public use file to estimate the average premiums for members receiving a premium subsidy.

For CY 2016 through 2019, average monthly premium (for individuals receiving an APTC) were estimated through the use of the public use files for states using the federal marketplace. Due to inconsistent data sources across the three-year period, we have not illustrated monthly marketplace premiums for state-based exchanges that operated in 2019. For all states, it is certain that the actual results will vary from the estimates developed within each state profile. CSR payments were sourced from the MLR Data. For Arkansas and New Hampshire, we adjusted the CSR payments reported in the MLR data for private Medicaid expansion enrollees.

Data reliance

Publicly available data used in our analysis was reviewed for reasonableness and consistency. However, the data sources have not been audited. To the extent data items were not correctly reported, the values presented in this report and accompanying state profiles will need to be updated. g

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[1] Marketplace enrollment is limited to the federally facilitated and state insurance marketplaces. g

[2] "2019 Marketplace Open Enrollment Period Public Use Files." Retrieved on June 21, 2019, from https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/2019_Open_Enrollment.html

[3] "Early 2019 Effectuated Enrollment Snapshot." Retrieved on August 13, 2019, from https://www.cms.gov/sites/default/files/2019-08/08-12-2019%20TABLE%20Early-2019-2018-Average-Effectuated-Enrollment.pdf

[4] "Marketplace Average Benchmark Premiums." Retrieved on November 1, 2019, from https://www.kff.org/health-reform/state-indicator/marketplace-average-benchmark-premiums/. g

[5]Ib d.

[6]"Payments to Issuers for Cost-Sharing Reductions (CSRs)." Retrieved on October 10, 2019, from https://www.hhs.gov/sites/default/files/csr-payment-memo.pdf

[7]"Tracking Section 1332 State Innovation Waivers." Retrieved on October 10, 2019, from https://www.kff.org/health-reform/fact-sheet/tracking-section-1332-state-innovation-waivers/

[8]The following states operated a reinsurance program under a 1332 Waiver in 2018: Alaska, Oregon, and Minnesota.

[9]CY 2010 was the first year that health insurers completed the National Association of Insurance Commissioners (NAIC) Supplemental Health Care Exhibit, providing greater detail and visibility into state-level commercial market financial results.

[10] "Commercial health insurance: Detailed 2017 financial results and emerging 2018 trends." Retrieved on October 10, 2019, from http://www.milliman.com/insight/2019/Commercial-health-insurance-Detailed-2017-financial-results-and-emerging-2018-trends/

[11]"2019 Premium Changes on ACA Exchanges." Retrieved on May 1, 2019, from https://www.kff.org/health-costs/issue-brief/tracking-2019-premium-changes-on-aca-exchanges/

[12] "Premiums for HealthCare.gov Plans are down 4 percent but remain unaffordable to non-subsidized consumers." Retrieved on October 22, 2019, from https://www.cms.gov/newsroom/press-releases/premiums-healthcaregov-plans-are-down-4-percent-remain-unaffordable-non-subsidized-consumers

[13]See https://www.modernhealthcare.com/article/20180405/NEWS/180409943/is-silver-loading-the-silver-bullet-actuaries-wary-of-long-term-impact-of-csr-cutoff for more information.

[14] "Trump Administration Takes Action to Abide by the Law and Constitution, Discontinue CSR Payments." Retrieved on November 1, 2019, from https://www.hhs.gov/about/news/2017/10/12/trump-administration-takes-action-abide-law-constitution-discontinue-csr-payments.html

[15] "Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2019." Retrieved on October 10, 2019, from https://www.federalregister.gov/documents/2018/04/17/2018-07355/patient-protection-and-affordable-care-act-hhs-notice-of-benefit-and-payment-parameters-for-2019

[16] Additional information related to the treatment of CSR payment termination can be found at https://www.balloon-juice.com/2017/10/11/state-approaches-to-handling-csr-uncertainty-for-2018-premiums/

[17] CMS. Medical Loss Ratio Data and System Resources. CCIIO. Retrieved on May 1, 2019, fromhttps://www.cms.gov/CCIIO/Resources/Data-Resources/mlr.html

[18] "Commercial health insurance: Detailed 2017 financial results and emerging 2018 trends." Retrieved on November 25, 2019, fromhttp://www.milliman.com/insight/2019/Commercial-health-insurance-Detailed-2017-financial-results-and-emerging-2018-trends/

[19] "2017 Effectuated Enrollment Snapshot" by CMS. June 12, 2017. Retrieved on June 21, 2019, fromhttps://downloads.cms.gov/files/effectuated-enrollment-snapshot-report-06-12-17.pdf

[20] "Early 2018 Effectuated Enrollment Snapshot" by CMS. July 2, 2018. Retrieved on June 21, 2019, fromhttps://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Marketplaces/Downloads/2018-07-02-Trends-Report-1.pdf

[21] "Early 2019 Effectuated Enrollment Snapshot." Retrieved on August 13, 2019, from https://www.cms.gov/sites/default/files/2019-08/08-12-2019%20TABLE%20Early-2019-2018-Average-Effectuated-Enrollment.pdf

[22] Native Americans with income up to 300% FPL are also eligible for 100% CSR plans.

[23] "2019 Marketplace Open Enrollment Period Public Use Files." Retrieved on June 21, 2019, from https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Marketplace-Products/2019_Open_Enrollment.html

November 2019

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The views expressed in this report are those of the authors and do not necessarily represent the UCLA Center for Health Policy Research, the Regents of the University of California, or The California Endowment.

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CHIS california health interview survey

www.chis.ucla.edu

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Foreword

Shana Alex Charles, MPP, PhD

This *State of Health Insurance in California* report is our ninth in-depth examination of health insurance since 2001 using California Health Interview Survey data. In this report, using data from the 2015-2016 survey, we are able to provide estimates for the first time of the full societal impact of the largest national expansion of health insurance since the enactment of Medicare and Medicaid in the 1960s: the program known as "Obamacare." When President Barack Obama signed the Patient Protection and Affordable Care Act (ACA, commonly called Obamacare) into law in March 2010, he fundamentally altered the underlying foundations of our national health insurance system. Instead of having a system focused on private company gain, with public insurance to fill in some (but not all) gaps, the United States would now have a system in which public and private health insurance programs worked together, with the goal of eventually expanding coverage to everyone in the country.

California led the way in implementing ACA reforms, and national data comparisons of all 50 states clearly show we have been one of the most successful states in enrolling eligible people in new coverage from the ACA's full launch in 2014 until today.[1] But California still must contend with and operate under federal rules and guidelines, and when the federal administration changed in 2017 to a president hostile to the ACA, even California felt the pinch and saw uninsured rates begin to creep up again.

This report, which presents 2015-2016 California Health Interview Survey data, is a snapshot in time. Our data are from just before the current administration took power, just before the mantra of a Republican-led Congress was that it was going to "repeal and replace Obamacare" in 2017. That did not happen, and the House became controlled by ACA supporters in the next election. This report shows the peak of the ACA, before federal regulators began to backpedal on expansions.

Additionally, we've added a new focus on Medicare data to this year's report. With the ACA under attack since 2017, much of the policy conversation around expanding health insurance coverage has turned to building instead on the one widely admired public program, Medicare. While proposals can differ on just how to expand Medicare, they all should be based on solid initial data on what Medicare does for its current enrollees and on how the program compares with other public and private coverage. We also cannot forget that while the ACA's impact is now slowly declining, even at its height in 2016, millions of Californians still did not have any health insurance coverage.

Acknowledgments

The authors would like to thank both the statistical programming and communications teams at the UCLA Center for Health Policy Research, without whom this report would not have been possible. We thank The California Endowment for funding this report, and the funders and survey team of the California Health Interview Survey for providing much-needed public health data. We also wish to thank Michael Cousineau and Lucien Wulsin Jr. for their thoughtful reviews of the report draft.

Finally, the authors thank the legislative and executive branches of the state of California for their continuous commitment to using real-world data to inform both policymaking for and implementation of our vital public health programs.

1 U.S. Census Bureau. 2018. *Health Insurance Coverage in the United States: 2017*. Accessed at: *https://www.census.gov/library/publications/2018/demo/p60-264.html.*

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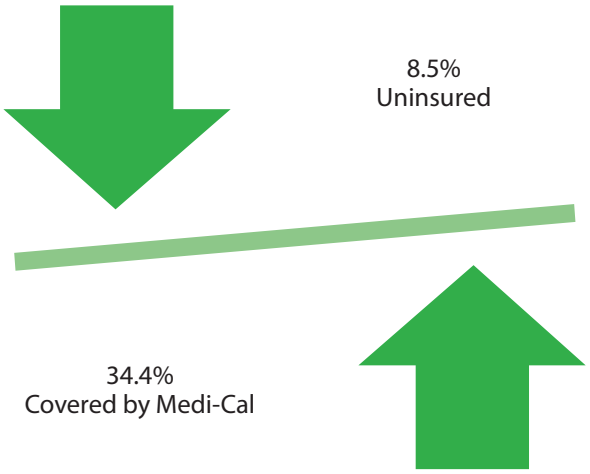
EXECUTIVE SUMMARY





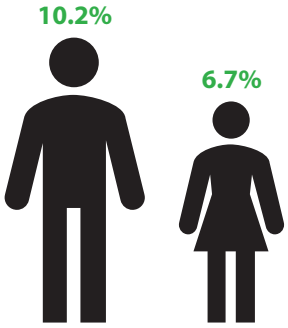



In 2016, California's uninsured rate reached a low of 8.5% among nonelderly people (those ages 0-64), declining by nearly half from a high of 16.3% in 2012. This meant that the number of uninsured nonelderly Californians decreased by more than 2.5 million, reaching a low of 2.8 million in 2016.



The decline in the uninsured rate was driven by increased enrollment in Medi-Cal, which significantly increased from 22.2% to 34.4% between 2012 and 2016, an increase of nearly 4.2 million Californians.

Uninsured in 2016, Ages 0-64



The uninsured rate for men was nearly twice that of women.

Latinos had over twice the uninsured rate of other racial/ethnic groups (12.3%).

36.8% of noncitizens without a green card were uninsured.

Employment-based coverage remained the most common source of coverage for nonelderly adults in California in 2016, with just over half receiving coverage from an employer. Disparities in access to employer-based coverage also continued after implementation of the ACA. Part-time and unemployed workers, as well as the self-employed, were less likely to have employment-based coverage and more likely to be uninsured. Additionally, employment-based coverage was less common among workers in low-wage industries and occupations. These workers were more likely to rely on Medi-Cal or to be uninsured. Medi-Cal coverage increased mainly among adults ages 19-64, with coverage increases spread among all racial/ethnic groups. Among children, coverage increased mostly among U.S.-born children with U.S.-born parents.

10.5% of adults (ages 19-64) with Medi-Cal reported having trouble finding a primary care doctor who accepts their insurance.

19.4% of adults (ages 19-64) with Medi-Cal reported being treated unfairly by health professionals because of their type of coverage.

The uninsured and those with Medi-Cal and other public insurance reported fair or poor health, risk factors, and chronic conditions at higher rates than those in other insurance groups. Individuals in the former categories of insurance also frequently reported fewer preventive services such as flu shots and mammograms, lower likelihood of doctor visits, and higher likelihood of ED visits and delays in care due to cost or lack of coverage. The combination of poor health and limited access to care poses significant challenges to efforts directed at improving population health and efficiencies in care delivery.

In general, the initial significant impacts of the ACA, documented in our last report, continued through the period covered by this report, resulting in historically low levels of Californians without health insurance. However, since 2017 and the change in administrations in Washington, the ACA has been under continual attack. Although efforts to "repeal and replace" the ACA in 2018 were unsuccessful and the midterm election put such efforts on indefinite hold, as this report goes to press, the courts are about to litigate yet another challenge to the ACA that could result in the entire law being declared unconstitutional. In the face of these efforts to undermine the ACA, California continues to chart a different course.

1 A Demographic Look at Health Insurance in California

Tara Becker, PhD

The expansion of health insurance coverage under the Patient Protection and Affordable Care Act of 2010 (ACA) was the single largest extension of coverage since the creation of Medicaid in 1965. Despite this improvement in access to health insurance coverage, the national uninsured rate remained just under 9% in 2017.[2] This fact has prompted proposals at both the state and federal levels to expand upon these gains through legislation that provides universal health care coverage. These proposals have taken many forms. At their most expansive, they create a single-payer public health care system funded through tax dollars that eliminates all forms of cost sharing, including monthly premiums, deductibles, and copayments. More moderate proposals create a public health insurance program modeled on Medicare or Medicaid that individuals or businesses can choose to purchase in lieu of private health insurance coverage. Others gradually expand the age range for eligibility for public health insurance programs — for example, by reducing the age at which individuals become eligible for Medicare.

As proof of what can be achieved through public health insurance programs, many groups proposing these new programs point to the success of the federal Medicare program in providing nearly universal health insurance coverage to the nation's elderly population. The Medicare program has indeed been successful in expanding basic health insurance coverage to all elderly Americans; however, the program relies on extensive cost sharing through premiums, copayments, and deductibles, which can lead to significant out-of-pocket costs for many older Americans. Many Medicare beneficiaries need to enroll in additional coverage to reduce these costs, creating an unequal, multitiered system that provides different levels of access to care for older Americans. This means that while the Medicare program can be seen as both an example of the success of government programs in expanding coverage, it also shows the limitations of an expansion that builds in significant cost sharing, particularly for vulnerable populations.

This chapter will focus on the expansion of coverage among nonelderly Americans that occurred beginning in 2014, and also on the forms of additional health insurance coverage used by older Californians to mitigate the impact of the high levels of cost sharing that are built into the Medicare program. First, the chapter examines enrollment in health insurance coverage by type among all Californians. The subsequent section will examine health insurance coverage type within subgroups of the nonelderly Californian population defined by age, gender, race/ethnicity, family type, education, income, urban/rural status, and citizenship status. Next, the chapter examines coverage type within subgroups of older Californians defined by gender, race/ethnicity, education, income, urban/rural status, and citizenship status. Finally, county and regional differences in health insurance coverage type will be discussed.

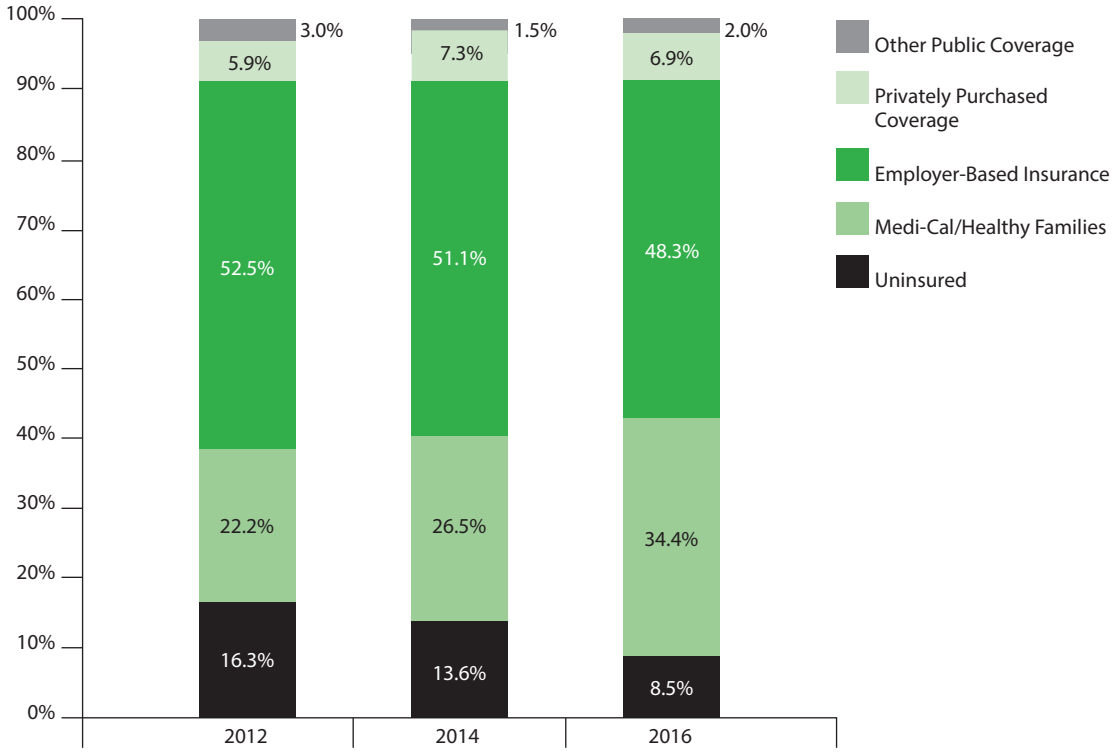
2 Keith K. 2018. Two New Federal Surveys Show Stable Uninsured Rate. Health Affairs blog. September 13, 2018. Available at: *https://www.healthaffairs.org/do/10.1377/hblog20180913.896261/full/* (last accessed 12/5/2018).

Health Insurance Coverage in California in 2016

In the period since January 1, 2014, when full implementation of the ACA occurred, the uninsured rate for all Californians declined significantly. This was accomplished by requiring individuals to purchase health insurance coverage and by expanding access to coverage. This expansion of access was achieved by widening the eligibility requirements for Medicaid to encompass all low-income U.S. citizens and permanent residents, and by introducing subsidies for the purchase of individual market health insurance coverage through new health insurance exchanges. After these changes went into effect, California's uninsured rate began to decline, dropping from 14.5% in 2012 to 7.4% in 2016 and reducing the state's uninsured population by nearly 2.5 million people (Exhibit 1.1). Most of this decline was due to increased enrollment in the state's Medicaid program, Medi-Cal, with enrollment rising from 19.6% to 29.9% between 2012 and 2016. Enrollment in private purchase coverage increased significantly between 2012 and 2014, from 5.2% to 6.4%, and remained steady at 6.0% in 2016. During this period, coverage through an employer (ESI) declined from 46.6% to 42.2%.

The expansion of coverage under the ACA was directed at and primarily benefited those under age 65. Among nonelderly Californians, the uninsured rate declined by nearly half between 2012 and 2016, decreasing from 16.3% to 8.5% (Exhibit 1.1). This meant that the number of uninsured nonelderly Californians decreased by more than 2.5 million, reaching a low of 2.8 million in 2016. The decline in the uninsured rate was driven by increased enrollment in Medi-Cal, which significantly increased from 22.2% to 34.4% between 2012 and 2016, an increase of nearly 4.2 million Californians. Although subsidies were offered through Covered California for privately purchased insurance, the

Exhibit 1.1
Health Insurance Coverage Type, Ages 0-64, California, 2012-2016

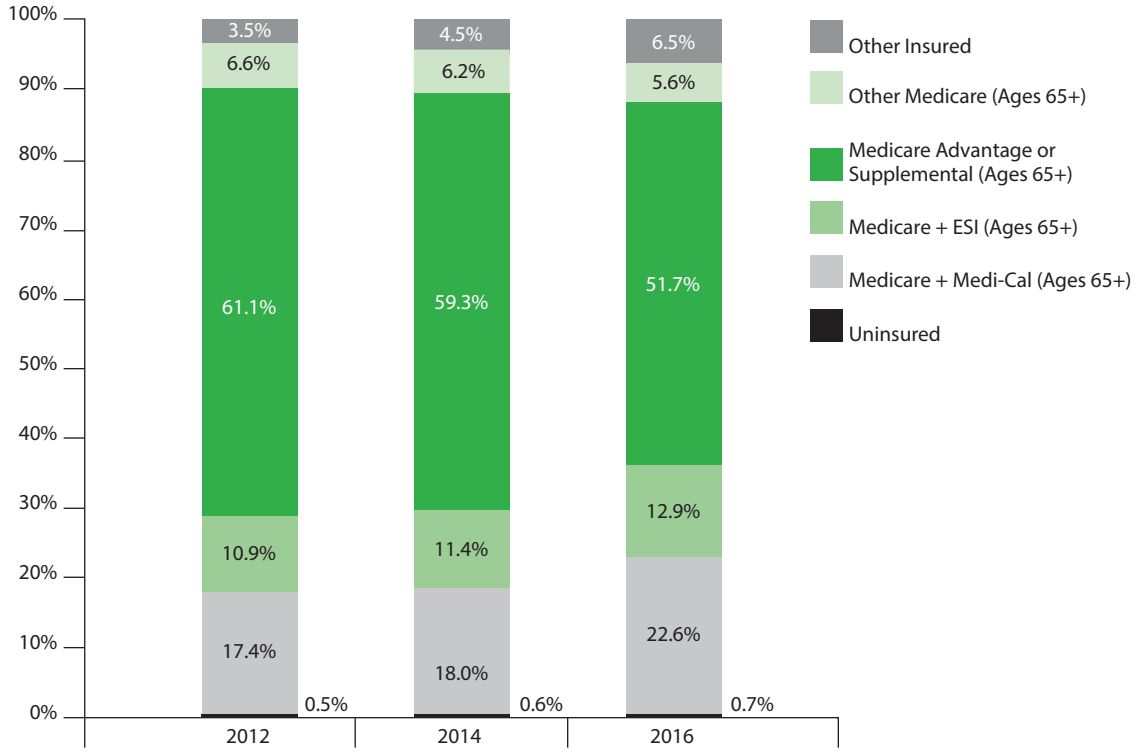


Sources: 2012, 2014, and 2016 California Health Interview Surveys

Note: "Privately Purchased" includes Covered California insurance, both with and without subsidies.

Exhibit 1.2

Health Insurance Coverage Type, Ages 65 and Over, California, 2012-2016



Sources: 2012, 2014, and 2016 California Health Interview Surveys

Note: ESI refers to Employer-Sponsored Insurance, which is also called Employer-Based Insurance.

proportion of this type of coverage remained constant. This increase in Medi-Cal coverage was partially offset by a decline in employer-sponsored health insurance coverage, which decreased from 52.5% to 48.3% over this period.

As the baby-boom generation began to reach age 65, the percentage of older Californians enrolled in Medicare increased from 11.4% to 12.7% between 2012 and 2016, an increase in enrollment of 655,000 individuals. This increase in overall Medicare enrollment was concurrent with an increase in the number of Medicare enrollees who also received health insurance coverage through another source. Between 2012 and 2016, there were significant increases in the numbers enrolled in both Medicare and ESI, with the percentage rising from 1.3% to 1.8%, as well as among those enrolled in both Medicare and Medicaid, with a rise in percentage from 2.1% to 3.1%.

In contrast, the percentages of older Californians enrolled in a Medicare Advantage or supplemental plan and Medicare alone or with another type of insurance remained steady between 2012 and 2016.

The success of the Medicare program in extending health insurance coverage to those ages 65 and over is evident from the fact that almost no older Californians were uninsured during this period (Exhibit 1.2). More than 99% of those ages 65 and over were insured, and more than 90% were enrolled in Medicare in all three years, although the percentage enrolled in Medicare declined from 96% in 2012 to 93% in 2016. The decline in Medicare enrollment is likely due to growing enrollment in the state's CalPERS pension program, as well as growth in California's aging immigrant population, some of whom are ineligible for participation in Medicare.

Though Medicare covers the vast majority of elderly Californians, most Medicare enrollees have additional coverage beyond traditional Medicare through Medi-Cal, a former employer, or a Medicare Advantage or Supplemental plan. The proportion of Medicare enrollees who were dually enrolled in Medi-Cal increased significantly, from 17.4% to 22.6%, between 2012 and 2016, with most of this increase occurring between 2014 and 2016. The increase in dual enrollment can likely be attributed to the Cal Medi-Connect program, California's implementation of the Medicare-Medicaid Financial Alignment Initiative (FAI). Under the ACA, the Center for Medicare and Medicaid Services (CMS) developed the FAI in order to test methods of improving care coordination between Medicare and Medicaid.

As part of this program, Cal Medi-Connect began passively enrolling dually eligible Californians in the program beginning in April 2014 and continued to do so through 2016. The proportion of Medicare enrollees who also held insurance through a current or former employer increased only slightly, from 10.9% in 2012 to 12.9% in 2016. More than half of older Californians purchased a Medicare Advantage plan or a Medicare supplemental plan during this period, though the percentage declined over time as the percentage enrolled in Medi-Cal increased.[3] In 2012, 61.1% of older Californians were enrolled in one of these types of plans, but by 2016 the percentage had declined to 51.7%.

3 Medicare Advantage plans — which include managed care plans — and supplemental private plans are combined in a single question on the CHIS survey and cannot be reported separately.

Exhibit 1.3

Health Insurance Coverage Type by Gender, Ages 0-64, California, 2012-2016

	Men			Women		
	2012	2014	2016	2012	2014	2016
Uninsured	17.8% 2,896,000	16.7% 2,734,000	10.2% 1,700,000	14.9% 2,420,000	10.6% 1,724,000	6.7% 1,112,000
Medi-Cal/Healthy Families	20.5% 3,349,000	23.4% 3,839,000	31.6% 5,253,000	23.9% 3,878,000	29.6% 4,828,000	37.1% 6,125,000
Employer-Based Insurance	53.4% 8,707,000	51.8% 8,501,000	49.6% 8,237,000	51.7% 8,385,000	50.3% 8,219,000	46.9% 7,754,000
Privately Purchased Insurance	5.4% 885,000	6.9% 1,126,000	6.6% 1,090,000	6.3% 1,023,000	7.8% 1,272,000	7.2% 1,181,000
Other Public (Including Medicare <65)	2.9% 479,000	1.4% 221,000	1.9% 323,000	3.1% 507,000	1.7% 283,000	2.1% 348,000

Sources: 2012, 2014, and 2016 California Health Interview Surveys

Note: "Privately Purchased" includes Covered California insurance, both with and without subsidies. Percentages may not add to 100% due to rounding.

Demographic Disparities in Health Insurance Coverage

Gender

Female Californians were less likely to be uninsured and more likely to have Medi-Cal coverage than male Californians throughout the period (Exhibit 1.3). However, both groups experienced improvements in coverage and were less likely to be uninsured in 2016 than in 2012. Among male Californians under age 65, the uninsured rate decreased from 17.8% to 10.2%, while among female Californians, it decreased from 14.9% to 6.7%. Though they began the period with lower uninsured rates, women were early adopters of the ACA's expansion of coverage. They experienced a steady decline in their uninsured rate over the period, with significant decreases in both two-year periods. In contrast, nearly all of the decline in the uninsured rate among men occurred between 2014 and 2016. Women were more likely than men to enroll in Medi-Cal during this period, widening the gender gap in Medi-Cal coverage: Men's enrollment in Medi-Cal increased from 20.5% to 31.6% between 2012 and 2016, while women's enrollment increased from 23.9% to 37.1%. Both men and women experienced a decline in coverage through an employer.

Unlike the situation for those under age 65, there were few gender differences in coverage within the 65-and-older California population (Exhibit 1.4).

Exhibit 1.4

Health Insurance Coverage Type by Gender, Ages 65 and Over, California, 2012-2016

		Men			Women		
		2012	2014	2016	2012	2014	2016
Medicare (Ages 65+)	**And Medi-Cal**	19.0% 363,000	16.3% 345,000	22.9% 537,000	16.2% 404,000	19.3% 523,000	22.4% 650,000
	And ESI	11.6% 222,000	14.6% 310,000	14.6% 344,000	10.3% 256,000	8.8% 239,000	11.5% 334,000
	Advantage/Supplemental	58.5% 1,119,000	58.2% 239,000	47.7% 1,121,000	63.0% 1,569,000	60.3% 1,634,000	55.0% 1,594,000
	Other Medicare	6.7% 128,000	5.9% 1,634,000	7.0% 164,000	6.4% 160,000	6.3% 172,000	4.5% 132,000
	Other Insured†	3.5% 67,000	4.8% 101,000	7.3% 170,000	3.5% 88,000	4.4% 118,000	5.8% 168,000

† Includes those enrolled in Medi-Cal or ESI only, private purchase, or other public insurance coverage

Note: ESI refers to Employer-Sponsored Insurance, which is also called Employer-Based Insurance.

Note: Data on the uninsured are not shown, so percentages will not total to 100%.

Sources: 2012, 2014, and 2016 California Health Interview Surveys

The largest gender difference was in the percentage covered through Medicare Advantage or a Medicare supplemental plan. More women than men are covered by this type of plan each year (though this difference was not significant in 2014); for example, in 2016, 55.0% of women had a Medicare Advantage or supplemental plan, compared to only 47.7% of men. Women were less likely to be jointly enrolled in Medicare and an employer plan. Though both men and women experienced increased enrollment in both Medicare and Medi-Cal, only the increase among women was significant, extending the gender difference in Medi-Cal coverage into older ages.

Racial and Ethnic Group

Two of the most important effects of the ACA's coverage expansion have been the near-elimination of race-based differences in coverage rates among nonelderly non-Latino Californians, and a significant reduction in the gap between Latino and non-Latino Californians (Exhibit 1.5). In 2012, 10.3% of non-Latino white Californians were uninsured, compared to 11.9% of non-Latino African Americans, 14.1% of non-Latino Asians and Pacific Islanders, and 11.1% of non-Latinos who were multiracial or another race. After the expansion in coverage, all of these groups experienced significant gains in coverage, so that by 2016, only 5.8% of non-Latino whites, 5.8% of non-Latino African Americans, 5.6% of non-Latino

Exhibit 1.5

Health Insurance Coverage Type by Race/Ethnicity, Ages 0-64, California, 2012-2016

		Uninsured	Medi-Cal/ Healthy Families	Employment-Based Insurance	Privately Purchased Insurance	Other Public†
Latino	**2012**	23.3% 3,152,000	34.4% 4,651,000	35.9% 4,857,000	3.3% 451,000	3.1% 420,000
	2014	20.1% 2,766,000	39.6% 5,440,000	34.7% 4,770,000	4.3% 589,000	1.4% 187,000
	2016	12.3% 1,728,000	47.8% 6,692,000	33.7% 4,719,000	4.0% 558,000	2.1% 295,000
Non-Latino White	**2012**	10.3% 1,204,000	9.5% 1,113,000	69.3% 8,119,000	8.2% 962,000	2.7% 311,000
	2014	7.6% 885,000	13.0% 1,510,000	67.7% 7,838,000	9.8% 1,139,000	1.8% 211,000
	2016	5.8% 663,000	20.3% 2,326,000	61.6% 7,055,000	10.4% 1,187,000	2.0% 229,000
Non-Latino African American	**2012**	11.9% 220,000	37.2% 688,000	42.3% 781,000	*** 54,000	5.7% 104,000
	2014	8.2% 149,000	33.3% 607,000	52.8% 963,000	*** 63,000	*** 40,000
	2016	5.8% 107,000	48.5% 898,000	39.9% 739,000	*** 57,000	*** 53,000
Non-Latino Asian and Pacific Islander	**2012**	14.1% 627,000	13.4% 592,000	61.3% 2,714,000	8.3% 368,000	2.9% 129,000
	2014	12.4% 558,000	19.1% 858,000	55.9% 2,516,000	11.3% 509,000	*** 57,000
	2016	5.6% 259,000	23.0% 1,073,000	62.5% 2,915,000	7.7% 358,000	*** 61,000
Non-Latino Other Race or Multiple Races	**2012**	11.1% 112,000	18.1% 183,000	61.4% 620,000	*** 73,000	*** 22,000
	2014	9.2% 101,000	23.1% 252,000	58.0% 634,000	*** 98,000	*** 9,000
	2016	4.8% 55,000	33.9% 389,000	49.0% 563,000	*** 109,000	*** 33,000

† Includes Californians ages 18-64 who are enrolled in Medicare

*** Unstable estimate (coefficient of variation > 0.3)

Sources: 2012, 2014, and 2016 California Health Interview Surveys

Note: "Privately Purchased" includes Covered California insurance, both with and without subsidies. Percentages may not add to 100% due to rounding.

Asians and Pacific Islanders, and 4.8% of non-Latinos who were multiracial or another race were uninsured. In contrast to non-Latinos, Californian Latinos experienced much higher uninsured rates throughout the period, even though Latinos experienced the largest percentage point drop in their uninsured rate. In 2012, 23.3% of nonelderly Latinos were uninsured; by 2016, their uninsured rate had declined to 12.3%.

Every racial/ethnic group accomplished this increase in coverage primarily through significant increases in enrollment in Medi-Cal among the nonelderly. Between 2012 and 2016, Medi-Cal enrollment increased from 9.5% to 20.3% among non-Latino whites, 34.4% to 47.8% among Latinos, 37.2% to 48.5% among non-Latino African Americans, 13.4% to 23.0% among non-Latino Asians and Pacific Islanders, and 18.1% to 33.9% among non-Latinos who were multiracial or another race. Declines in ESI partially offset these gains in coverage among non-Latino whites and non-Latinos who were multiracial or another race, though only the change for non-Latino whites reached statistical significance. The percentage of non-Latino whites who were covered through an employer decreased from 69.3% in 2012 to 61.6% in 2016; among non-Latinos who were multiracial or another race, the decline was from 61.4% to 49.0%.

There were significant racial/ethnic differences in the type of coverage among Californians who were ages 65 and over (Exhibit 1.6). In 2012, before the Medi-Connect program went into effect, non-Latino white and multiracial or other race Californians were significantly more likely to be enrolled in a Medicare

Exhibit 1.6

Health Insurance Coverage Type by Race/Ethnicity, Ages 65 and Over, California, 2012-2016

		Medicare (Ages 65+)			
		And Medi-Cal	And ESI	Advantage or Supplemental	Any Other
Latino	2012	39.5% 270,000	5.8% 40,000	42.0% 287,000	7.3% 50,000
	2014	38.2% 325,000	8.2% 70,000	38.7% 329,000	4.0% 34,000
	2016	44.5% 466,000	*** 56,000	31.7% 333,000	*** 68,000
Non-Latino White	2012	7.3% 209,000	12.7% 367,000	70.0% 2,016,000	6.5% 188,000
	2014	6.2% 186,000	13.1% 393,000	70.2% 2,106,000	6.8% 204,000
	2016	10.5% 335,000	15.2% 485,000	63.5% 2,030,000	5.5% 177,000
Non-Latino African American	2012	30.3% 67,000	9.0% 20,000	49.0% 108,000	*** 13,000
	2014	28.5% 74,000	*** 39,000	47.0% 122,000	*** 10,000
	2016	35.0% 91,000	*** 44,000	38.3% 100,000	*** 12,000
Non-Latino Asian and Pacific Islander	2012	39.6% 207,000	8.5% 44,000	41.5% 217,000	5.3% 28,000
	2014	41.3% 254,000	6.1% 37,000	41.4% 254,000	*** 45,000
	2016	43.0% 267,000	9.3% 57,000	32.3% 200,000	*** 32,000

*** Unstable estimate (coefficient of variation > 0.3)

Sources: 2012, 2014, and 2016 California Health Interview Surveys

Note: ESI refers to Employer-Sponsored Insurance, which is also called Employer-Based Insurance.

Note: Categories with too many unstable estimates have been excluded, including the uninsured, older persons with only non-Medicare coverage, and persons of other single or multiple races.

Advantage or Medicare supplemental plan and less likely to be enrolled in Medicare and Medi-Cal than other older Californians. In 2012, 70.0% of non-Latino white Californians were enrolled in a Medicare Advantage or supplemental plan, compared to only 42.0% of Latinos, 49.0% of non-Latino African Americans, and 41.5% of non-Latino Asian or Pacific Islanders. Enrolled in both Medicare and Medi-Cal were 39.5% of Latinos, 30.3% of non-Latino African Americans, and 39.6% of non-Latino Asians and Pacific Islanders.

These differences in coverage are likely due to racial/ethnic disparities in socioeconomic status. After the implementation of the Medi-Connect program, enrollment in Medi-Cal increased significantly; however, this increase was smallest among non-Latino whites and largest among non-Latino multiracial Californians and Californians of another race, increasing the differences between non-Latino whites and other Californians. In 2016, 63.5% of non-Latino white Californians over age 65 were enrolled in a Medicare Advantage or a supplemental plan, compared to only 31.7% of Latinos, 38.3% of non-Latino African Americans, and 32.3% of non-Latino Asian or Pacific Islanders. In contrast, only 10.5% of non-Latino whites were enrolled in both Medicare and Medi-Cal, a percentage significantly lower than the 44.5% of Latinos, 35.0% of non-Latino African Americans, and 43.0% of non-Latino Asians and Pacific Islanders.

Exhibit 1.7

Health Insurance Coverage Type by Income as a Percentage of the Federal Poverty Level (FPL), Ages 0-64 Years, California, 2012-2016

		Uninsured	Medi-Cal/ Healthy Families	Employment-Based Insurance	Privately Purchased Coverage	Other Public Coverage†
Below 139% FPL	**2012**	26.2% 2,562,000	49.7% 4,861,000	16.3% 1,591,000	3.4% 336,000	4.4% 431,000
	2014	20.5% 2,046,000	58.6% 5,856,000	14.7% 1,471,000	4.4% 443,000	1.8% 178,000
	2016	11.6% 1,153,000	73.1% 7,248,000	10.2% 1,011,000	2.8% 281,000	2.3% 226,000
139-249% FPL	**2012**	23.0% 1,343,000	28.1% 1,638,000	39.9% 2,328,000	4.9% 283,000	4.2% 247,000
	2014	22.0% 1,312,000	29.5% 1,759,000	39.7% 2,366,000	6.6% 391,000	2.2% 134,000
	2016	11.8% 654,000	42.0% 2,317,000	36.9% 2,037,000	7.0% 387,000	*** 129,000
250-399% FPL	**2012**	14.2% 774,000	9.4% 514,000	64.7% 3,522,000	8.5% 461,000	3.1% 170,000
	2014	10.5% 576,000	12.3% 675,000	66.8% 3,679,000	9.1% 503,000	1.3% 71,000
	2016	8.9% 469,000	18.5% 982,000	58.8% 3,117,000	10.8% 573,000	*** 161,000
400% FPL or Above	**2012**	5.6% 637,000	1.9% 214,000	84.2% 9,650,000	7.2% 828,000	1.2% 138,000
	2014	4.6% 524,000	3.3% 377,000	81.5% 9,204,000	9.4% 1,062,000	1.1% 121,000
	2016	4.3% 536,000	6.7% 831,000	79.4% 9,825,000	8.3% 1,030,000	1.2% 154,000

† Includes Californians ages 18-64 who are enrolled in Medicare

*** Unstable estimate (coefficient of variation > 0.3)

Sources: 2012, 2014 and 2016 California Health Interview Surveys

Note: "Privately Purchased" includes Covered California insurance, both with and without subsidies.

Household Income

The ACA's coverage expansion predominantly expanded access to those with incomes below 400% of the federal poverty level (FPL) through the Medicaid eligibility expansion and provision of subsidies to purchase coverage through Covered California. The success of these provisions can be seen in the fact that these were the Californians who experienced the largest improvements in their coverage rates (Exhibit 1.7). The uninsured rate decreased significantly for those with household incomes below 139% FPL (from 26.2% to 11.6%), those with incomes between 139% FPL and 249% FPL (from 23.0% to 11.8%), and those with household incomes between 250% FPL and 399% FPL (from 14.2% to 8.9%). Only households with incomes of 400% FPL or more did not experience a significant drop in the percentage of uninsured, though the uninsured rate for this group reached a low of 4.3% in 2016. From these results, it's clear that the ACA was successful in substantially reducing income-based disparities in health insurance coverage.

Under the ACA's Medicaid eligibility rules, adults with household incomes below 139% FPL and children in households with incomes below 266% FPL became eligible for coverage through Medicaid. Many of these children were already enrolled in the California Healthy Families Program (HFP) — the state's implementation of the federal Children's Health Insurance Program (CHIP) — and were automatically enrolled in Medi-Cal as of January

2014. Consistent with these changes, the largest increases in Medi-Cal coverage between 2012 and 2016 occurred among those with household incomes below 139% (from 49.7% to 73.1%). Nonelderly Californians with incomes between 139% FPL and 249% FPL also experienced a significant increase in Medi-Cal enrollment (from 28.1% to 42.0%). Even those with household incomes above the Medi-Cal eligibility threshold experienced smaller, but still significant, increases in Medi-Cal enrollment. Medi-Cal enrollment increased from 9.4% in 2012 to 18.5% in 2016 among those with household incomes between 250% FPL and 399% FPL, and from 1.9% to 6.7% among those with household incomes of 400% FPL or more. Health insurance coverage through an employer declined among all four income groups, but only the declines among those with incomes below 139% FPL or above 399% FPL were significant.[4]

4 This discrepancy between household income and Medi-Cal eligibility has several sources. First, Medi-Cal eligibility is based on income earned in the past month, whereas this analysis is based on household income in the previous calendar year. Some households that had higher income in the previous year could have experienced a change in income that now made them eligible for Medi-Cal. Second, this analysis is based on total household income from all sources; however, certain types of income, such as child support or worker's compensation, are disregarded when calculating Medi-Cal eligibility. This means that total household income may exceed the total family income that is used to establish eligibility. Finally, it is possible that a household that previously qualified for Medi-Cal has since experienced an increase in income that leaves the household no longer eligible. Because Medi-Cal income redeterminations occur once per year, household members may have retained their Medi-Cal coverage after they were no longer eligible.

Similar differences in coverage type are seen when older Californians are compared by income (Exhibit 1.8). Higher-income older Californians were more likely than those with lower incomes to be enrolled in a Medicare Advantage or supplemental plan and less likely to be dually enrolled in Medicare and Medi-Cal. Although most Medicare enrollees have coverage beyond traditional Medicare — through either a Medicare Advantage plan or another type of plan — initially, those with incomes above 400% FPL were significantly more likely than other older Californians to have this additional coverage. High-income California residents were less likely than those with less income to fall in the "any other" Medicare group, which is predominantly those who are insured through Medicare alone and do not have a secondary source of coverage. Among those with incomes above 400% FPL, 4.5% fall into this group, compared to 7.8% of those with incomes below 139% FPL, 8.8% of those with incomes between 139% FPL and 250% FPL, and 7.1% of those with incomes between 250% FPL and 400% FPL. If not for the availability of Medi-Cal to those with lower income, the difference would have been larger. About half of those with incomes below 139% FPL were enrolled in both Medicare and Medi-Cal in 2012, compared to only 3.3% of those with incomes over 400% FPL. In contrast, just over one-third of those in the lowest-income group were enrolled in a Medicare Advantage or supplemental plan, while 71.7% of those with incomes above 400% FPL had this type of plan.

A significant increase in dual-coverage Medi-Cal between 2012 and 2016 occurred exclusively among older people with incomes below 250% FPL. Among those with incomes below 139% FPL, the percentage

Exhibit 1.8

Health Insurance Coverage Type by Income as a Percentage of the Federal Poverty Level (FPL), Ages 65 and Over, California, 2012-2016

		Medicare (Ages 65+)				Other Insured†
		And Medi-Cal	And ESI	Advantage or Supplemental	Any Other	
Below 139% FPL	**2012**	49.2% 456,000	4.5% 42,000	35.0% 325,000	7.8% 72,000	1.6% 15,000
	2014	52.3% 475,000	*** 27,000	29.1% 265,000	*** 86,000	5.2% 47,000
	2016	60.2% 725,000	2.8% 33,000	22.2% 267,000	*** 69,000	7.3% 88,000
139-249% FPL	**2012**	18.9% 163,000	7.6% 65,000	61.5% 528,000	8.8% 76,000	2.4% 21,000
	2014	23.2% 252,000	9.9% 108,000	54.9% 596,000	8.0% 87,000	3.2% 34,000
	2016	26.2% 265,000	8.2% 83,000	49.3% 499,000	11.5% 116,000	4.3% 43,000
250-399% FPL	**2012**	10.3% 91,000	11.2% 99,000	67.2% 596,000	7.1% 63,000	*** ***
	2014	9.0% 89,000	10.9% 107,000	68.6% 672,000	6.6% 65,000	*** ***
	2016	11.6% 95,000	17.7% 144,000	60.9% 498,000	*** 31,000	5.8% 47,000
400% FPL or Above	**2012**	3.3% 57,000	15.7% 272,000	71.7% 1,240,000	4.5% 77,000	4.7% 81,000
	2014	2.9% 53,000	16.5% 307,000	71.9% 1,336,000	3.2% 60,000	5.5% 102,000
	2016	4.6% 103,000	18.8% 417,000	65.5% 1,452,000	3.6% 79,000	7.2% 160,000

† Includes those enrolled in Medi-Cal or ESI only, private purchase, or other public insurance coverage

*** Unstable estimate (coefficient of variation > 0.3)

Sources: 2012, 2014, and 2016 California Health Interview Surveys

Note: Categories with too many unstable estimates have been excluded, including the uninsured.

with Medicare and Medi-Cal increased by 11 percentage points, while it increased by 7.3 percentage points among those with incomes between 139% and 249% FPL. Among those with incomes of 250% FPL and above, the percentage with Medi-Cal was unchanged. This increase in coverage in Medi-Cal among lower-income older Californians was offset by a decline in enrollment in Medicare Advantage or supplemental plans, with enrollment falling by more than 12 percentage points in the two lowest income groups. Among those with incomes between 139% and 249% FPL, the decline in Medicare Advantage exceeded the increase in dual enrollment in Medi-Cal, resulting in a significantly higher percentage of Medicare enrollees who were enrolled in traditional Medicare alone, without another form of coverage. Enrollment in Medicare Advantage and supplemental plans also decreased among those with incomes of 250% FPL and above, though by a smaller amount. This decrease was driven in part by increases in coverage through Medicare and ESI and in other non-Medicare coverage among these higher-income groups, though these increases were not statistically significant.

Urban vs. Rural Residence

The gains in health insurance coverage were widespread across California, reaching through urban and rural areas alike (Exhibit 1.9). The uninsured rate decreased from 17.8% to 10.1% in primary urban areas, from 15.3% to 6.8% in second cities (usually around 1 million people, limited to regional impact), from 12.9% to 6.0% in suburban areas, and from 16.9% to 7.8% in rural areas and small towns. All of these areas experienced dramatic increases in Medi-Cal enrollment, though enrollment was lower in suburban areas than in other areas. In suburban areas of the state, Medi-Cal enrollment increased from 14.6% to 23.3%, while in urban areas it increased from 24.4% to 36.4%, in second cities from 21.7% to 36.5%, and in rural areas and small towns from 25.2% to 37.7%.

Exhibit 1.9

Health Insurance Coverage Type by Urban-Rural Status, Ages 0-64 Years, California, 2012-2016

		Uninsured	Medi-Cal/ Healthy Families	Employment-Based Insurance	Privately Purchased Coverage	Other Public Coverage†
Urban	**2012**	17.8% 2,989,000	24.4% 4,097,000	49.1% 8,250,000	5.4% 907,000	3.3% 549,000
	2014	14.2% 2,483,000	28.5% 4,986,000	49.2% 8,616,000	6.9% 1,207,000	1.2% 217,000
	2016	10.1% 1,744,000	36.4% 6,277,000	45.4% 7,822,000	6.0% 1,038,000	2.0% 343,000
Second City	**2012**	15.3% 1,082,000	21.7% 1,528,000	54.1% 3,818,000	5.9% 415,000	2.9% 208,000
	2014	14.0% 988,000	27.0% 1,911,000	51.2% 3,620,000	6.0% 425,000	1.8% 128,000
	2016	6.8% 495,000	36.5% 2,656,000	48.6% 3,539,000	6.2% 449,000	1.9% 139,000
Suburban	**2012**	12.9% 714,000	14.6% 809,000	63.0% 3,491,000	7.2% 399,000	2.4% 131,000
	2014	11.0% 559,000	17.5% 892,000	59.4% 3,029,000	11.0% 561,000	*** 54,000
	2016	6.0% 335,000	23.3% 1,297,000	60.9% 3,394,000	8.4% 468,000	*** 76,000
Rural/Town	**2012**	16.9% 531,000	25.2% 793,000	48.8% 1,532,000	5.9% 186,000	3.1% 99,000
	2014	13.9% 428,000	28.5% 877,000	47.4% 1,455,000	6.7% 205,000	3.5% 106,000
	2016	7.8% 238,000	37.7% 1,148,000	40.5% 1,236,000	10.3% 315,000	*** 113,000

† Includes Californians ages 18-64 who are enrolled in Medicare

*** Unstable estimate (coefficient of variation > 0.3)

Sources: 2012, 2014, and 2016 California Health Interview Surveys

Note: "Privately Purchased" includes Covered California insurance, both with and without subsidies.

In 2014, when Covered California first opened for business, the percentage of Californians covered through private purchase insurance increased significantly from 2012 rates in urban areas (from 5.4% to 6.9%) and suburban areas (from 7.2% to 11.0%). However, after 2014, rates of coverage through this type of insurance fell in these areas and were no longer significantly different from 2012. The only areas in which coverage through private purchase insurance increased between 2014 and 2016 were rural areas and small towns. In these areas, the percentage covered grew from 5.9% in 2012 to 10.3% in 2016. The declines in private purchase insurance coverage between 2014 and 2016 in urban and suburban areas could reflect increases in premiums during this period; however, premiums were generally higher in rural areas and small towns, where coverage increased. The change in coverage in rural areas and small towns could be a result of the concurrent decline in ESI coverage that occurred in these areas between 2014 and 2016, although urban areas also experienced a significant decline in ESI coverage, but not an increase in private purchase coverage.

Before the Medi-Connect program was implemented, urban areas experienced different patterns of health insurance coverage than less populated areas of the state (Exhibit 1.10). Urban Californians were less likely to be enrolled in a Medicare Advantage or supplemental plan (57.4% vs. 63.4% or more in other areas) or to have ESI coverage in addition to Medicare coverage (8.3% vs. 11.3% or more in other areas), and more likely to have Medicare and Medi-Cal coverage (23.3% vs. 14.1% or less in other areas). The increased enrollment in Medicare and Medi-Cal and the decline in enrollment in Medicare Advantage or supplemental plans occurred throughout the state. The one exception was in suburban areas, where there was no change in coverage between 2012 and 2016.

Exhibit 1.10

Health Insurance Coverage Type by Urban-Rural Status, Ages 65 and Over, California, 2012-2016

		Medicare (Ages 65+)				Other Insured†
		And Medi-Cal	And ESI	Advantage or Supplemental	(Any Other)	
Urban	**2012**	23.3% 481,000	8.3% 172,000	57.4% 1,184,000	5.9% 121,000	4.1% 85,000
	2014	24.0% 558,000	9.5% 221,000	54.5% 1,269,000	5.6% 131,000	5.3% 123,000
	2016	30.1% 750,000	10.7% 266,000	46.5% 1,159,000	4.5% 113,000	7.7% 191,000
Second City	**2012**	11.7% 100,000	13.1% 112,000	63.4% 543,000	6.7% 57,000	4.3% 37,000
	2014	12.5% 117,000	14.9% 141,000	59.2% 558,000	7.8% 74,000	5.1% 48,000
	2016	19.6% 212,000	14.6% 158,000	51.4% 557,000	7.3% 80,000	5.9% 64,000
Suburban	**2012**	14.1% 131,000	11.3% 105,000	65.6% 609,000	6.6% 61,000	*** ***
	2014	11.7% 108,000	9.6% 88,000	69.9% 645,000	*** 46,000	3.8% 35,000
	2016	12.0% 118,000	14.3% 141,000	64.9% 639,000	*** 38,000	*** ***
Rural/Town	**2012**	9.7% 54,000	16.0% 89,000	63.4% 353,000	8.8% 49,000	*** ***
	2014	13.2% 85,000	15.4% 99,000	61.8% 397,000	7.3% 47,000	2.1% 14,000
	2016	15.5% 107,000	16.3% 113,000	52.0% 360,000	9.3% 65,000	5.3% 37,000

† Includes those enrolled in Medi-Cal or ESI only, private purchase, or other public insurance coverage

*** Unstable estimate (coefficient of variation > 0.3)

Sources: 2012, 2014 and 2016 California Health Interview Surveys

Note: Categories with too many unstable estimates have been excluded, including the uninsured.

Citizenship Status

California has historically experienced a higher uninsured rate than other states due to its large population of noncitizens, who lack access to many public health programs. Because of this lack of access, uninsured rates are strongly related to citizenship status (Exhibit 1.11). In 2012, while only 11.1% of U.S.-born citizens were uninsured, 20.3% of naturalized citizens, 31.1% of noncitizens with a green card (permanent residents), and 47.2% of noncitizens without a green card were uninsured. This final category includes immigrants with authorized status, as well as those whose presence in the U.S. is unauthorized by the federal government.

After implementation of the ACA's coverage expansion, the uninsured rate decreased significantly between 2012 and 2016 among U.S. citizens and permanent residents, and the gap in coverage between U.S.-born and naturalized citizens narrowed substantially. By 2016, the uninsured rate among U.S.-born citizens was reduced to 5.6%, while the uninsured rate among naturalized citizens was reduced to 7.4%. The uninsured rate among permanent residents dropped to 11.1%, a significant improvement but still a significantly higher rate than that of U.S.-born citizens. The ACA restricted its benefits to citizens and lawful permanent residents of the U.S., excluding unauthorized residents from enrolling in Medi-Cal or purchasing health insurance coverage through Covered California.[5] For this reason, although uninsured rates decreased significantly among all other citizenship groups between 2012 and 2014, uninsured rates did not change among noncitizens who did not have a green card, leading to a growing coverage gap. To begin to address this, the state of California expanded

5 Limited-scope, emergency Medi-Cal is still available to all regardless of citizenship status, as is prenatal care for pregnant women. This analysis excludes these types of coverage, since they are not comprehensive medical insurance.

Exhibit 1.11

Health Insurance Coverage Type by Citizenship Status, Ages 0-64, California, 2012-2016

		Uninsured	Medi-Cal/ Healthy Families	Employment-Based Insurance	Privately Purchased Coverage	Other Public Coverage†
U.S.-Born Citizen	**2012**	11.1% 2,614,000	23.6% 5,541,000	56.5% 13,277,000	6.1% 1,433,000	2.6% 616,000
	2014	9.2% 2,162,000	26.7% 6,244,000	55.9% 13,096,000	6.5% 1,533,000	1.6% 385,000
	2016	5.6% 1,355,000	34.1% 8,210,000	51.0% 12,273,000	6.9% 1,673,000	2.3% 563,000
Naturalized Citizen	**2012**	20.3% 868,000	12.6% 539,000	56.2% 2,405,000	6.8% 293,000	4.0% 172,000
	2014	12.9% 546,000	21.4% 908,000	55.1% 2,334,000	9.5% 403,000	*** 46,000
	2016	7.4% 310,000	28.8% 1,207,000	54.5% 2,287,000	7.8% 327,000	*** 63,000
Noncitizen With Green Card	**2012**	31.1% 804,000	23.4% 605,000	36.7% 948,000	4.2% 109,000	4.7% 122,000
	2014	24.6% 743,000	31.6% 956,000	32.0% 968,000	11.5% 349,000	*** 8,000
	2016	11.1% 278,000	39.0% 973,000	40.0% 996,000	*** 234,000	*** 12,000
Noncitizen Without Green Card	**2012**	47.2% 1,029,000	24.9% 543,000	21.1% 461,000	*** 73,000	*** 76,000
	2014	48.8% 1,008,000	27.0% 558,000	15.6% 322,000	5.5% 113,000	*** 66,000
	2016	36.8% 869,000	41.8% 988,000	18.4% 435,000	*** 37,000	*** 33,000

† Includes Californians ages 18-64 who are enrolled in Medicare

*** Unstable estimate (coefficient of variation > 0.3)

Sources: 2012, 2014, and 2016 California Health Interview Surveys

Note: "Privately Purchased" includes Covered California insurance, both with and without subsidies.

Medi-Cal coverage to unauthorized children in 2016, which subsequently led to a significant decline in the uninsured rate among noncitizens without a green card. However, in 2016 the uninsured rate for this group remained at 36.8%, more than at least three times higher than the uninsured rate of any other citizenship group.

Here, too, gains in health insurance coverage for all groups were driven by increases in Medi-Cal coverage. The percentage of Californians covered through Medi-Cal increased from 23.6% to 34.1% among U.S.-born citizens, from 12.6% to 28.8% among naturalized citizens, from 23.4% to 39.0% among noncitizens with a green card, and from 24.9% to 41.8% among noncitizens without a green card.[6] These gains in Medi-Cal coverage were partially offset by a decrease in ESI coverage from 56.5% to 51.0% among U.S.-born citizens. Although the percentage of naturalized citizens and permanent residents covered through private purchase insurance increased significantly between 2012 and 2014, coverage through this type of insurance subsequently declined, leaving 2016 rates not significantly different from 2012.

The type of health insurance coverage older Californians have is related to citizenship status (Exhibit 1.12). This is due both to eligibility requirements and to the relative affluence of older U.S.-born citizens compared to naturalized citizens

6 Noncitizens without a green card may have been eligible for Medi-Cal through other legal categorical eligibility requirements, including having a visa or refugee status. It is possible that the coverage rates among this group increased due to a spillover from other family members enrolling and then learning about options for noncitizen family members, but this speculation needs more investigation that cannot be addressed with CHIS data.

Exhibit 1.12

Health Insurance Coverage Type by Citizenship Status, Ages 65 and Over, California, 2012-2016

		Medicare (Ages 65+)				Other Insured†
		And Medi-Cal	And ESI	Advantage or Supplemental	(Any Other)	
U.S.-Born Citizen	2012	10.9% 357,000	12.2% 399,000	67.1% 2,188,000	6.1% 200,000	3.3% 109,000
	2014	10.4% 356,000	13.5% 463,000	66.2% 2,278,000	5.7% 195,000	4.3% 147,000
	2016	14.5% 544,000	15.5% 583,000	59.2% 2,230,000	5.3% 200,000	5.4% 202,000
Naturalized Citizen	2012	34.1% 319,000	7.2% 67,000	47.4% 442,000	7.9% 73,000	3.3% 31,000
	2014	36.8% 449,000	6.7% 82,000	44.3% 541,000	*** 78,000	4.2% 52,000
	2016	44.3% 523,000	7.7% 91,000	36.1% 427,000	*** 81,000	4.5% 53,000
Noncitizen (Includes Permanent Residents)	2012	43.7% 92,000	*** 12,000	28.1% 59,000	*** 15,000	3.3% 14,000
	2014	36.8% 63,000	*** 4,000	29.0% 49,000	*** 25,000	11.9% 20,000
	2016	39.5% 120,000	*** 4,000	*** 59,000	*** 15,000	27.4% 83,000

† Includes those enrolled in Medi-Cal or ESI only, private purchase, or other public insurance coverage

*** Unstable estimate (coefficient of variation > 0.3)

Sources: 2012, 2014 and 2016 California Health Interview Surveys

and noncitizens. Due to the small number of respondents over age 65 who are noncitizens and not permanent residents, the two noncitizen groups were combined for this age group. In 2012, U.S.-born citizens were more likely to be enrolled in a Medicare Advantage or supplemental plan (67.1%) than naturalized citizens (47.4%) or noncitizens (28.1%). They were also more likely to have both Medicare and ESI coverage (12.2%) than naturalized citizens (7.2%). However, U.S.-born citizens were less likely to be covered through Medicare and Medi-Cal (10.9%) than either naturalized citizens (34.1%) or noncitizens (43.7%). The high Medicaid enrollment occurred despite the fact that this category contains both permanent residents and nonpermanent residents, with only permanent residents eligible for Medicaid.

Naturalized citizens experienced the largest increase in dual Medicare and Medi-Cal coverage and, subsequently, the largest decrease in coverage through Medicare Advantage. By 2016, the percentage of naturalized citizens enrolled in a Medicare Advantage or supplemental plan had decreased by 11.3 percentage points, to 36.1%, while the percentage enrolled in Medicare and Medicaid had increased by 10.2 percentage points, to 44.3%. U.S.-born citizens experienced a smaller decline in enrollment in Medicare Advantage and supplemental plans (7.9 percentage points) and a smaller increase in Medi-Cal enrollment (3.5 percentage points). U.S.-born citizens were the only group that experienced a significant increase in joint coverage through Medicare and an employer (3.3 percentage points). In contrast to citizens, noncitizens became less likely to be enrolled in Medicare over time, although this change was not statistically significant.

2 Private Health Insurance Markets in California

Ian Eve Perry, MPP, and Ken Jacobs

Many of the major provisions of the Affordable Care Act (ACA) that affected individually purchased coverage and Medi-Cal were implemented in 2014. By 2015-2016, employment-based coverage remained the most common source of health insurance for nonelderly adult Californians. In 2015-2016, 50.4% of Californians between the ages of 19 and 64 (or 11.8 million people) had employment-based coverage.[7] Eighty percent (9.5 million people) of the 11.8 million nonelderly adult Californians with employment-based coverage received their coverage from their own employer, and the remaining 20% (2.3 million people) received their coverage through a family member.

The prevalence of employment-based coverage varies significantly depending on individuals' employment situation, region, and demographics.

Nearly 2 million nonelderly adult Californians (8.1%) purchased coverage in the individual market in 2015-2016. In 2014, the ACA brought a number of reforms to the individual market, introducing premium and out-of-pocket subsidies for low- to moderate-income Californians, banning denial of insurance or the setting of premiums based on preexisting health conditions, and limiting how much more insurers could charge older enrollees relative to younger enrollees.

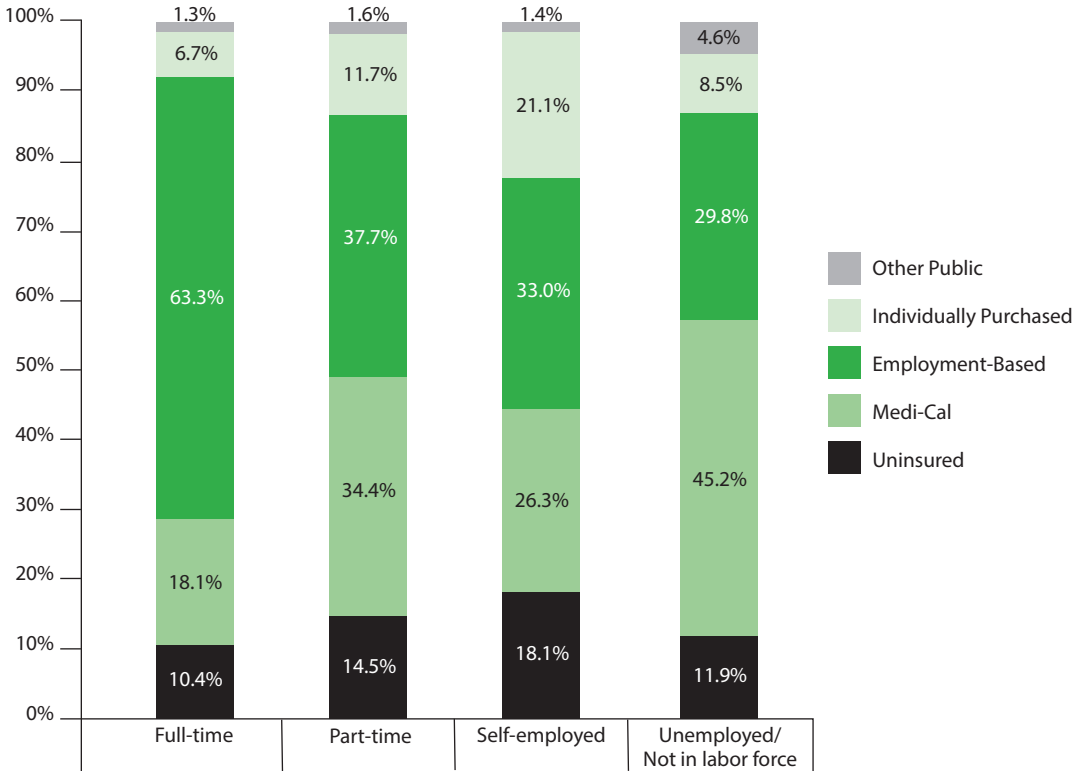
7 Some Californians have multiple sources of health coverage. This chapter uses the following hierarchy to determine a mutually exclusive source of health insurance: Medi-Cal, employment-based coverage, individually purchased coverage, other public insurance, and, finally, being uninsured.

Full-Time Workers More Likely to Have Employment-Based Coverage Than Part-Time Workers, the Self-Employed, and the Unemployed

In 2015-2016, 11.5% of all working-age Californians (19-64) were uninsured. Half (50.4%) of all working-age Californians were covered through an employment-based plan, but the insurance coverage varied greatly by work status (Exhibit 2.1). Full-time workers were the most likely to receive coverage through an employer (63.3 percent) and the least likely to be uninsured (10.4%) or enrolled in Medi-Cal (18.1%). By contrast, approximately one in three self-employed and part-time workers received employment-based coverage (33% for self-employed Californians and 37.7% for part-time workers), and a similar share of workers in each group were uninsured (18.1% for self-employed Californians and 14.5% for part-time workers). The largest difference between the self-employed and part-time workers was in individually purchased and Medi-Cal coverage. Self-employed Californians were much more likely to be covered through individually purchased plans (21.1% compared to 11.7% for part-time workers), and part-time workers were more likely to have Medi-Cal coverage (34.4%, compared to 26.3% for the self-employed).

Exhibit 2.1

Source of Coverage by Work Status, California, Ages 19-64

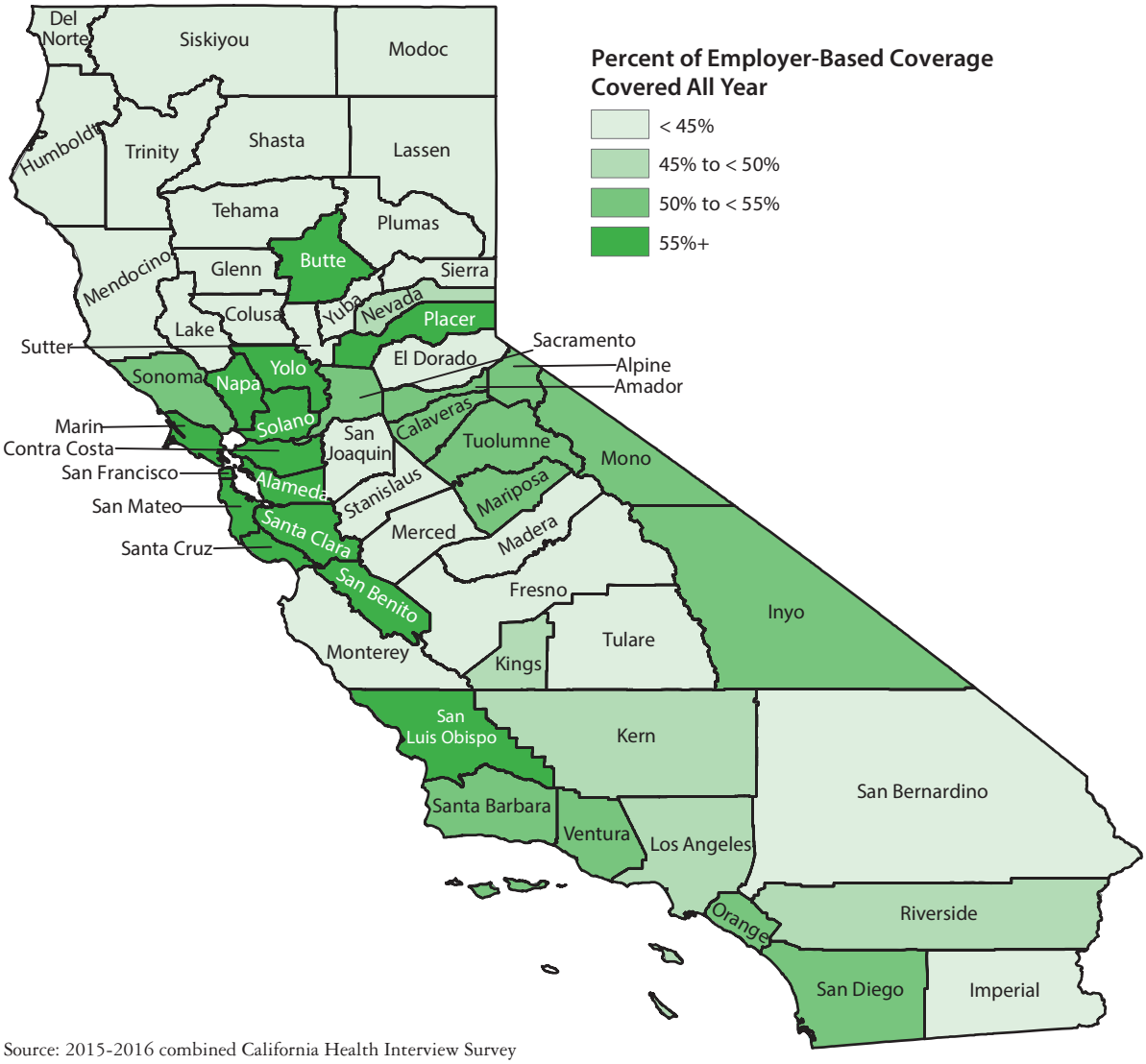


Sources: 2015-2016 combined California Health Interview Survey

Note: Self-employed Californians are also included in the data for full-time and part-time workers.

Exhibit 2.2

Employment-Based Coverage Rates by County, Ages 19-64, California, 2015-2016



Source: 2015-2016 combined California Health Interview Survey

Employment-Based Coverage Was More Common in the Bay Area, Less Common In the Central Valley and Northern California

The prevalence of employment-based coverage varied greatly across California (Exhibit 2.2). While the overall employment-based coverage rate for working-age adult Californians was 50.4%, different areas of the state showed much higher and lower levels of employment-based coverage. The Greater Bay Area had the highest levels of employment-based coverage, with every county except for Sonoma showing coverage rates above 55%. Napa County had the highest share of adults covered through an employment-based plan (71%).

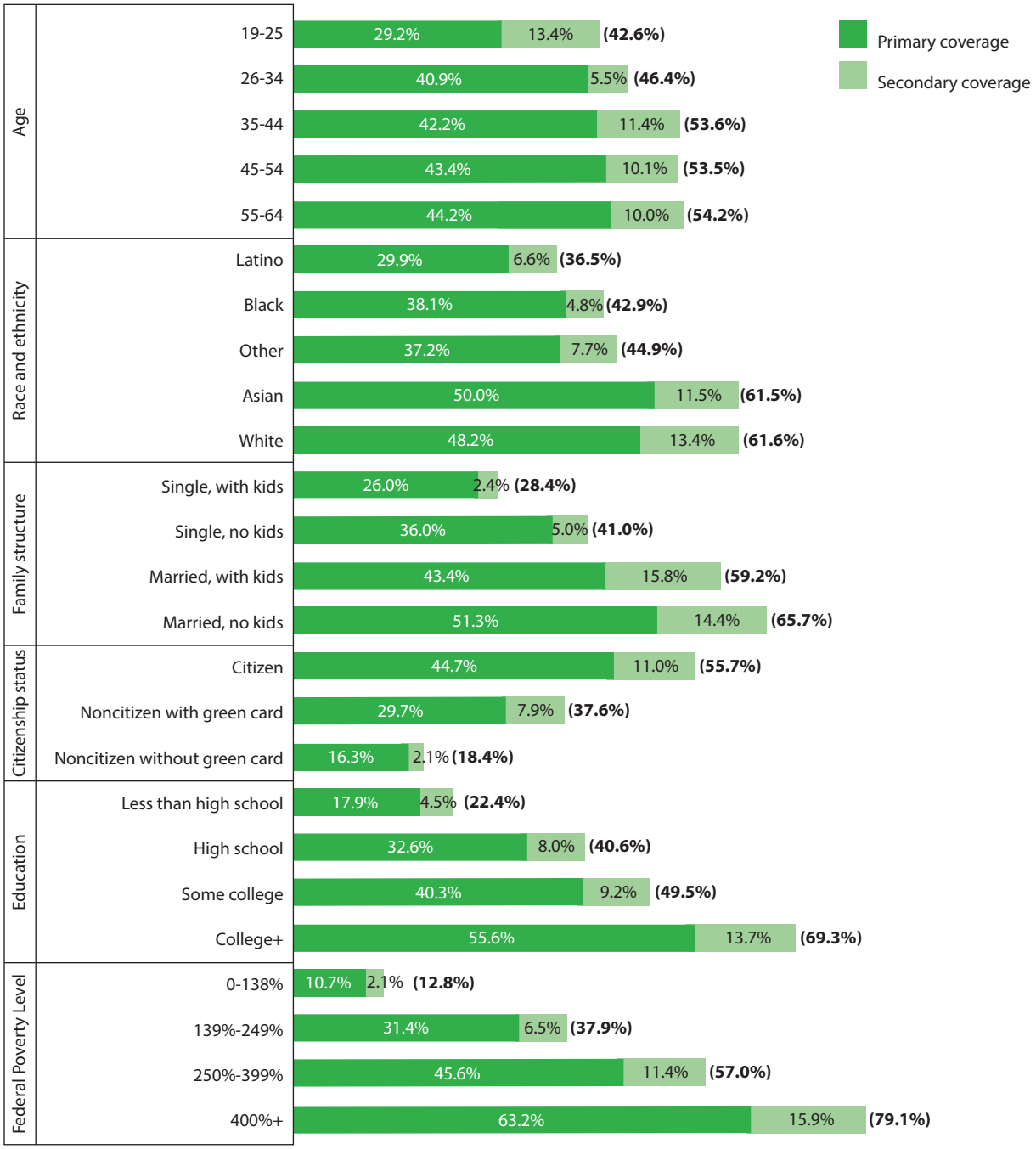
Employment-based coverage was less common in the Central Valley, in Northern California, and in San Bernardino and Imperial counties. In these regions, less than 45% of adults had employment-based coverage. Mendocino County had the lowest rate of employment-based coverage (30%). In Los Angeles County, the largest county by population, less than half of the working-age residents (45%) had employment-based coverage.

Employment-Based Coverage Was Rarer Among Members of Vulnerable Communities

Having employment-based coverage was correlated with many demographic characteristics and was rarer for more vulnerable groups (Exhibit 2.3). White and Asian nonelderly adult Californians had the highest rates of employment-based coverage (nearly 62% for both groups). Less than half of Latino (36.5%), black (42.9%), and multiracial Californians, as well as Californians from other racial/ethnic groups (44.9%), had employment-based coverage.

Exhibit 2.3

Employment-Based Coverage Rates by Demographic Group, Ages 19-64, California, 2015-2016



Source: 2015-2016 combined California Health Interview Survey

Education was another strong predictor of employment-based coverage. Only 22.4% of adult Californians without a high school diploma had employment-based coverage, and fewer than half (40.6%) of Californians with only a high school diploma had employment-based coverage. Employment-based coverage rates were higher for those with at least some college experience. Among Californians with some college experience, 49.5% had employment-based coverage, and 69.3% of Californians with a college or advanced degree were covered through an employment-based plan.

Employment-based coverage was also highly associated with income. Only 12.8% of nonelderly adult Californians in families with income below 139% of the federal poverty level (FPL) had employment-based coverage,[8] but 79.1% of Californians with a family income at or above 400% FPL were covered through an employment-based plan.

8 The low rate of employment-based coverage below 139% FPL may be partially due to the method for determining a mutually exclusive coverage type. Individuals may report having had both employment-based coverage and Medi-Cal coverage during the past year. Since Medi-Cal coverage is higher in the mutually exclusive coverage hierarchy used in this chapter, those individuals would only be counted as receiving coverage through Medi-Cal. This would be most common for adults with incomes at or below 138% FPL because of the ACA's Medicaid expansion.

Age and family structure were also correlated with employment-based coverage. Just 42.6% of Californians between ages 19 and 25 were covered through an employment-based plan, compared to 54.2% of those ages 55 to 64. Adults in married families were more likely than unmarried nonelderly adults to have employment-based coverage.

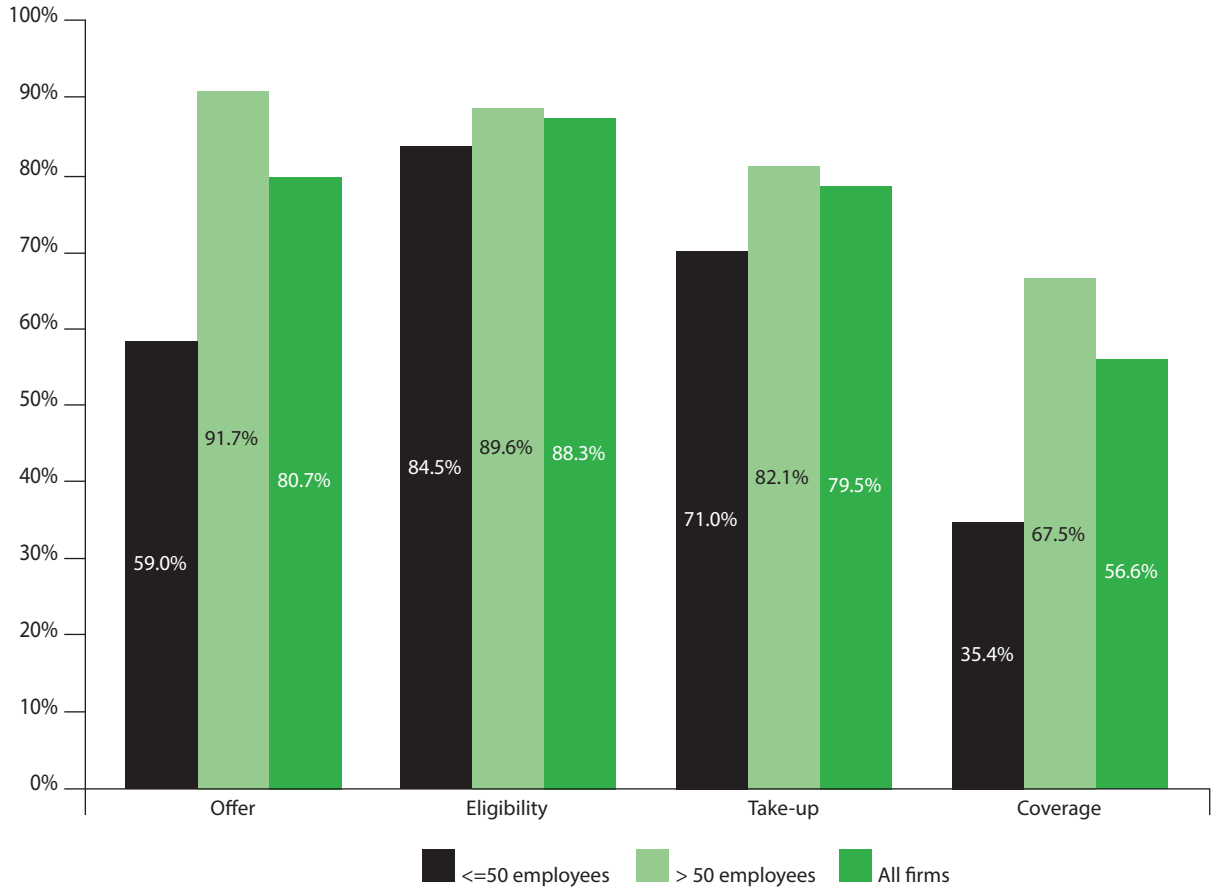
While employment-based coverage was associated with several demographic characteristics, the share of those enrolled in employment-based plans who had their own plan was fairly constant across demographic groups. Overall, 80% of nonelderly adults covered by employment-based insurance had their own plan, a figure that was steady across most demographic groups except those for age and family structure (data not shown). Younger adults were less likely to have their own employment-based coverage, with only 68% of those ages 19 to 25 holding their own employment-based plans. Adults in married couples were also slightly less likely to have their own coverage, presumably because they could receive coverage through their spouse.

Workers in Larger Firms Were More Likely to Be Offered and to Take Up Employment-Based Coverage

In 2015-2016, 57% of working, nonelderly adult Californians were enrolled in employment-based coverage sponsored by their own employer. However, there was a substantial difference between the coverage rate for workers in firms with fewer than 50 employees (35.4%) and firms with 50 or more employees (67.5%). The difference between coverage rates in small and larger firms is not new, but it remains important because the ACA requires that firms with 50 or more workers offer affordable coverage or pay a fine.

Exhibit 2.4

Offer, Eligibility, and Coverage by Firm Size, Working Adults Ages 19-64, California, 2015-2016



Sources: 2015 and 2016 California Health Interview Surveys

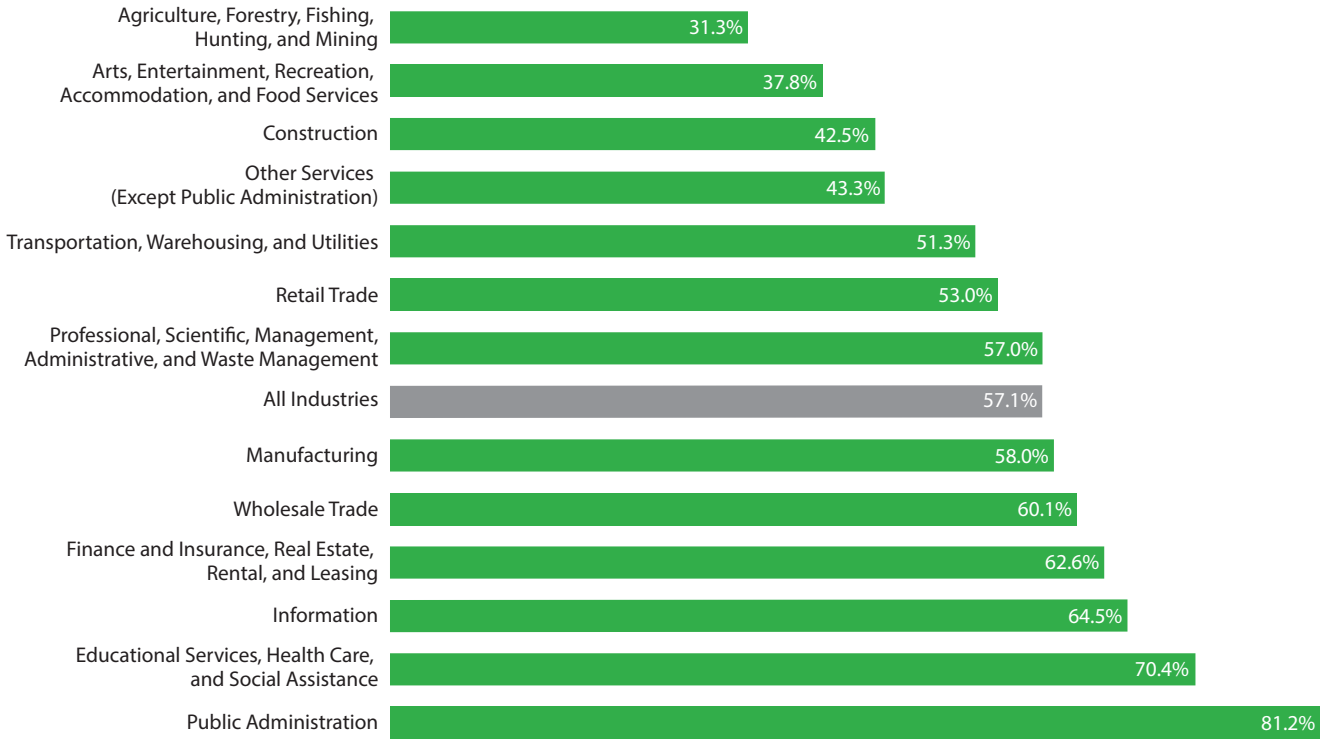
To understand this difference in employment-based coverage, it is helpful to break that coverage rate into three constituent parts: the offer rate, eligibility rate, and takeup rate (Exhibit 2.4). The offer rate measures the share of workers in firms that offered employment-based coverage to any of the firm's employees. Overall, 80.7 percent of California workers were employed in firms that offered employment-based coverage. Again, however, there was a large difference between small and larger firms. In firms with 50 or more employees, 91.7% of workers reported that their employer offered coverage, but only 59% of workers in small firms reported being offered coverage by their employers.

The eligibility rate measures the share of workers in offering firms who were eligible to take up their employer's coverage offer. Not all workers in offering firms were eligible to take up the coverage offer, as the firm may not have offered coverage to part-time workers or may have had restrictions (e.g., waiting periods) for new employees. Overall, 88.3% of workers in offering firms were eligible to take up the offer, with limited differences in eligibility rates by firm size.

The take-up rate measures the share of eligible workers who actually enrolled in their employer's coverage. Across California, 80% of eligible workers chose to enroll in their employer's coverage. There was a small difference in take-up rates between small and larger firms. Among eligible workers in firms with 50 or more employees, 82.1% enrolled in coverage, while only 71% of eligible workers in small firms enrolled. The lower coverage rate for small firms reflected the considerably lower offer and take-up rates at these firms.

Exhibit 2.5

Employment-Based Coverage Rates by Industry, Working Adults Ages 19-64, California, 2015-2016



Sources: 2015 and 2016 California Health Interview Surveys

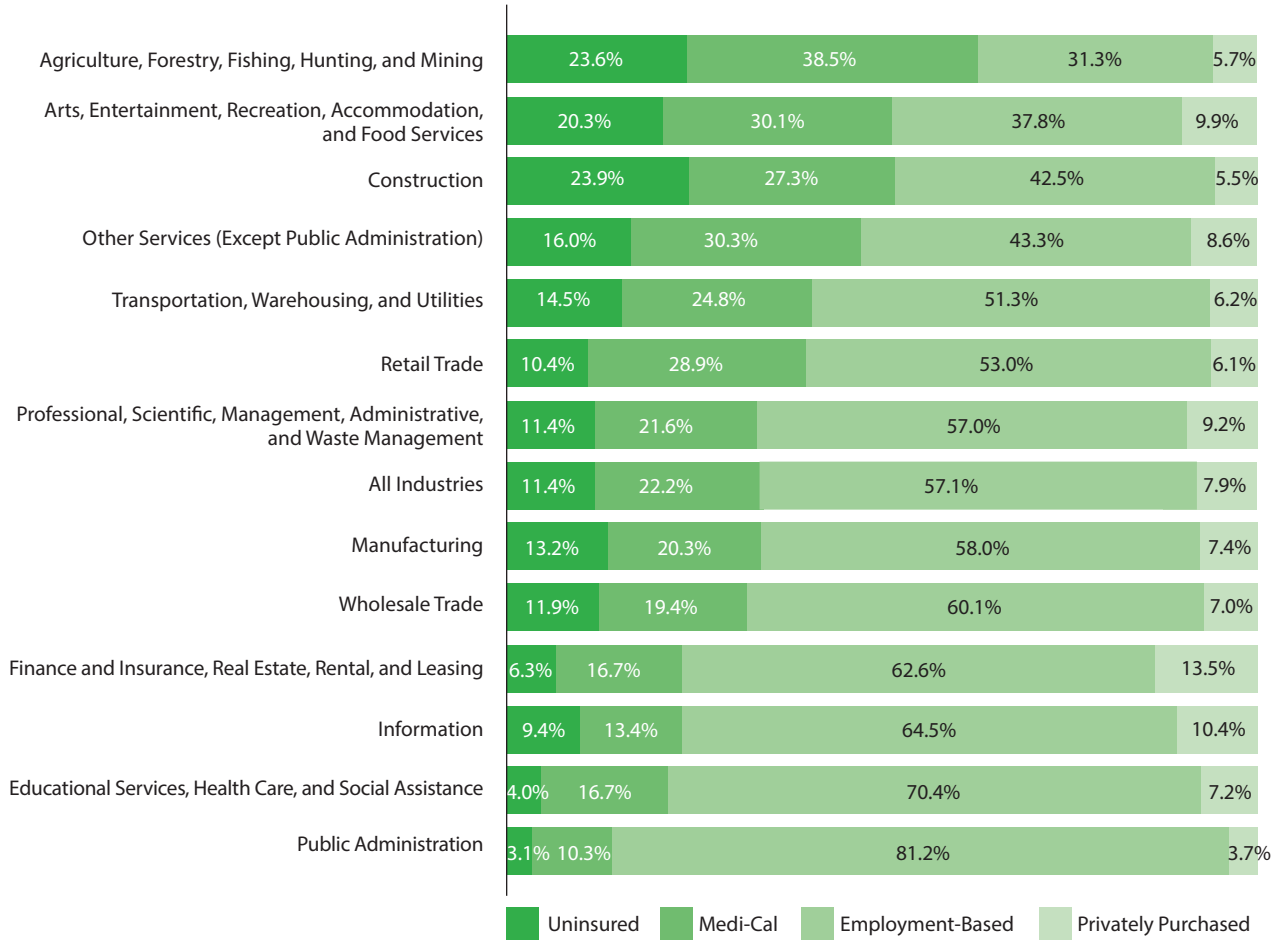
Uninsurance Was High and Employment-Based Coverage Low in Low-Wage Industries and Occupations

Among all working nonelderly adults in California, 57.1% were insured through employment-based coverage (Exhibit 2.5). There was a wide range across industries in the share of workers covered by employment-based insurance.[9] Industries that traditionally have had a higher fraction of low-wage workers also tended to have lower levels of employment-based coverage. For example, 31.3% of workers in the agriculture, forestry, fishing, hunting, and mining industry and 37.8% of workers in arts, entertainment, recreation, accommodation, and food services were covered by an employment-based plan. Other industries had large portions of their workforce covered by employment-based insurance: 70.4% of workers in educational services, health care, and social assistance and 81.2% of workers in public administration had employment-based coverage.

9 "Industry" refers to the type of work the firm conducts.

Exhibit 2.6

Source of Coverage by Industry, Working Adults Ages 19-64, California, 2015-2016



Sources: 2015 and 2016 California Health Interview Surveys

Uninsurance rates and Medi-Cal enrollment were highest in the industries where employment-based coverage was least common (Exhibit 2.6). Compared to the 11% rate of uninsurance across all industries, 23.6% of agriculture, forestry, fishing, hunting, and mining workers were uninsured, along with 23.9% of workers in construction. Medi-Cal enrollment was also elevated in these industries, with 38.5% of agriculture, forestry, fishing, hunting, and mining workers and 30% of workers in arts, entertainment, recreation, accommodation, and food services enrolled in Medi-Cal, compared to 22.2% of all working-age Californians.

Workers in industries with high levels of employment-based coverage had the lowest rates of uninsurance. Only 4% of educational services, health care, and social assistance workers and 3.1% of public administration workers were uninsured.

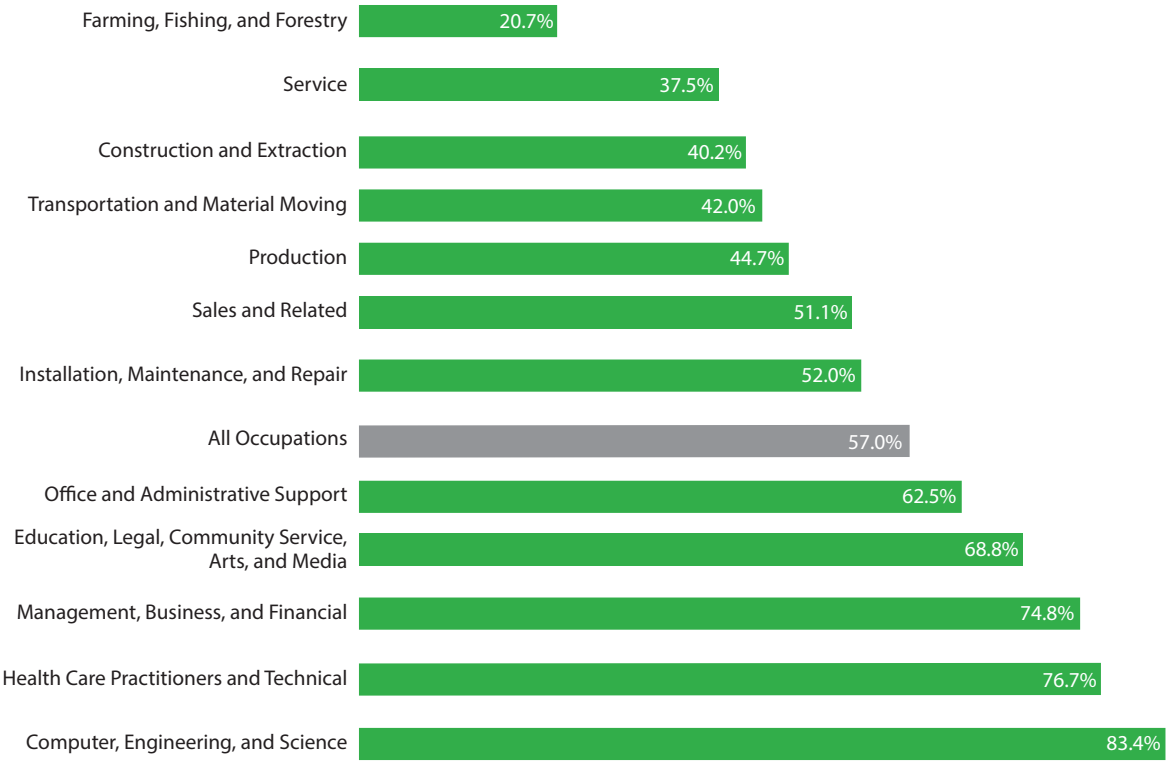
In addition to industry, it is also important to look at coverage trends by occupation.[10] Many industries have a mix of low- and high-wage occupations even if the industry itself predominantly employs lower- or higher-paid employees. For example, the food services industry employs a number of low-wage workers in occupations

10 "Occupation" refers to the type of work the employee performs.

like food preparation or serving, but it also has a portion of higher-paid workers in managerial and executive occupations.

There was also a wide range of levels of employment-based coverage across occupations, as well as of coverage rates associated with the income levels of the occupational groups. Employment-based coverage was lower in traditionally low-wage occupations (Exhibit 2.7). Only 20.7% of workers in farming, fishing, and forestry occupations and 37.5% of workers in service occupations had employment-based coverage. The uninsured rate was also high in these occupations, reaching 25% in farming, fishing, and forestry occupations and 19% in service occupations (not shown).

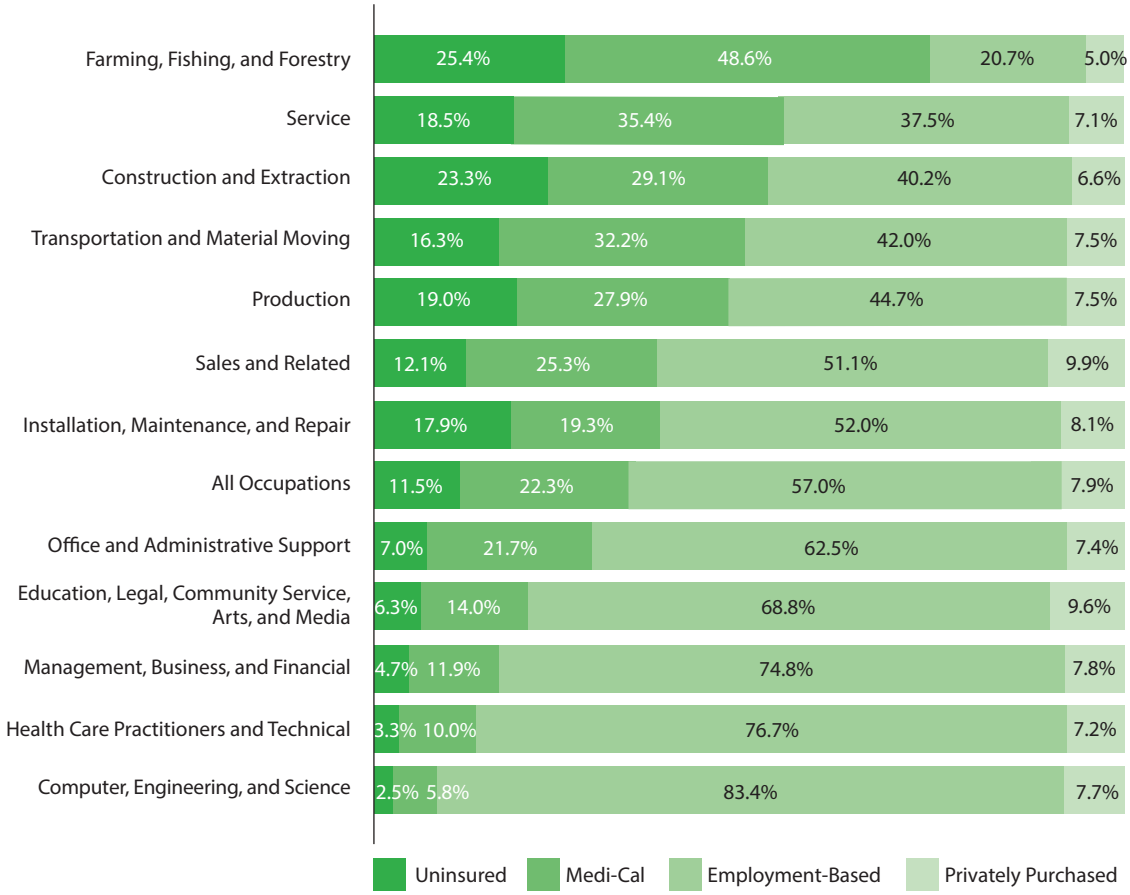
Exhibit 2.7
Employment-Based Coverage Rates by Occupation, Working Adults Ages 19-64, California, 2015-2016



Sources: 2015 and 2016 California Health Interview Surveys

Exhibit 2.8

Source of Coverage by Occupation, Working Adults Ages 19-64, California, 2015-2016



Sources: 2015 and 2016 California Health Interview Surveys

Higher-wage occupations have much higher levels of employment-based coverage (Exhibit 2.8). Among health care practitioners and workers in technical occupations, 76.7% were covered through employment-based plans, as were 83.4% of workers in computer, engineering, and science fields. The uninsured rate was also very low among workers in these occupations, at just 3.3% for health care practitioners and technical workers and for those in computer, engineering, and science occupations.

Individual Market

The ACA included many reforms that changed the nature of the individual market for privately purchased insurance. The law established subsidies that reduced both premium and out-of-pocket spending for low- and moderate-income consumers. It also prevented insurers from denying coverage due to preexisting health conditions or excluding treatment of those conditions from coverage. Insurers were also no longer allowed to set premiums based on the health of enrollees, and they faced caps on how much higher they could set premiums for older consumers relative to younger consumers.

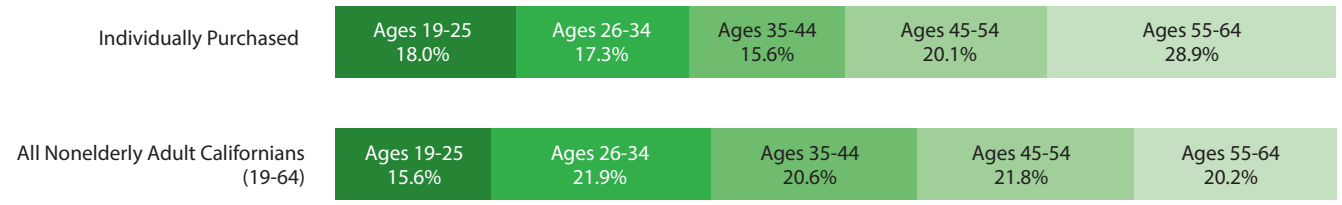
In 2015-2016, two years after the implementation of the ACA's individual market reforms, 8% (1.9 million people) of nonelderly adult Californians (ages 19-64) purchased coverage in the individual market, including those who purchased insurance with subsidies through Covered California. The demographic composition of the individual market differed from the overall nonelderly adult California population, although the extent of those differences varied among the different demographic categories.

The individual market had a larger share of individuals ages 55-64 (28.9%) and a smaller portion of middle-aged (35-54) adults (35.7%) than the overall nonelderly adult California population (Exhibit 2.9). The share of young adults (ages 19-34) in the individual market (35.3%) was similar to their share among the overall population (37.5%).

White enrollees made up a larger share of the individual market (53.4%) than of the overall nonelderly adult population (38%; Exhibit 2.10). Latino adults were underrepresented in the individual market at 23.4%, compared to 38.5% of the adult population.[11]

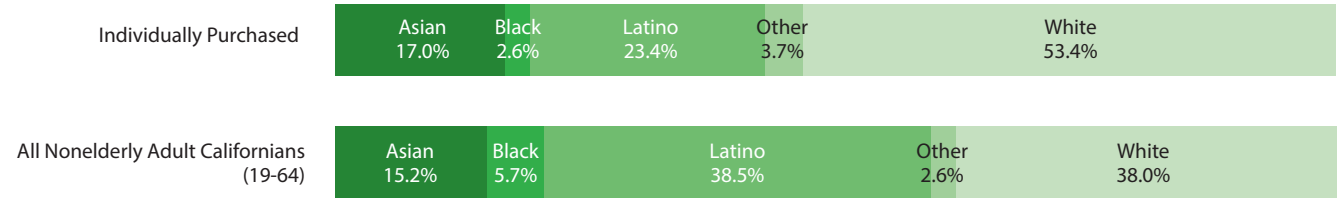
11 The difference in the black share of the individual market and the overall nonelderly adult population is not statistically significant.

Exhibit 2.9
Individually Purchased Coverage by Age, Ages 19-64, California, 2015-2016



Sources: 2015 and 2016 California Health Interview Surveys

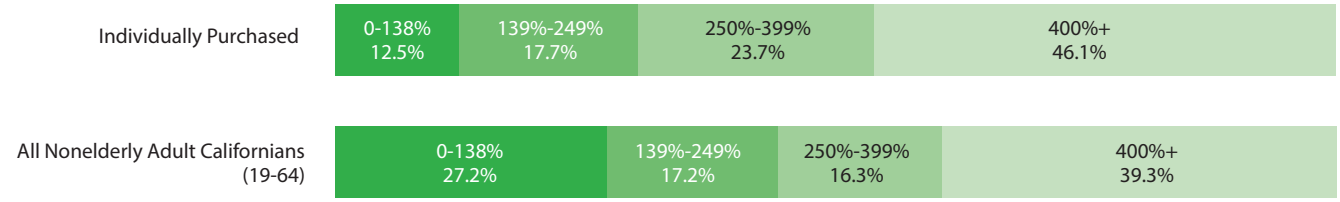
Exhibit 2.10
Individually Purchased Coverage by Race and Ethnicity, Ages 19-64, California, 2015-2016



Sources: 2015 and 2016 California Health Interview Surveys

Exhibit 2.11

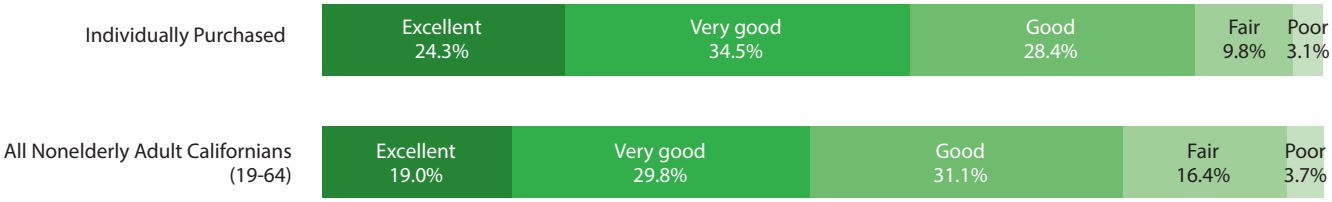
Individually Purchased Coverage by Household Income as a Percentage of the Federal Poverty Level (FPL), Ages 19-64, California, 2015-2016



Sources: 2015 and 2016 California Health Interview Surveys

Exhibit 2.12

Individually Purchased Coverage by Health Status, Ages 19-64, California, 2015-2016



Sources: 2015 and 2016 California Health Interview Surveys

The enrollees in the individual market had higher incomes than the overall nonelderly adult population (Exhibit 2.11). This was to be expected, given the structure of the ACA, which expanded Medicaid eligibility to all nonelderly citizens and qualified immigrant adults with incomes at or below 138% FPL and did not provide individual market subsidies to those eligible for Medicaid.

Individual market enrollees self-reported better health than the overall population (Exhibit 2.12). Fifty-nine percent of individual market enrollees reported excellent or very good health, compared to 49% of the overall population. This is important, because premiums in the individual market are set based on the overall health of all enrollees, so more enrollees with better health translates into lower premiums for all enrollees, regardless of an individual's health status.

Discussion

While the ACA expanded eligibility for Medicaid and instituted reforms in the individual market, employment-based coverage remained the most common source of coverage for nonelderly adults in California in 2015-2016, with just over half receiving coverage from an employer. Disparities in access to employer-based coverage also continued after implementation of the ACA. Part-time and unemployed workers, as well as the self-employed, were less likely to have employment-based coverage and more likely to be uninsured. Additionally, employment-based coverage was less common among workers in low-wage industries and occupations. These workers were more likely to rely on Medi-Cal or to be uninsured. Employment-based coverage was also associated with many demographic categories, such as race/ethnicity, citizenship and immigration status, and income. In each of these cases, Californians in more vulnerable groups were less likely to have employment-based coverage. Employment-based coverage was also low in the central and northern areas of the state compared to the coastal regions.

Following the 2014 implementation of the ACA's individual market reforms, 8% of nonelderly adult Californians individually purchased their coverage in 2015-2016. In comparison with the overall nonelderly adult population, the individual market enrollees had higher incomes and were somewhat older, whiter, and more likely to report better health.

3 Public Health Insurance Coverage in California

Shana Alex Charles, MPP, PhD, and Maria Mekhaiel, MPH

Medicare and Medicaid are the two major public health insurance programs in the United States, and as of 2016 in California, they insured more than 4 in 10 Californians (42.6%; see chapter 1). Both programs have recently been the subject of intense public attention, with the nation debating the best method to increase health insurance coverage over the past decade. The Patient Protection and Affordable Care Act of 2010 (ACA) gave California the ability to open up enrollment in Medi-Cal (the state's Medicaid program) to any legal permanent resident with household income at or below 138% of the federal poverty level (FPL)[12] as of January 1, 2014. This provision effectively eliminated the requirement that nonelderly adults (ages 19-64) have children in order to enroll in Medi-Cal. Children ages 18 and under maintained their higher income eligibility levels for Medi-Cal enrollment that were already in place. Adults ages 65 and over increased their income eligibility to enroll in both Medi-Cal and Medicare for low-income seniors, from the prior level of 88% FPL to 138% FPL.

For Medicare, the basic structure of medical coverage has remained essentially the same since the addition of prescription drug coverage in 2006. Enrollees can stick with their basic Medicare coverage, but the overwhelming majority add on to their Medicare by: 1) purchasing a supplement plan, 2) enrolling in a managed care Medicare Advantage plan, 3) keeping some job-based insurance through retirement, or 4) enrolling, if income eligible, in Medicaid (they are then referred to as "dual eligibles").

12 In 2016, 138% of the federal poverty level was $16,394 for a one-person household, $22,108 for a two-person household, $27,821 for a three-person household, etc.

This chapter will explore the changing demographics of Medi-Cal following the ACA expansion, as well as the different demographics among the different types of Medicare plans. Who is currently enrolled in these public plans? For some, "Medicare for all" has become a rallying cry. But how do the current Medicare plans compare to Medi-Cal (for nonelderly adults) in terms of satisfaction with health care?

Changing Demographics of Public Program Enrollment

If the ACA worked to expand public health insurance, we would expect to see differences among increases in Medi-Cal coverage by age group, since the expansion provisions targeted childless adults ages 19-64. Prior to the ACA, these adults had no eligibility for Medi-Cal. Adults 65 and older also expanded their coverage eligibility for Medi-Cal and could be expected to increase their enrollment as well.

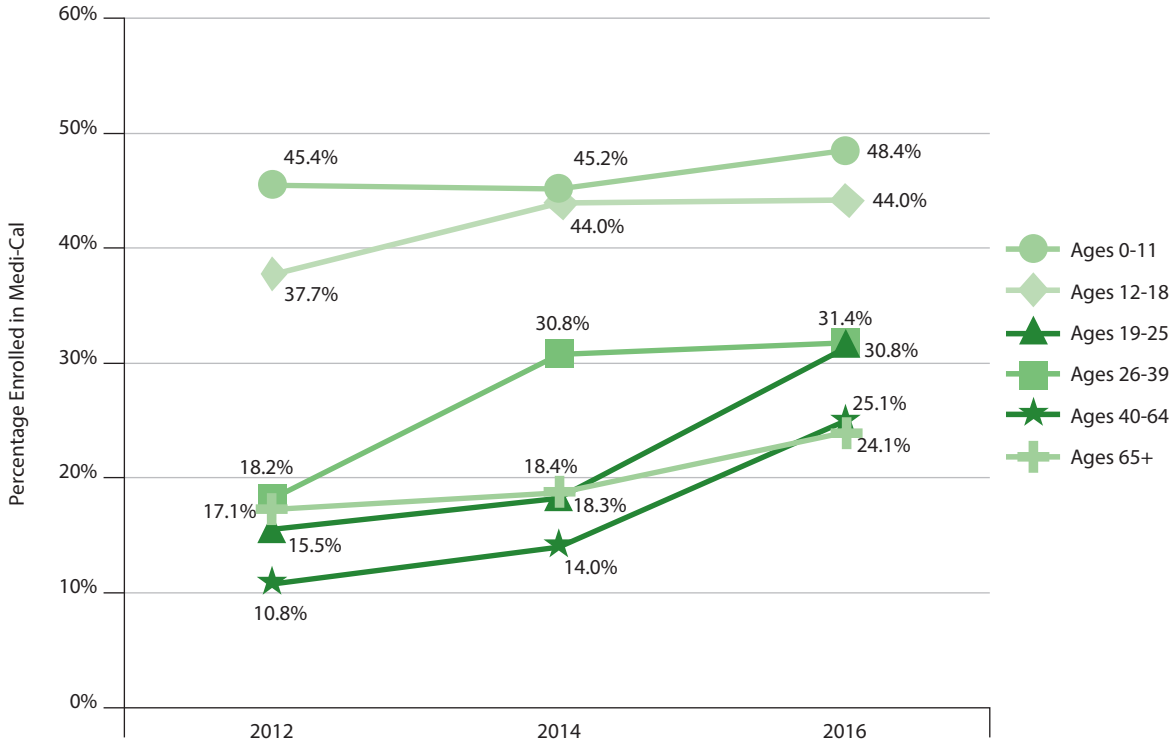
Age Group

For three age groups, enrollment in Medi-Cal increased slightly from 2012 to 2014 (the first year of the expansion) and jumped higher from 2014 to 2016 (Exhibit 3.1), after the Medi-Cal expansion was fully implemented. Among people ages 19-25, who historically had the highest rates of being uninsured prior to the ACA,[13] enrollment in Medi-Cal rose from 15.5% in 2012 to 18.3% in 2014, then rose sharply to 30.8% in 2016. Among adults ages 40-64, enrollment in Medi-Cal increased even more dramatically, from 10.8% in 2012 to 25.1% in 2016. Medi-Cal coverage for those ages 65 and over also increased, from 17.1% in 2012 to 24.1% in 2016, including those who also had Medicare coverage (Exhibit 3.1).

In contrast, children ages 12-18 and adults ages 26-39 had increases in the percentages with Medi-Cal coverage from 2012 to 2014, but the percentages remained steady to 2016. This may indicate that parents and their teenage children, who gained income eligibility from 100% to 138% FPL, were proactive about enrolling in coverage as soon as possible and were assisted by the extensive enrollment outreach efforts by Covered California. For children ages 0-11, who had the highest income eligibility allowed even prior to the ACA's enactment, coverage remained steady, from 45.4% in 2012 to 48.4% in 2016 (Exhibit 3.1). In other words, nearly half of all children ages 11 and under in California continue to have health insurance coverage through Medi-Cal.

13 Charles SA, Jacobs K, Roby DH, Pourat N, Snyder S, and Kominski G. 2014. *The State of Health Insurance in California: Findings from the 2011/2012 California Health Interview Survey*. Los Angeles, Calif.: UCLA Center for Health Policy Research. Access at: *http://healthpolicy.ucla.edu/publications/search/pages/detail.aspx?PubID=1352.*

Exhibit 3.1
Rates of Enrollment in Medi-Cal by Age Group, All Ages, California, 2012-2016

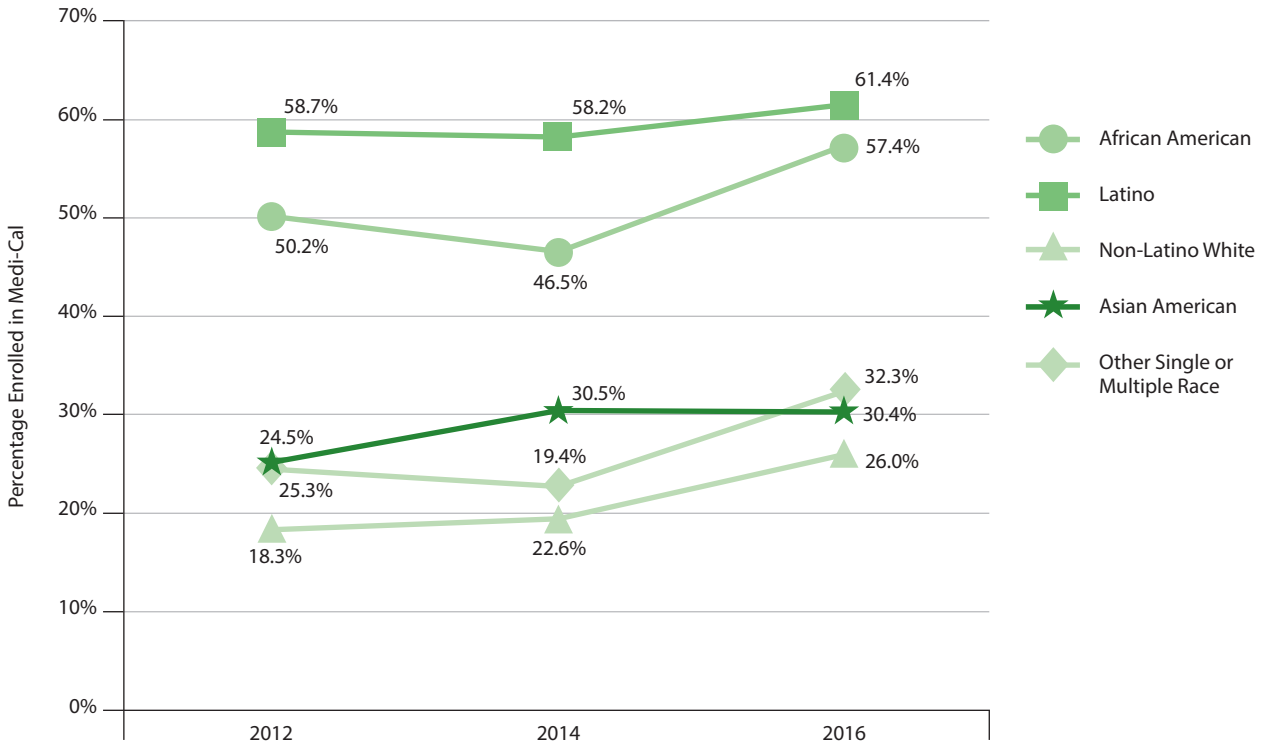


Notes: Numbers are percentages of the total population within each age group and will not add to 100%. Ages 0-18 includes enrollment in the SCHIP program (called Healthy Families), which was integrated into Medi-Cal in 2013. Ages 65+ includes dual enrollees in Medi-Cal and Medicare.

Sources: 2011-2012, 2013-2014, 2015-2016 California Health Interview Surveys

Exhibit 3.2

Rates of Enrollment in Medi-Cal by Racial/Ethnic Group, Ages 0-18, California, 2012-2016



Notes: Numbers are percentages of the total population within each racial/ethnic group and will not add to 100%. Ages 0-18 includes enrollment in the SCHIP program (called Healthy Families) which was integrated into Medi-Cal in 2013. "Asian American" includes Native Hawaiians and Other Pacific Islanders. "Other Single or Multiple Race" includes American Indian and Alaskan Natives.

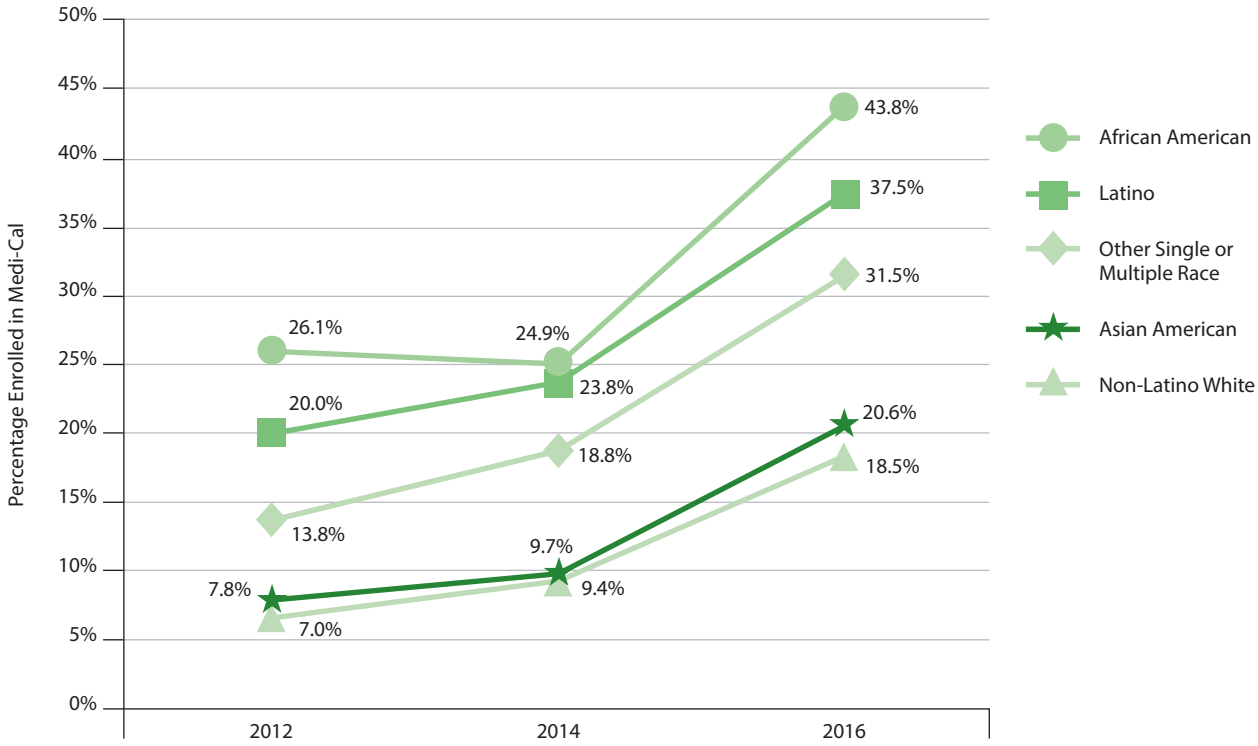
Sources: 2011-2012, 2013-2014, 2015- 2016 California Health Interview Surveys

Racial/Ethnic Group

The gains in Medi-Cal coverage among teenagers and the maintenance of coverage among children were spread among all racial and ethnic groups, although the gains among Latino children — from 58.7% in 2012 to 61.4% in 2016 — were smaller than for other groups (Exhibit 3.2). Children who were identified by their parent or guardian as non-Latino white, African American, or other single or multiple race had the largest increases in Medi-Cal coverage (Exhibit 3.2).

Exhibit 3.3

Rates of Enrollment in Medi-Cal by Racial/Ethnic Group, Ages 19-64, California, 2012-2016



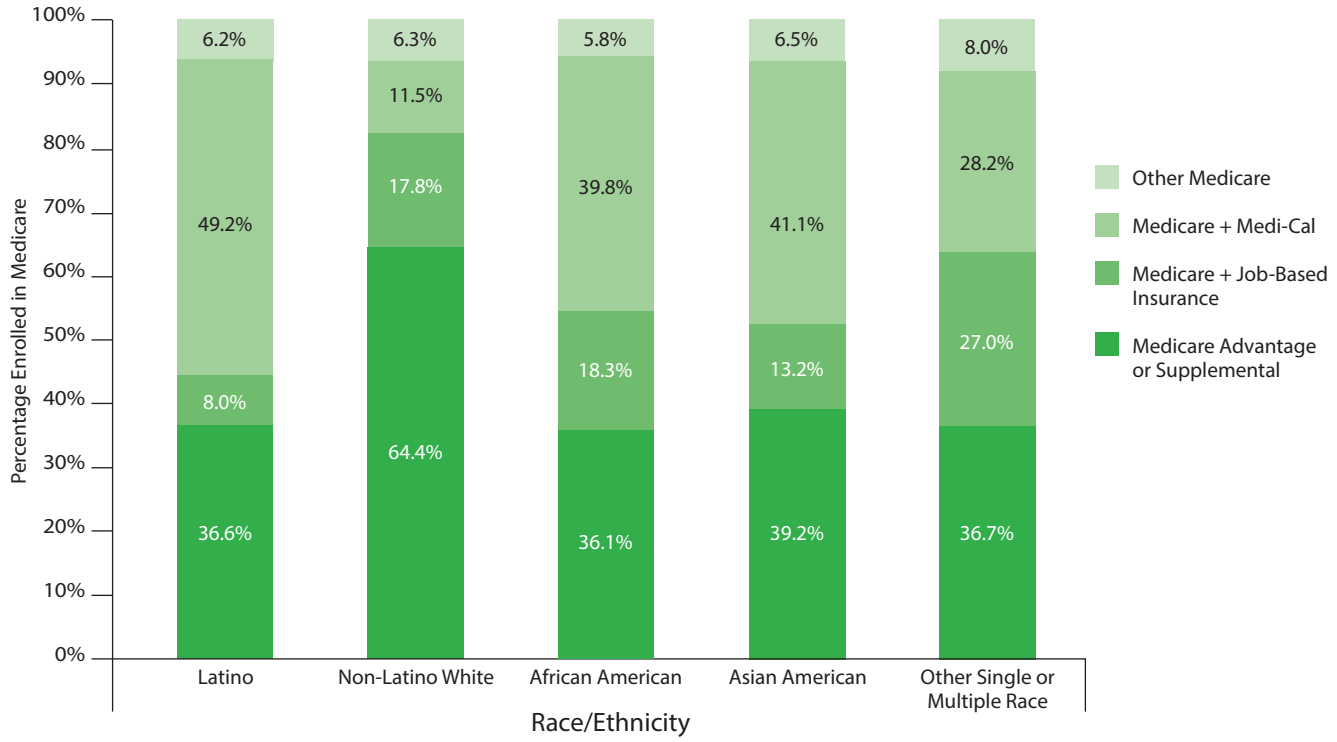
Notes: Numbers are percentages of the total population within each racial/ethnic group and will not add to 100%. "Asian American" includes Native Hawaiians and Other Pacific Islanders. "Other Single or Multiple Race" includes American Indian and Alaskan Natives.

Sources: 2011-2012, 2013-2014, 2015- 2016 California Health Interview Surveys

Among adults ages 19-64, however, the gains in Medi-Cal coverage followed the same pattern more equally among all racial/ethnic groups (Exhibit 3.3). Adults who self-identify as African American reported the highest rate of Medi-Cal coverage by 2016, at 43.8%, but they also had the highest rate in 2012, at 26.1%. Adults who self-identify as non-Latino white had the lowest rate of Medi-Cal coverage, at 7.0%, in 2012, and they experienced a similar jump in coverage to 18.5% in 2016.

Exhibit 3.4

Medicare Enrollment by Racial/Ethnic Group, Ages 65+, California, 2015-2016



Notes: Numbers may not add to 100% due to rounding. "Asian American" includes Native Hawaiians and Other Pacific Islanders. "Other Single or Multiple Race" includes American Indian and Alaskan Natives.

Sources: 2015 and 2016 California Health Interview Surveys

Examining the different types of Medicare among racial/ethnic groups shows that the patterns established among younger adults persist among adults 65 and older. Nearly two-thirds of non-Latino white older adults have Medicare Advantage or Medicare plus a privately purchased supplement (essentially, augmented Medicare),[14] compared to just over a third of older adults in other racial/ethnic groups (64.4% compared to a range of 36.1% to 39.2%; Exhibit 3.4).

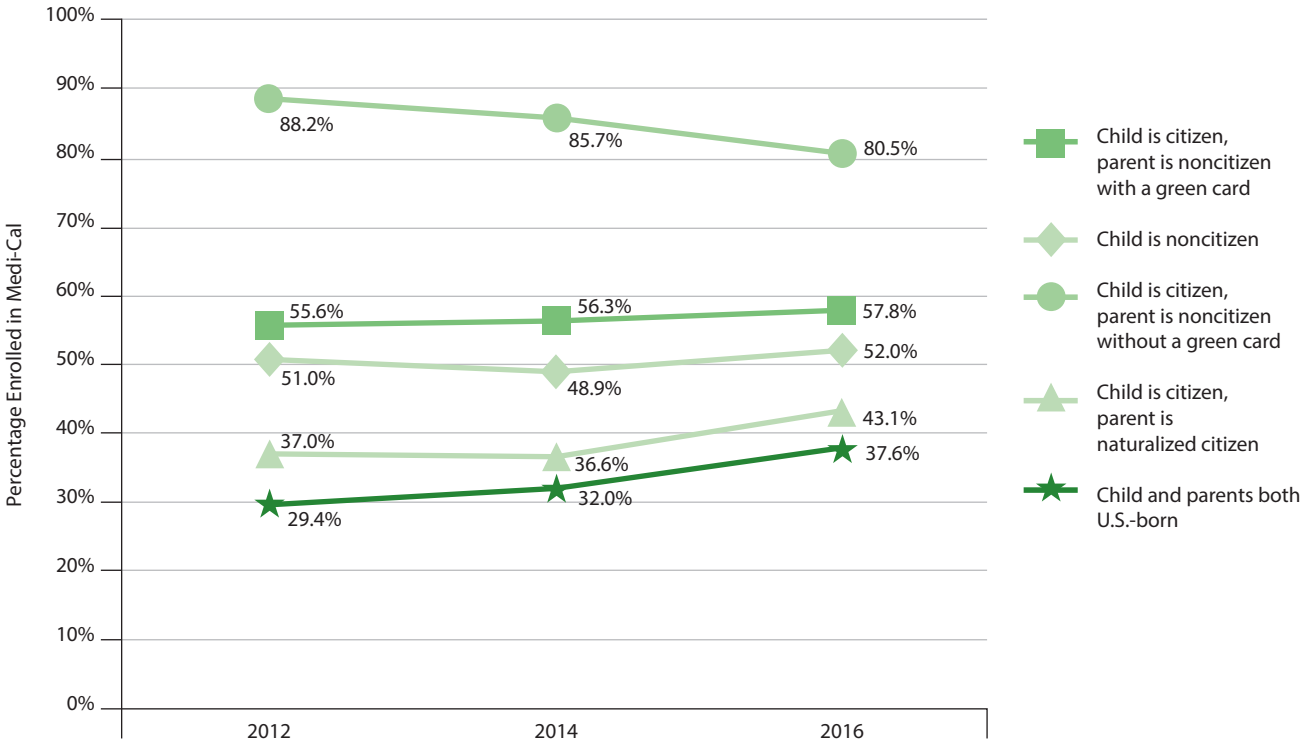
In stark contrast, nearly half of older Latinos (49.2%) have Medicare plus Medi-Cal, compared to only 11.5% of non-Latino white older Californians. Among older African American Californians, nearly one in five (18.3%) have Medicare plus a job-based coverage supplement — a rate similar to that among non-Latino white older adults — compared to only 8.0% of older Latino Californians. These coverage differences, even among a population that is nearly completely insured, illustrate how job-based coverage differences by racial/ethnic group continue to affect coverage options throughout enrollees' retirement years.

14 Enrollment in Medicare Advantage or a private supplement plan is combined in a single question on CHIS and cannot be reported separately.

Citizenship Status

Among children ages 0-18, rates of having Medi-Cal differ by their own and their parents' citizenship status. Coverage for U.S.-born children with U.S.-born parents increased from 29.4% in 2012 to 37.6% in 2016 (Exhibit 3.5). Most other groups saw their coverage rates in Medi-Cal remain steady, with the exception of citizen children whose parents are noncitizens without green cards. Their rates of coverage dropped from 88.2% in 2012 to 80.5% in 2016 (Exhibit 3.5).

Exhibit 3.5
Rates of Enrollment in Medi-Cal by Family Citizenship Status, Ages 0-18, California, 2012-2016



Notes: Numbers are percentages of the total population within each citizenship group and will not add to 100%. Ages 0-18 includes enrollment in the SCHIP program (called Healthy Families), which was integrated into Medi-Cal in 2013.

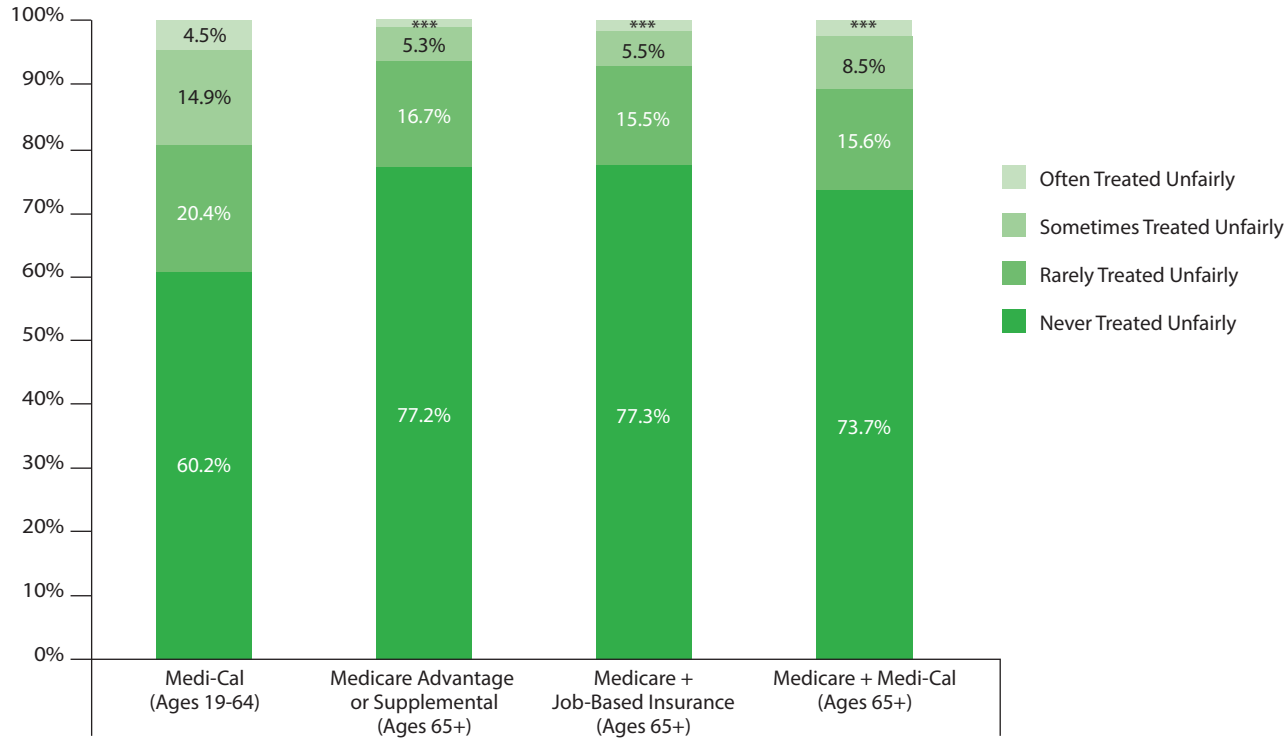
Sources: 2011-2012, 2013-2014, 2015-2016 California Health Interview Surveys

Satisfaction With Health Care Among Public Coverage Enrollees

Adults with Medicare, whether by itself or with a supplement, were less likely than nonelderly adults with Medi-Cal to report experiencing unfair treatment by health professionals due to their health insurance type (Exhibit 3.6). About one in five adults with Medi-Cal reported "often or sometimes" being treated unfairly, compared to less than 10% of adults with Medicare. Even the dual-eligible group with both types of coverage reported less unfair treatment than those with Medi-Cal only.

Exhibit 3.6

Percentage Who Felt They Were Treated Unfairly, by Medi-Cal or Medicare Enrollment, Ages 19-64 and 65+, California, 2015-2016



*** = Percentage is too unstable to report due to coefficient of variation above 30%.

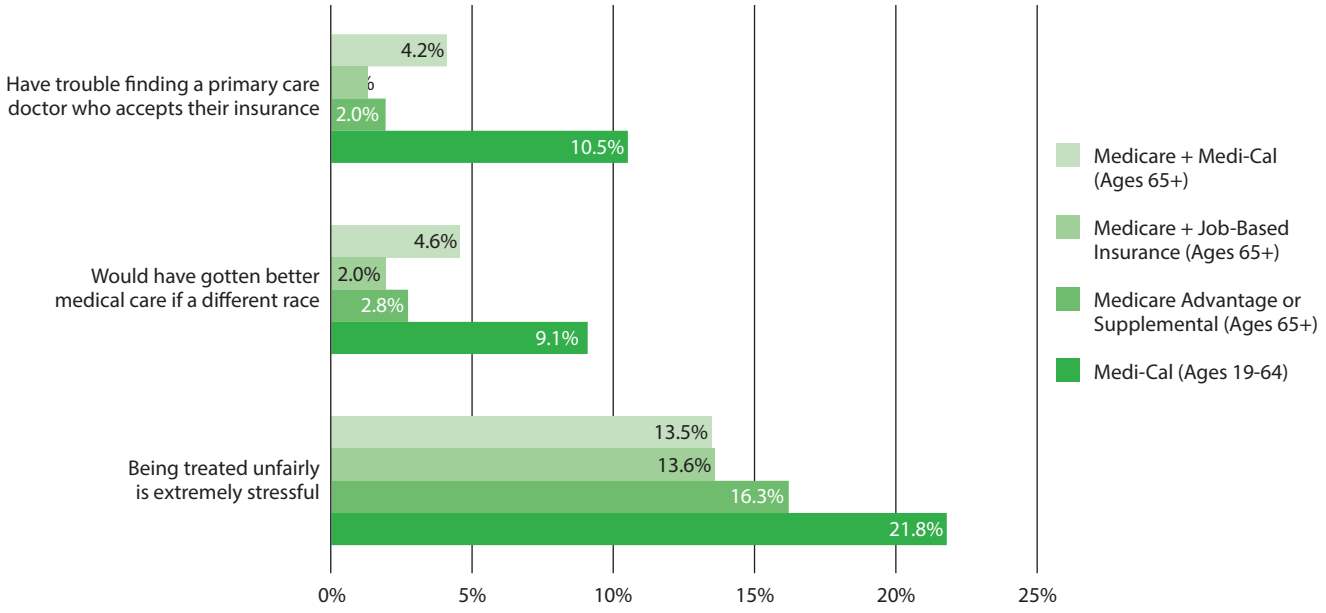
Note: Numbers may not add to 100% due to rounding.

Sources: 2015 and 2016 California Health Interview Surveys

Other health care disparities exist among enrollees with different types of public coverage as well. Nonelderly adults with Medi-Cal reported the highest rate of difficulty in finding a primary care doctor who would accept their insurance (10.5%), along with reporting the highest rate of perceiving that they would have received better health care if they were members of a different racial or ethnic group (9.1%; Exhibit 3.7). Among adults who reported that they had received unfair treatment from health professionals due to their health insurance type, 21.8% of those with Medi-Cal reported that the experience had been extremely stressful, a figure slightly higher than that for adults with any kind of Medicare.

Exhibit 3.7

Rates of Difficulties in Getting Medical Care by Medi-Cal or Medicare Enrollment, Ages 19-64 and 65+, California, 2015-2016



Note: Numbers are rates and will not add to 100%.

Sources: 2015 and 2016 California Health Interview Surveys

Discussion

The findings in this chapter examine the trends over time for public coverage in California, both for Medi-Cal, which was greatly impacted by the ACA, and for Medicare, which was less impacted. Significantly, the one group with both public health plans (the dually eligible, with both Medicare and Medi-Cal) reported care much more consistent with that received by those in other Medicare groups, rather than by those with only Medi-Cal.

These dual enrollees are in the Cal MediConnect Plan (Medicaid-Medicare Plan, or CMC), part of a national pilot demonstration program. The program was implemented in 2014 in eight California counties: Orange, Los Angeles, Riverside, San Bernardino, San Diego, Alameda, San Mateo, and Santa Clara. Cal MediConnect stemmed from the Coordinated Care Initiative (CCI), which is the legislation passed in California to improve the delivery of care systems among low-income seniors and persons with disabilities. The federal Medicare program and the state's Medi-Cal program partnered for what was originally a three-year program, developed to create an all-inclusive health plan combing medical, prescriptions, dental, vision, transportation, and long-term services and supports (LTSS).[15]

This extensive slate of health care services does not extend to adults with Medi-Cal only, or — more broadly — to those with either private insurance or no medical coverage at all. But the health care coverage of dual eligibles in California under the Cal MediConnect Plan bears a marked resemblance to the coverage being discussed at the federal level as the "Medicare for All" plan spearheaded in Congress by Representative Pramila Jayapal in the House and Senator Bernie Sanders in the Senate. In 2017, Governor Jerry Brown extended the program until December 31, 2019. The Department of Health Care Services (DHCS) requested extension of the program. In April 2019, the Centers for Medicare and Medicaid Services (CMS) approved a three-year extension for CMC through December 31, 2022.

The data in this chapter represent a baseline look at these enrollees, with an expanded examination of their access to care, compared both to those with private coverage and to the uninsured (see chapter 4). These data can inform both state and federal conversations around moving to a program that covers everyone in a program similar to that for covering dual eligibles in California.

15 *http://calduals.org/wp-content/uploads/2016/10/IMC-Resource-Guide_0916.pdf*

4 Access to Care

Nadereh Pourat, PhD, and Maria Ditter, Dr med, MPH

Health insurance is an important predictor of access to care because it reduces or removes financial barriers to receiving health services. In turn, getting needed health services is likely to promote better population health outcomes. Continuous monitoring of changes in access to care for different types of insured and uninsured populations is needed to identify gaps in access associated with insurance coverage. Such data can then be used to inform and identify practice and policy solutions that are for the improvement of population health.

This chapter examines the current state of access to care for California residents by type of insurance to uncover existing and emerging differences in access. Indicators that measure access to care include having a usual source of care and the setting of that usual source, as well as several objective measures of use of preventive, outpatient, and acute services. Subjective measures of access, such as self-reported need for care, provide further insights into access barriers that are not captured through objective measures.

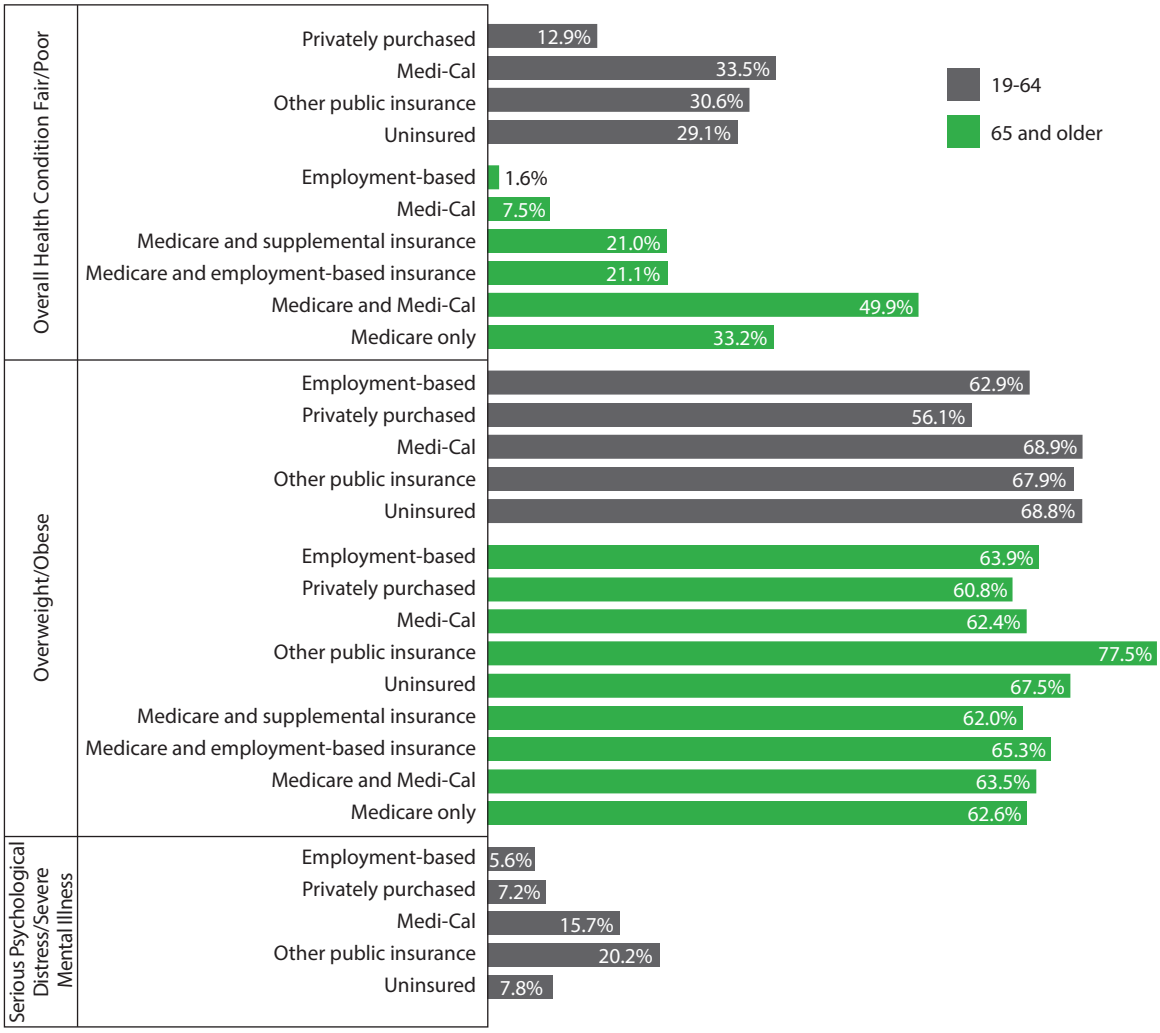
Access to care varies by type of insurance coverage for several reasons, among them eligibility for type of coverage, comprehensiveness of benefits, and cost sharing required by the insured person. The type of insurance determines access through other mechanisms, such as the medical provider networks that dictate which providers are available to give care, reimbursement levels and mechanisms that might prohibit or promote provider participation in medical provider networks, and other nuances. Because access to care is influenced by health status, this chapter includes several measures of health, including self-reported health status, chronic health conditions, and obesity status.

Poor Health Status Is Most Common Among Those With Medi-Cal and Other Public Insurance

Health status is an important determinant of health service use and access. Individuals with poor self-assessed health or diagnosed chronic conditions or some risk factors are more likely to seek care or to be directed by their providers to various services. Examining self-assessed health status and risk factors among adults ages 19-64 showed that those with Medi-Cal (33.5%) had the highest rates of fair/poor health, and those with privately purchased insurance had the lowest rates (12.9%; Exhibit 4.1). Overweight/obese rates were high for all groups, with the highest rates among the uninsured (68.8%) and those with Medi-Cal (68.9%). The rate of severe psychological distress was highest among those with other public insurance (20.2%), and lowest among those with employment-based insurance (5.6%). Among adults 65 and older, those with Medicare and Medi-Cal (49.9%) had the highest rate of fair/poor health, and those with other public insurance (77.5%) had the highest rate of being overweight/obese.

Exhibit 4.1

Self-Assessed Health and Risk Factors by Age and Type of Insurance Coverage, California, 2015-2016



Notes: Data with samples of less than five and unstable estimates are not reliable and are not presented.

Data on underweight not included.

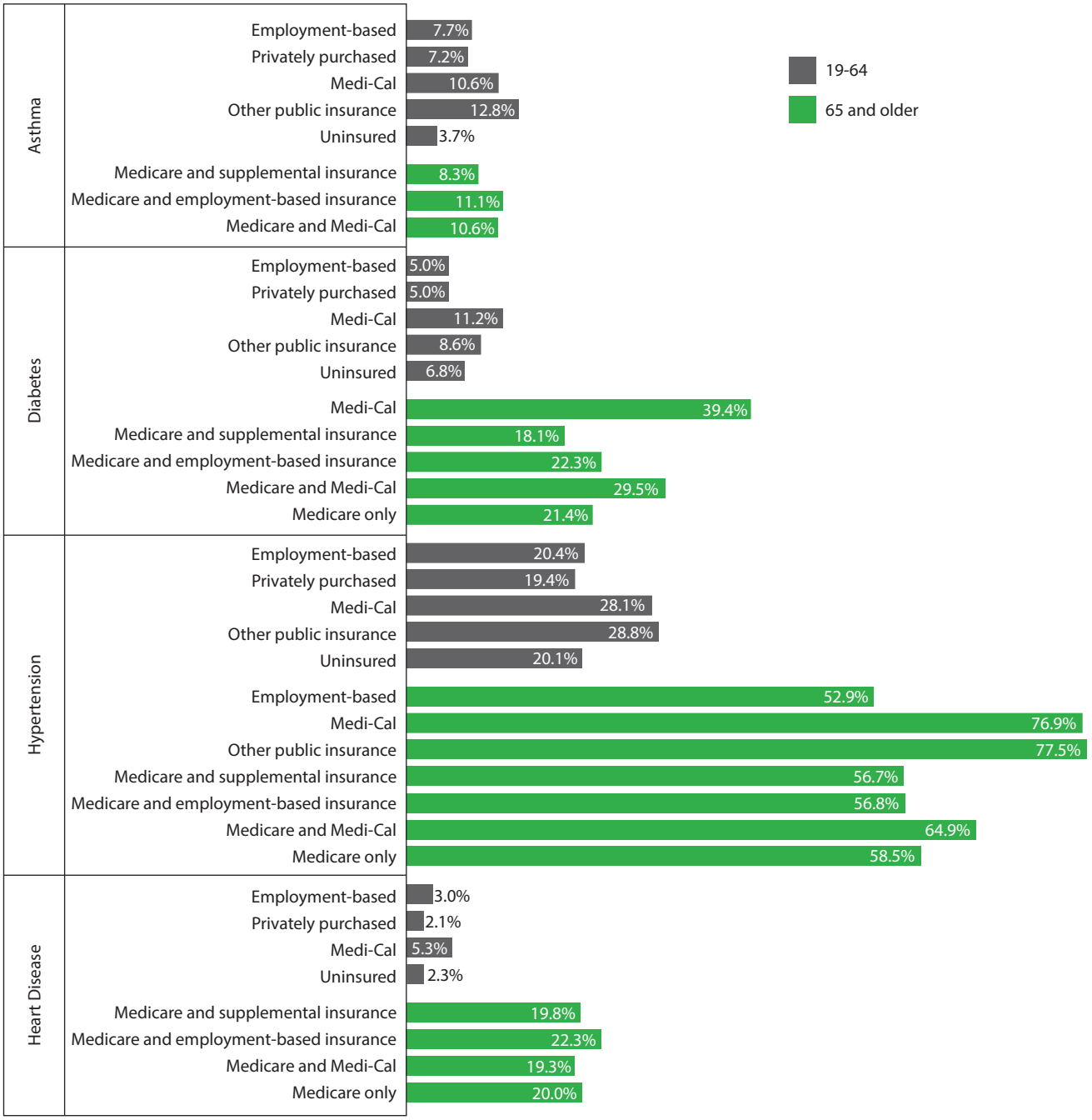
"Other public insurance" includes those with coverage under public programs such as military, Veterans Administration, and county programs.

Sources: 2015 and 2016 California Health Interview Surveys

Examining the rates of chronic conditions among adults ages 19-64 shows similar rates of heart disease regardless of type of insurance (Exhibit 4.2). The rates of hypertension (28.8%) and asthma (12.8%) were highest for those with other public insurance, and diabetes rates were highest for those with Medi-Cal (11.2%). Among older adults, heart disease rates were statistically similar among different insurance types. However, hypertension rates were highest among those with other public insurance (77.5%), diabetes rates were highest among those with Medi-Cal (39.4%), and the asthma rate was highest among those with Medicare and employment-based insurance (11.1%).

Exhibit 4.2

Chronic Conditions by Age and Type of Insurance Coverage, California, 2015-2016



Notes: Data with samples of less than five and unstable estimates are not reliable and are not presented.

"Other public insurance" includes those with coverage under public programs such as military, Veterans Administration, and county programs.

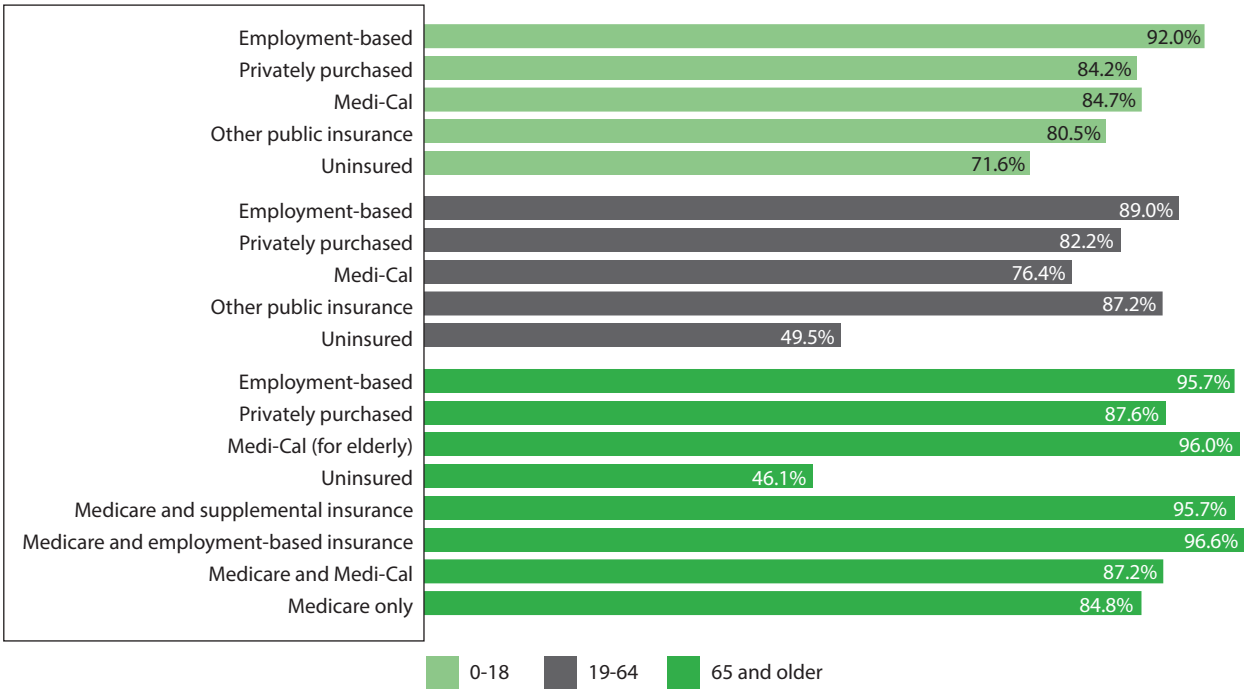
Sources: 2015 and 2016 California Health Interview Surveys

Usual Source of Care Is Lowest for the Uninsured

Having a usual source of care highlights the ability of a person to have continuity with a medical provider who is familiar with that individual's health history and has developed a rapport with the patient, and it increases the likelihood of timely access to needed services. Timely access can in turn reduce the likelihood of future emergency department (ED) visits and hospitalizations, because many health problems that are addressed early on can be prevented from becoming severe enough to require urgent and intensive care.

Examination of the combined 2015 and 2016 California Health Interview Survey data showed that among children ages 0-18, those who were uninsured were least likely to have a usual source of care (71.6%), and those with employment-based insurance (92.0%) were most likely to report a usual source of care (Exhibit 4.3). The same pattern was observed for adults ages 19-64, but with a greater contrast between those with employment-based insurance (89.0%) and the uninsured (49.5%). Among this group, those with the second-lowest usual source of care were those with Medi-Cal (76.4%), although enrollees are often assigned a primary care physician if they don't choose one themselves. Among individuals 65 and older, those with various forms of Medicare and another form of coverage, those with employment-based insurance, and those with Medi-Cal equally reported very high rates of having a usual source of care (ranging from 95.7% to 96.6%). Those with privately purchased coverage, both Medicare and Medi-Cal, or Medicare only were in the next tier (ranging from 84.8% to 87.6%). The group with the lowest likelihood of having a usual source of care was the uninsured (46.1%).

Exhibit 4.3
Usual Source of Care by Age and Type of Insurance Coverage, California, 2015-2016



Notes: Data with samples of less than five and unstable estimates are not reliable and are not presented.

"Other public insurance" includes those with coverage under public programs such as military, Veterans Administration, and county programs.

Sources: 2015 and 2016 California Health Interview Surveys

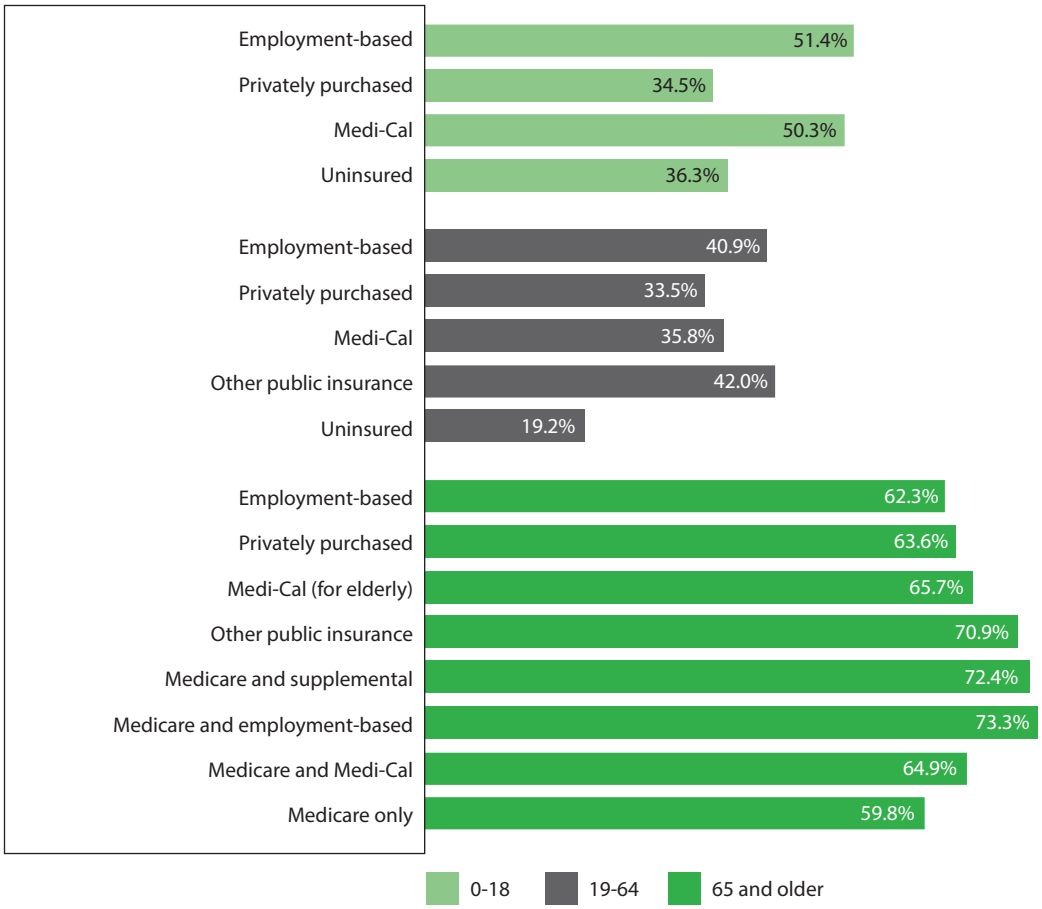
Access to Preventive Care Was Lowest for the Low-Income and Uninsured

Access to preventive care is essential in reducing mortality and morbidity. Preventive care is considered an effective mechanism in ensuring population health, reducing avoidable emergency department visits and hospitalizations, and reducing overall health expenditures.

Flu Shot Rate Was Lowest for Uninsured

Flu shots are now recommended for all age groups, but they are particularly recommended for children, the elderly, and those with specific chronic conditions or with compromised immune systems. Preventing flu is important for avoiding potentially serious complications that could lead to emergency department (ED) visits and hospitalizations. Efforts to vaccinate against the flu can differ by types of insurance coverage due to the level of emphasis on provision of important preventive services. Among children ages 0-18, the uninsured (36.3%) and those with privately purchased insurance (34.5%) had the lowest rates of flu shots compared to children who were enrolled in Medi-Cal (50.3%) or covered by employment-based insurance (51.4%; Exhibit 4.4). Among adults 19-64, the rate was lowest for the uninsured (19.2%). But among those ages 65 years and older, the rate was lowest among those with Medicare only (59.8%).

Exhibit 4.4
Flu Shot by Age and Type of Insurance Coverage, California, 2015-2016



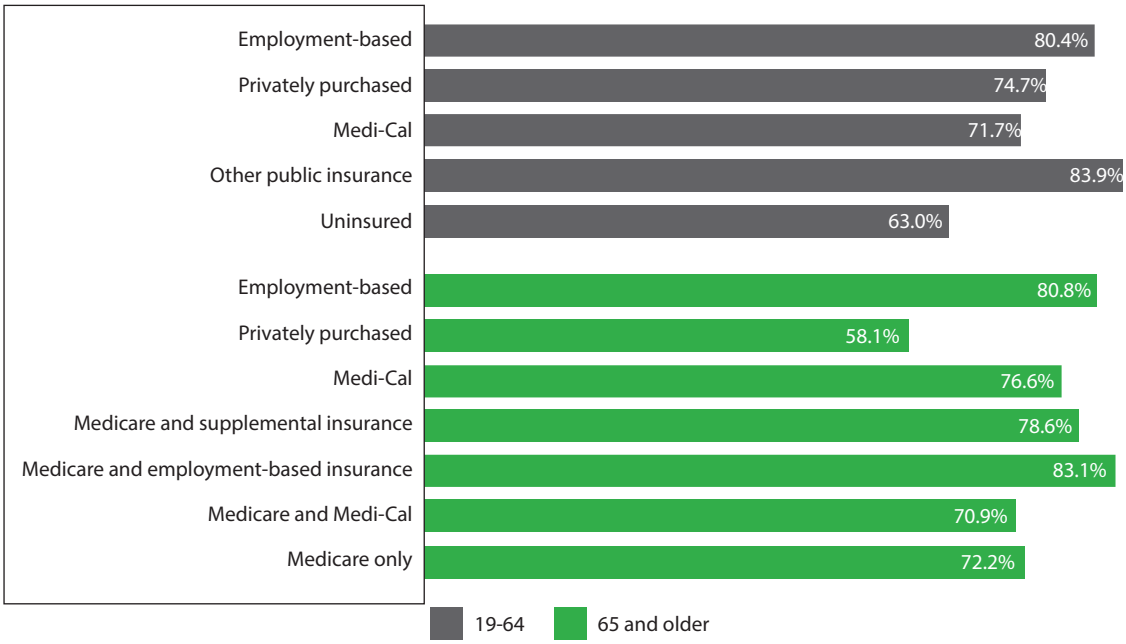
Notes: Data with samples of less than five are not reliable and are not presented.

"Other public insurance" includes those with coverage under public programs such as military, Veterans Administration, and county programs. Privately purchased insurance includes people with Covered California coverage.

Sources: 2015 and 2016 California Health Interview Surveys

Exhibit 4.5

Rates of Mammogram Screening by Type of Insurance Coverage, California, 2015-2016



Notes: Data with samples of less than five and unstable estimates are not reliable and are not presented.

"Other public insurance" includes those with coverage under public programs such as military, Veterans Administration, and county programs.

Sources: 2015 and 2016 California Health Interview Surveys

Timely Mammogram Rates Were Lowest for Those With Privately Purchased Insurance and for the Uninsured

Mammogram screening is generally recommended for women 50-74 years of age. It is an important preventive measure, because breast cancer is the most common cancer among women in the United States.[16] Early stages of breast cancer are significantly more treatable, giving patients a higher chance of survival. Thus, access to timely breast cancer screening is crucial. Among women ages 19-64, those with other public insurance (83.9%) or employment-based insurance (80.4%) were most likely to have received a mammogram screening within the past two years, and the uninsured were least likely (63.0%; Exhibit 4.5). Among those 65 and older, those with both Medicare and employment-based insurance (83.1%) were most likely to have had the screening, and those with privately purchased insurance were least likely (58.1%).

The Uninsured Most Often Had No Doctor Visits

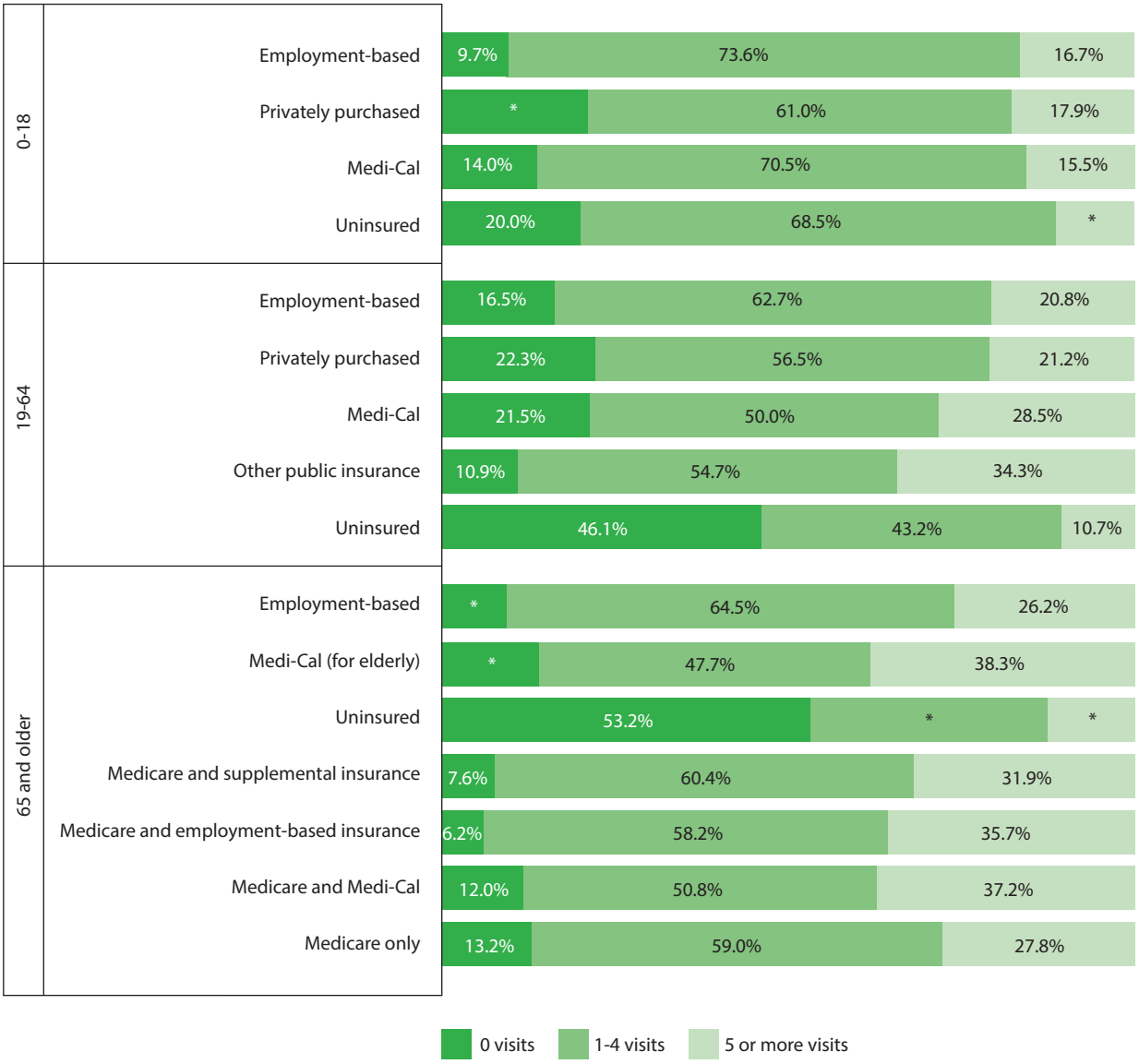
Access to care often starts with a visit to a primary care provider, who identifies existing and emergent health conditions, delivers preventive and primary care, and connects the patient with specialists or other types of providers who can address the individual's needs. Not having any visits in a year is an indicator of not receiving any preventive care; having one to four visits indicates receipt of preventive care and management of existing and chronic conditions; and having five or more visits is likely an indicator of more serious and/or complex conditions that require multiple visits to one or more providers.

16 American Cancer Society. 2019. Cancer Facts & Figures 2019. Atlanta: American Cancer Society. *https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2019/cancer-facts-and-figures-2019.pdf* ; Siegel R, Ma J, Zou Z, Jemal A. 2014. Cancer Statistics, 2014. *CA: A Cancer Journal for Clinicians* 64(1): 9-29. *https://onlinelibrary.wiley.com/doi/full/10.3322/caac.21208*.

Among children ages 0-18, those with employment-based insurance were least likely to have had no doctor visits (9.7%) and most likely to have had one to four visits (73.6%) in the last year (Exhibit 4.6). Uninsured children were most likely to have had no doctor visit in the last year (20.0%). The proportion of children who had five or more doctor visits did not vary significantly by type of insurance. Among adults ages 19-64, the uninsured were the most likely to have had no doctor visits (46.1%); those with other public insurance (10.9%) were least likely. In contrast, those with other public insurance were most likely to have had five or more doctor visits (34.3%), and the uninsured were least likely (10.7%). Among those 65 years and older, the uninsured (53.2%) were the most likely to have had no doctor visits, and those with Medi-Cal only were the most likely to have had five or more doctor visits (38.3%).

Exhibit 4.6

Number of Doctor Visits by Age and Type of Insurance Coverage, California, 2015-2016



Notes: Data with samples of less than five and unstable estimates are not reliable and are marked with an "*".

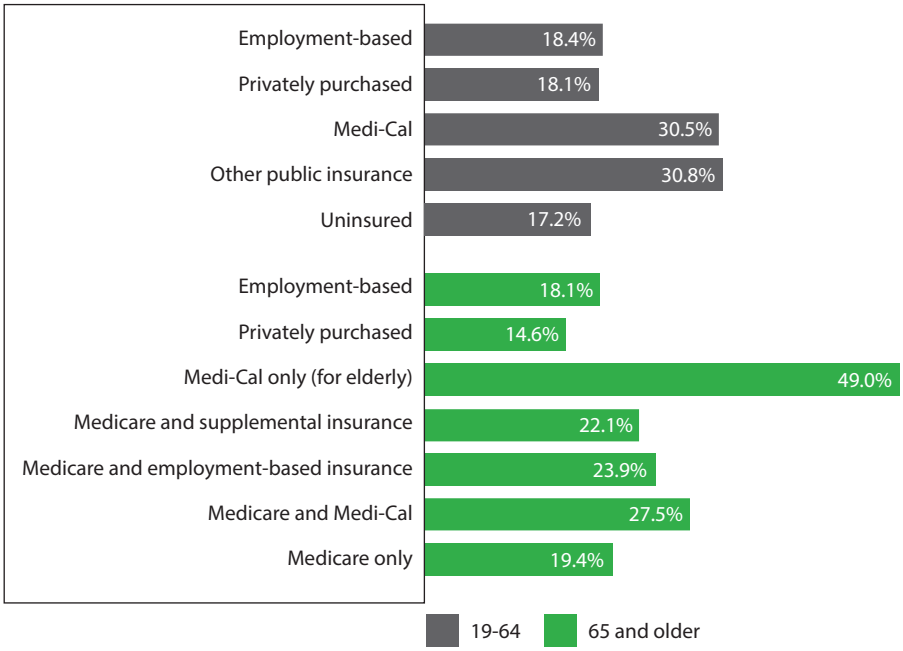
"Other public insurance" includes those with coverage under public programs such as military, Veterans Administration, and county programs.

Numbers may not add up to 100% because of rounding error.

Sources: 2015 and 2016 California Health Interview Surveys

Exhibit 4.7

At Least One Emergency Room Visit in the Last 12 Months by Age and Type of Insurance Coverage, California, 2015-2016



Notes: Data with samples of less than five and unstable estimates are not reliable and are not presented.

"Other public insurance" includes those with coverage under public programs such as military, Veterans Administration, and county programs.

Sources: 2015 and 2016 California Health Interview Surveys

Rates of Emergency Department Visits Were Highest Among Those With Medi-Cal

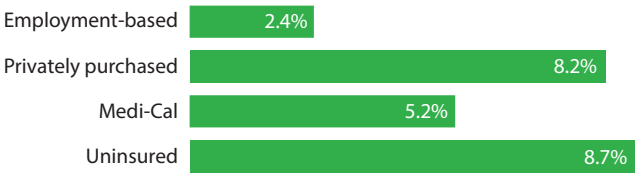
Access to an ED is important for addressing urgent and acute conditions. Yet, reducing potentially avoidable ED visits is a national priority, as ED is often used by patients who lack access to care or who do not receive needed services for chronic conditions. Some patients with poor access to services for mental health and substance use disorders or who have negative social determinants of health, such as homelessness and hunger, may also turn to ED frequently in lieu of other needed care. Among adults ages 19-64, those with Medi-Cal and other public insurance had the highest rates of ED visits (30.5% and 30.8%), while the uninsured had the lowest rates (17.2%; Exhibit 4.7). This likely relates to the relatively low rate of having a usual source of care among Medi-Cal enrollees, as well as fears among the uninsured that they will be hit with high ED medical bills if they use an ED at all. Among those 65 years and older, those with Medi-Cal only (49.0%) had the highest rate of ED visits, and those with privately purchased insurance had the lowest rate (14.6%).

The Uninsured Most Often Reported Delays in Care

Financial constraints, unwillingness of providers to accept different forms of insurance, and other access barriers often result in the decision to forgo or delay getting needed care. Such delays highlight access barriers that are not identified by examining service use. However, individuals' perceptions of forgone or delayed care are also influenced by expectations and propensity to seek care. Those who are less likely to seek care are less likely to report forgone or delayed care. Among adults ages 19-64, 8.7% of the uninsured reported delaying needed care, closely followed by those with privately purchased insurance (8.2%; Exhibit 4.8). Those with employment-based insurance reported the lowest rates (2.4%).

Exhibit 4.8

Rates of Delays in Needed Medical Care by Type of Insurance Coverage, Ages 19-64, California, 2015-2016



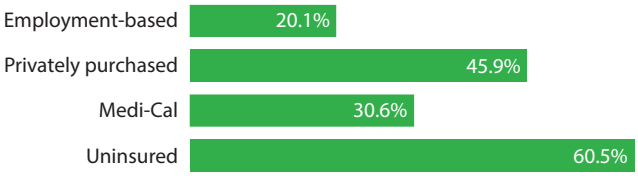
Note: Data with samples of less than five and unstable estimates are not reliable and are not presented.

Sources: 2015 and 2016 California Health Interview Surveys

Among adults reporting a delay in care, 60.5% of the uninsured reported having delayed or forgone needed care due to cost or lack of insurance, followed by those with privately purchased insurance (45.9%; Exhibit 4.9). Individuals with employment-based insurance (20.1%) reported the lowest rates.

Exhibit 4.9

Rates of Delaying Care Due to Cost or Lack of Insurance by Type of Insurance Coverage, Ages 19-64, California, 2015-2016



Note: Data with samples of less than five and unstable estimates are not reliable and are not presented.

Sources: 2015 and 2016 California Health Interview Surveys

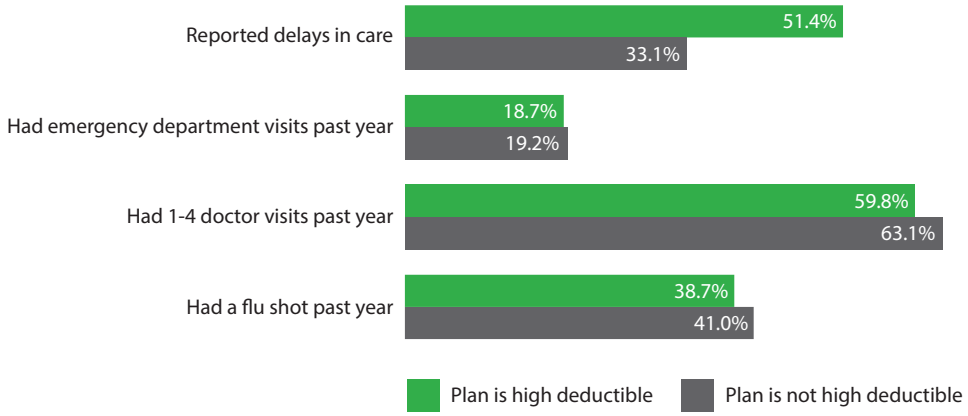
Most High-Deductible Plan Enrollees Reported Delays in Care

The higher cost sharing required by high-deductible plans may reduce the affordability of preventive, primary, and specialty care services that must be covered out of pocket until the deductible is filled. The Affordable Care Act required coverage of preventive care and a limited number of primary care services to reduce the likelihood of individuals forgoing physical examinations and essential preventive services due to affordability.

Yet, monitoring overall use of services among high-deductible plan enrollees is needed to ensure that disparities in service use do not exist. Comparing service use of individuals with and without a high-deductible plan revealed no significant differences in rates of flu shots (38.7% vs. 41.0%), one to four doctor visits (59.8% vs. 63.1%), or ED visits (18.7% vs. 19.2%; Exhibit 4.10). However, individuals in high-deductible plans were more likely to report delays in care (51.4% vs. 33.1%) compared to those in plans without high deductibles.

Exhibit 4.10

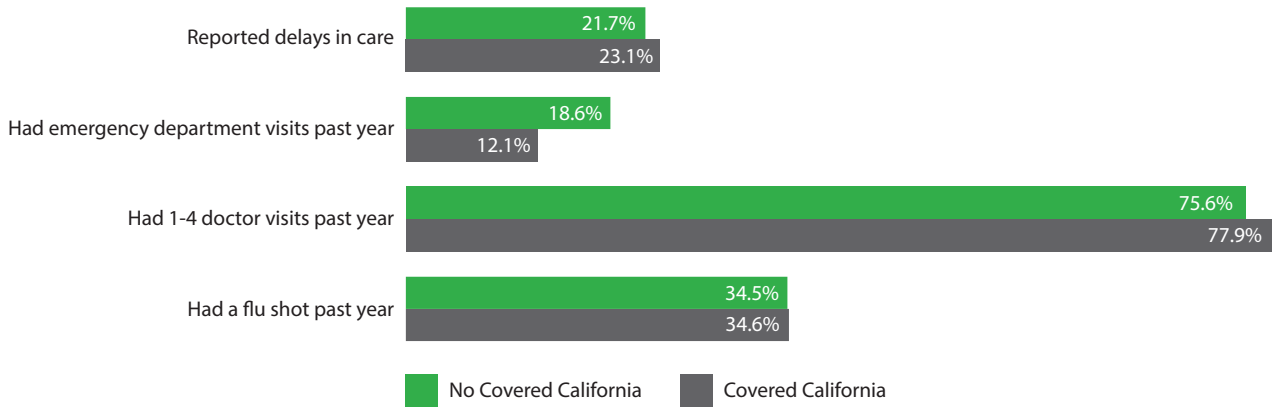
Service Utilization by High-Deductible Coverage, Ages 19-64, California, 2015-2016



Sources: 2015 and 2016 California Health Interview Surveys

Exhibit 4.11

Access to Care Among Individuals With Privately Purchased Insurance by Purchase of Coverage Through Covered California, Ages 19-64, California, 2015-2016



Sources: 2015 and 2016 California Health Interview Surveys

Access to Care Under Covered California Is Similar to Access Off-Exchange

Covered California is the health insurance marketplace that has been in place since 2014 in the state, established under the Patient Protection and Affordable Care Act. Covered California offers privately purchased individual and small group (100 or fewer employees) insurance. Comparing access to care of those who purchased their insurance through Covered California with those who purchased insurance off-exchange showed no statistically significant differences in the rates of flu shots, at least one doctor visit, delays in care, or ED visits (Exhibit 4.11).

Discussion

The examination of health status and access to care indicators by type of insurance in 2015 and 2016 showed different patterns. We frequently found that the uninsured and those with Medi-Cal and other public insurance reported fair or poor health, risk factors, and chronic conditions, with minor variations among children, nonelderly adults, and older adults. Individuals in these categories of insurance also frequently reported fewer preventive services, such as flu shots and mammograms; lower likelihood of doctor visits; and higher likelihood of both ED visits and delays in care due to costs or lack of coverage.

The combination of poor health and limited access to care poses significant challenges to efforts directed at improving population health and efficiencies in care delivery. Policy solutions to address these challenges include expanding insurance coverage to the remaining uninsured in California. For those with Medi-Cal, access can be improved by identifying and removing systemic barriers, such as the lack of availability of specialty care, and individual factors, such as social determinants of health. Further research is required to identify these factors and to understand what role they play in limited access and poor health among these underserved populations.

5 Policy Conclusions

Gerald F. Kominski, PhD

This report documents the ongoing success of the ACA in improving health insurance coverage for Californians through the end of 2016. In general, the initial significant impacts of the ACA, documented in our last report, continued through the period covered by this report, resulting in historically low levels of Californians without health insurance. However, since 2017 and the change in administrations in Washington, the ACA has been under continual attack. Although efforts to "repeal and replace" the ACA in 2018 were unsuccessful and the mid-term elections have put such efforts on indefinite hold, as this report goes to press, the courts are about to litigate yet another challenge to the ACA that could result in the entire law being declared unconstitutional. In the face of these efforts to undermine the ACA, California continues to chart a different course. Governor Gavin Newsom recently signed legislation to institute a state individual mandate (requiring all Californians to have health insurance or pay a penalty) to replace the federal mandate zeroed out by Congress, and to authorize the use of state funds to further expand Medi-Cal to undocumented young adults and to enhance subsidies for those with incomes from 139-399% FPL, as well as to provide new subsidies for those with incomes from 400-600% FPL. California also passed several laws in 2018 to stabilize the ACA and protect the market from federal changes in regulations that might reduce the effectiveness of state marketplaces, including reinstating the individual mandate.

In addition to these efforts to stabilize and enhance the ACA using state funds, single-payer advocates introduced The Healthy California Act (SB 562) in 2017 to create a true single-payer system in California. The fight over SB 562 signified the intensity of support for a stable and equitable health system with unified financing and payment rules, as well as the difficulty in achieving and implementing a single-payer system at the state level without significant support at the federal level. Because the interval since our last report has been so turbulent at the federal level, the remainder of this chapter focuses on the major achievements and remaining challenges facing the state since implementation of the ACA, with a focus on pathways to move the state closer to universal coverage.

Since our last report, health insurance coverage in California has continued to change dramatically, largely due to the significant impacts of the ACA. The availability of subsidies to purchase insurance through Covered California and the expansion of Medi-Cal to include adults below 139% FPL have substantially reduced the percentage of Californians who remain uninsured and changed the type of insurance coverage. Compared to 2014, in 2016, Californians ages 0-64 were much more likely to be enrolled in Medi-Cal, much less likely to be uninsured, and slightly less likely to have ESI.

In our previous report, we noted ongoing disparities between various population groups among those ages 0-64, many of which persisted in 2016, despite further reductions in the rate of uninsurance across most groups since 2014. In 2016, SB 75 authorized the expansion of Medi-Cal to all children ages 0-18, regardless of immigration status. This expansion appears to have contributed to nearly universal coverage for children ages 0-18 in the state — a laudable achievement. However, young adults ages 19-40 continued to be the most likely to be uninsured in 2016, despite ongoing reductions in their rate of uninsurance. As previously discussed, Governor Newson has recently signed legislation expanding full-scope Medi-Cal eligibility to young adults ages 19-25, regardless of immigration status. This expansion should provide further reductions in the percentage of uninsured young adults starting January 1, 2020.

Despite significant improvements in insurance coverage since 2014, several other population groups among those ages 0-64 continued to have high rates of uninsurance in 2016. Men were almost twice as likely to be uninsured as women (10.2% vs. 6.8%), largely because of lower enrollment in Medi-Cal

(31.6% vs. 37.1%). Non-Latino groups had a low rate of uninsurance, ranging between 4.8% and 5.8%, while Latino Californians were more than twice as likely to be uninsured (12.4%). Educational attainment continued to be strongly associated with being uninsured; those with less than a high school degree were almost four times more likely to be uninsured relative to college graduates (22.1% vs. 6.3%). Finally, despite substantial reductions in the rate of uninsurance among those with incomes below 250% FPL, income was still highly associated with the likelihood of being uninsured. Those with incomes below 139% FPL were almost three times more likely to be uninsured relative to those at 400% FPL and above (11.6% vs. 4.3%). Our findings suggest that efforts to achieve universal coverage in the state and to reduce disparities will be best targeted to those with incomes below 400% FPL, particularly those below 250% FPL. These groups have experienced important and historical improvements in insurance coverage under the ACA, but they were still the most disadvantaged relative to higher-income Californians in 2016.

Citizenship status continued to be an important determinant of insurance status. More than one-third (36.8%) of undocumented Californians were uninsured in 2016, but the vast majority of uninsured Californians (69.1%, or 1.94 million individuals) were citizens or legal residents. Efforts to achieve universal coverage must therefore address the challenges of providing meaningful and affordable coverage to all Californians, regardless of immigration status.

Overall, our findings indicate that the ACA led to a small reduction in the rate of Californians ages 0-64 with ESI coverage in 2016. It appears that this is because of the Medi-Cal expansion, which provided a no-cost alternative to some individuals previously covered by ESI. We continue to observe substantial variations across industries and occupations in insurance offer rates. In 2016, part-time and self-employed workers were more likely to be covered by Medi-Cal and individually purchased policies compared to full-time employees. Because of the Employee Retirement Income Security Act (ERISA), state policy options to achieve universal coverage through employer mandates are restricted. But the high rates of uninsurance among part-time and self-employed workers suggest that income-based policies are likely to be the most appropriate mechanism for targeting those who remain more likely to be uninsured.

The Medicaid (called Medi-Cal in California) expansion provision of the ACA continued to have a major impact in California. Since our last report, more than 2.71 million Californians were newly enrolled in Medi-Cal as of 2016. Based on administrative data, Medi-Cal enrollment averaged more than 1.2 million enrollees per month in 2016, consistent with our estimates from the California Health Interview Survey (CHIS) indicating about 12.6 million Medi-Cal enrollees in 2016.[17] Because of this considerable increase in Medi-Cal enrollment, it is difficult to argue that the state should be doing more outreach among the currently eligible. However, as policy options, further expansion of Medi-Cal to undocumented adults ages 26 and older or to those who struggle with affordability by allowing buy-in to Medi-Cal as a public option could yield significant progress toward universal coverage.

Our findings indicate mixed results with regard to access to health care services and health indicators by type of insurance. Self-reported fair or poor health status among Californians ages 0-64 was minimal among those with ESI (2%), but considerably higher among those with privately purchased insurance (13%) or Medi-Cal (34%). Although it is beyond the scope of this report to determine how insurance status might affect health status in the future, it is clear that insurance status is highly correlated with self-reported health status, which has been

17 The CHIS estimates, which are self-reported by respondents and not cross-checked with state eligibility rolls, differ slightly from Medi-Cal administrative data, largely because CHIS interviews only the noninstitutionalized population in California, excluding enrollees in any type of group housing.

shown to be an important predictor of health care utilization and mortality and morbidity. Californians ages 0-64 with privately purchased insurance (46%) and Medi-Cal (31%) were also more likely to report delays in seeking needed care due to cost compared to those with ESI (20%). Our findings are particularly troubling with respect to Medi-Cal, where cost barriers should be essentially eliminated. These figures merit further attention by the state in monitoring access among Medi-Cal enrollees. And among those with privately purchased insurance, the prevalence of Bronze plans in the individual market suggests that affordable monthly premiums nevertheless are creating financial barriers to necessary care.

As we concluded in our last report, California faces ongoing challenges in achieving further progress toward universal access. Based on recent estimates from another study, without recent efforts by the state to stabilize the ACA, the number of uninsured Californians was projected to increase to about 4.02 million by 2020, with 1.48 million uninsured because of immigration status; 610,000 eligible for ESI; 900,000 eligible for Medi-Cal but not enrolled; 500,000 ineligible for subsidies; and 520,000 eligible for subsidies but uninsured.[18] These projections will be lower as a result of recent actions by the state's legislature and governor.

For the first time in decades, true universal coverage seems to be a feasible and achievable goal in the near future, despite ongoing political and judicial threats to the ACA. California has charted a bold course to stabilize and expand the ACA marketplace in the face of these ongoing threats. Meanwhile, at the federal level, a variety of proposals — ranging from Medicare for all, to Medicaid and Medicare buy-ins, to a public option for exchange marketplaces — have been proposed, at least in part in response to the ongoing threats to the ACA.[19] Once again, we stand at a crossroads that could lead to very divergent pathways for the people of California and the rest of the nation, depending on the outcome of the current constitutional challenge to the ACA and the 2020 election. When we next report on the state of health insurance in California, we are likely to be either documenting the further successes and remaining challenges to true universal coverage, or conducting a postmortem on the ACA and documenting the damage done by the courts and an administration determined to eliminate health coverage for millions of low- and middle-income individuals. Should the latter occur, it may be time for California to consider both broad-based taxes as well as creative new taxes[20] to protect the health of California's population from federal policies hostile to vulnerable populations.

18 Dietz M et al. 2018. *California's Health Coverage Gains to Erode Without Further State Action*. UC Berkeley Center for Labor Research and Education and UCLA Center for Health Policy Research.

19 Kaiser Family Foundation. 2019. *Compare Medicare-For-All and Public Plan Proposals.* Issue brief. Accessed on August 17, 2019, at: *https://www.kff.org/interactive/compare-medicare-for-all-public-plan-proposals/*.

20 Scheffler Richard M. et al. California Dreamin': Integrating Health Care, Containing Costs, and Financing Universal Coverage. Health Affairs blog. February 8, 2019.

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Congressional Budget Office

DECEMBER 20, 2019

Answers to Questions for the Record Following a Hearing Conducted by the House Committee on the Budget: Key Design Components and Considerations for Establishing a Single-Payer Health Care System

On May 22, 2019, the House Committee on the Budget convened a hearing at which Mark Hadley, the Congressional Budget Office's Deputy Director, Jeffrey Kling, CBO's Associate Director for Economic Analysis, and Jessica Banthin, CBO's former Deputy Assistant Director in the Health, Retirement, and Long-Term Analysis Division testified about the agency's report Key Design Components and Considerations for Establishing a Single-Payer Health Care System.[1] *After the hearing, Ranking Member Womack and Congressman Roy of the Committee submitted questions for the record. This document provides CBO's answers. It is available at www.cbo.gov/publication/55951.*

Ranking Member Womack

Question. The CBO report states: "Government spending on health care would increase substantially under a single-payer system because the government (federal or state) would pay a large share of all national health care costs directly."

- How much of the spending on federal health programs is funded by: Taxes collected through the Treasury? Direct payments by beneficiaries in the form of premiums and out-of-pocket spending? Tax deductions for employer-sponsored health insurance? Other?
- What percentage of total health expenditures is NOT paid for by the federal government, which would likely be shifted to the federal government under a single-payer system?

Answer. In fiscal year 2018, federal spending on major health care programs totaled $1.2 trillion, which consisted of spending on Medicare (excluding the effects of premiums and other offsetting receipts), Medicaid, and the Children's Health Insurance Program (CHIP), as well as subsidies for plans purchased thorough the marketplaces established by the Affordable Care Act (ACA).[2] Virtually all of the financing for the programs other than Medicare comes from the general fund of the Treasury. In 2018, combined funding for those programs amounted to $456 billion.

In 2018, transfers from the general fund of the Treasury accounted for $312 billion of the total funding for Medicare, revenues from payroll taxes accounted for $265 billion, and

1. See Congressional Budget Office, *Key Design Components and Considerations for Establishing a Single-Payer Health Care System* (May 2019), www.cbo.gov/publication/55150.

2. See Congressional Budget Office, "10-Year Budget Projections" (August 2019), Table 1-4, www.cbo.gov/about/products/budget-economic-data#3. That estimate does not include other federal spending for health care, such as health insurance costs for federal employees, veterans' health care, and the military health care system.

beneficiaries' premiums accounted for $99 billion. The remaining sources of financing for Medicare, which together account for less than 10 percent of the program's funding, include the following: revenues from a portion of the federal income taxes that Social Security recipients with income above a certain threshold pay on their benefits; interest credited to Treasury securities held in the Medicare trust funds (which in turn is financed by the Treasury's general fund); and payments from the states to help finance Medicare Part D.

The tax exclusion for employment-based health insurance reduces federal revenues and is therefore a federal subsidy for health insurance. The staff of the Joint Committee on Taxation (JCT) and CBO estimate that the tax exclusion cost the federal government about $300 billion in forgone revenues in 2018.[3] Altogether, that tax exclusion plus federal spending on major health care programs amounted to $1.5 trillion in 2018.

Currently, national health care spending—which totaled $3.5 trillion in 2017—is financed through a mix of public and private sources. Private sources paid more than half of that amount, and state or local governments paid about one-tenth. The federal government paid 37 percent of the total, or $1.3 trillion.[4] The percentage of national health expenditures that would be shifted to the federal government under a single-payer system would depend on the design of the system. Two key design features are the services that would be covered by the single-payer system and the amount of cost sharing that would be required. In a system covering a comprehensive set of benefits with little cost sharing, most national health expenditures would be made by the federal government. The total effect on the federal budget and the amounts individuals and organizations paid for health care coverage would depend on how the system was financed.

Question. The CBO report states: "In a federally administered single-payer system, the associated cash flows would be federal transactions, in CBO's view, and the spending and revenues for the system would appear in the federal budget."

- Please explain this statement further.
- How would CBO determine if this new spending would be considered mandatory or discretionary?
- What are the potential trade-offs and risks if the federal spending was mandatory or discretionary?

Answer. A single-payer system might be administered entirely by federal agencies, or private entities might play some role. CBO generally treats the transactions of nonfederal entities as federal if those entities act as agents of the federal government by using the sovereign power of the federal government, work to achieve a governmental purpose, or if they are subject to a significant degree of federal control. In CBO's view, the spending and revenues of the system would be governmental even if the private sector played some role in administering

3. See Congressional Budget Office, "Reduce Tax Subsidies for Employment-Based Health Insurance," *Options for Reducing the Deficit: 2019 to 2028* (December 2018), www.cbo.gov/budget-options/2018/54798.

4. The estimates of national health care spending by source of payment are from Centers for Medicare & Medicaid Services, National Health Expenditure Accounts, "National Health Expenditures by Type of Service and Source of Funds: Calendar Years 1960–2018" (accessed February 15, 2019), https://go.usa.gov/xEUS6. The estimates of national and federal spending on health care include spending on investment in the medical sector, which accounts for 5 percent of national spending on health care and 3 percent of federal spending on health care. The estimates of federal spending for Medicare exclude the effects of premiums and other offsetting receipts. The estimates do not account for tax subsidies, such as the federal tax exclusion for employment-based health insurance.

it. For example, the federal government could contract with one or more private insurers to administer the program, and the responsibilities of those insurers could include collecting premiums and paying providers. Because those insurers would be acting as agents of the federal government, CBO would classify the cash flows as governmental in its cost estimates.[5]

For a system in which private insurers delivered the benefits, key design choices would be as follows: how policymakers would structure the competition among private insurers, how private insurance might supplement a standard benefit, and how such supplemental benefits would relate to previously existing benefits. Such a system could be more akin to a multi-payer system than a single-payer system if private insurers paid providers. However, some analysts would consider such a system to be a single-payer system if the government defined the eligible population, specified the covered services, collected the resources needed for the plan, required the eligible population to contribute toward financing the system, and showed the receipts and expenditures associated with the plan in the government's budget. That type of system could retain previously existing benefits.

Mandatory Versus Discretionary Funding. The spending for a single-payer system would be considered mandatory if the authorization act that established the new program also controlled its funding. The spending would be considered discretionary if the authorization act established the new program but did not control its funding. In the latter case, the amount of funding for the new program would be determined through the annual appropriation process. Those appropriations are subject to a set of budget enforcement rules and processes that differ from those that apply to mandatory spending.

Advantages and Disadvantages of Each Type of Funding. Specifying the spending for a single-payer system as mandatory rather than discretionary would provide greater certainty in funding for the program, which would be helpful to beneficiaries, providers, and manufacturers of drugs and medical devices. If spending for the program was discretionary, its funding would lapse if the appropriation bill for the program was not passed by the start of the fiscal year. In that case, temporary funding could be provided through a continuing resolution. Specifying the spending for a single-payer system as discretionary would give the Congress a formal mechanism to review the program on a yearly basis and make modifications that Members deemed appropriate. The Congress also could use other mechanisms to encourage reviews at less frequent intervals, such as a sunset provision whereby the program would end on a specified date unless it was reauthorized. Keeping total costs within the appropriated amount and minimizing disruptions as total spending neared that amount would be challenging if the government's role was to pay private-sector providers for all services rendered.

Question. The CBO report states, "A standardized IT system could help a single-payer system coordinate patient care by implementing portable electronic medical records and reducing duplicated services….Establishing an interoperable IT system under a single-payer system would have many of the same challenges as establishing an interoperable IT system in the current health care system with its many different providers and vendors."

- What is the current status of the Affordable Care Act website? What does it do? How many people use it to verify eligibility? What is the scale of the ACA website compared to a centralized IT system CBO describes in the report? The ACA website is a verification

5. See Congressional Budget Office, *How CBO Determines Whether to Classify an Activity as Governmental When Estimating Its Budgetary Effects* (June 2017), www.cbo.gov/publication/52803, and *The Budgetary Treatment of Proposals to Change the Nation's Health Insurance System* (May 2009), www.cbo.gov/publication/41185.

system and not a payment system, correct? How much has been spent on the ACA website to date? Did the ACA website ever have technical difficulties after its launch? What were some of these difficulties?

- What is the HITECH Act that was included in the stimulus package in 2009? How much was allocated to the project? What is the status of the project today? Is this an interoperable system, similar to what is described in the report?

Answer. The Centers for Medicare & Medicaid Services (CMS) was responsible for developing a federally facilitated marketplace for states without their own marketplaces. The federally facilitated marketplace includes a website—HealthCare.gov—that is currently operational. It serves as a portal for consumers and several supporting information technology (IT) systems.

In 2019, 32 states use the federally facilitated marketplace, and 12 states and the District of Columbia operate their own state-based marketplaces. The remaining 6 states perform some administrative functions for their marketplaces, but all rely on the federal website and supporting IT systems.[6]

Utilization of Marketplace Websites. Consumers can compare health insurance plans and purchase a plan through the state marketplace websites or HealthCare.gov. The marketplaces verify that people are eligible for coverage before allowing them to enroll and provide people with an estimate of the cost of their coverage after accounting for any subsidies for which they are eligible. In some states, the marketplaces also can determine whether people are eligible for coverage through Medicaid or the Children's Health Insurance Program. In other states, the marketplaces make an initial assessment of eligibility for those programs and transfer applicants' information to state agencies for final determination. The marketplace websites are a verification and enrollment system, not a payment system. CMS uses supporting IT systems to review, approve, and generate financial assistance payments—such as premium tax credits and cost-sharing reductions—to insurers.

Over the course of the year, the average number of consumers who enrolled in the marketplaces and paid for their coverage across all states was about 5.5 million in 2014, 9.4 million in 2015, 10.0 million in 2016, 9.8 million in 2017, and 9.9 million in 2018. For 2019, that number is 9.5 million in CBO's projections. In addition, some people who apply for coverage through the marketplaces are determined to be eligible for Medicaid or CHIP and enroll in one of those programs. For example, that was the case for 5.2 million people in 2016.

The scale of the websites and supporting IT systems that serve the ACA marketplaces is much smaller than the scale of a centralized IT system that would be needed under a single-payer system. To put that in perspective, the total U.S. population was about 327 million in 2018.[7]

Cost of Implementing the Health Insurance Marketplaces. Through 2014, CMS spent $8.4 billion to set up the marketplaces. That figure includes about $5 billion in grants to states and an additional $3.4 billion in spending by CMS.[8] Those amounts include spending to establish all functions of the marketplaces, not just spending devoted to the websites and supporting IT systems. Based on information from CMS, about $2.1 billion was spent on

6. See Kaiser Family Foundation, "State Health Insurance Marketplace Types, 2020," https://tinyurl.com/yafjlgin.

7. See Census Bureau, "Quick Facts" (July 2018), www.census.gov/quickfacts/fact/table/US/PST045218.

8. Even states that run their own marketplaces rely on the federal IT infrastructure of HealthCare.gov and use the data hub built and maintained by the federal government. See Annie L. Mach and C. Stephen Redhead, *Federal Funding for Health Insurance Exchanges*, Report for Congress R43066 (Congressional Research Service, October 29, 2014), https://fas.org/sgp/crs/misc/R43066.pdf (479 KB).

IT infrastructure for the federally facilitated marketplaces from 2014 through 2018.[9] (CBO does not have information on the amount spent on IT infrastructure for the state-based marketplaces.)

Technical Difficulties. The website for the federally facilitated marketplace experienced technical difficulties after it was launched. According to a report issued by the Government Accountability Office (GAO) in 2015, there were several problems with the development and rollout of HealthCare.gov. People faced significant obstacles when they tried to create accounts and enroll in the system. Some of the issues that GAO highlighted included inadequate planning by CMS regarding the capacity needed for the system, software coding errors, and a failure to implement all planned functionality before the system was launched. Additionally, GAO concluded that CMS did not apply best practices for the system's development, which contributed to problems with the launch of HealthCare.gov. After the website was launched, CMS took steps to address those problems by increasing capacity, requiring additional software quality reviews, and awarding a new contract to complete the development of the systems.[10]

The marketplace's supporting IT systems, which perform functions such as linking consumers' information to other systems to facilitate the enrollment process and payments to insurers, also experienced difficulties. Prior to 2016, for example, CMS used an interim process to calculate and authorize financial assistance payments. The federal marketplace fully transitioned to an automated system in 2016 and nearly all of the state marketplaces have transitioned.[11]

The HITECH Act. The Health Information Technology for Economic and Clinical Health Act (HITECH Act) encouraged health care providers to adopt health information technology. That act established a program that provided incentive payments early in the program and imposed penalties that came later. Eligible providers needed to demonstrate the ability to use a certified electronic health record (EHR) system in a meaningful way and meet other requirements. The legislation included a "certification" component that required EHRs to have certain common capabilities and a "meaningful use" component that required health care providers to meet certain criteria regarding their use of EHRs, such as using them for e-prescribing and reporting clinical quality measures.

According to CMS, the agency paid providers more than $30 billion from 2011 to 2018 through the Medicare and Medicaid EHR incentive programs.[12] As of 2017, 80 percent of

9. See Centers for Medicare & Medicaid Services, *Justification of Estimates for Appropriations Committees, Fiscal Year 2020* (2019), p. 167, https://go.usa.gov/xVJhs (PDF, 4.5 MB); *Justification of Estimates for Appropriations Committees, Fiscal Year 2019* (2018), p. 166, https://go.usa.gov/xVJhF (PDF, 4.5 MB); *Justification of Estimates for Appropriations Committees, Fiscal Year 2018* (2017), p. 171, https://go.usa.gov/xVJhJ (PDF, 3.6 MB); *Justification of Estimates for Appropriations Committees, Fiscal Year 2017* (2016), p. 307, https://go.usa.gov/xVSqq (PDF, 9.1 MB); and *Justification of Estimates for Appropriations Committees, Fiscal Year 2016* (2015), p. 88, https://go.usa.gov/xVSqa (PDF, 10.2 MB).

10. See Government Accountability Office, *CMS Has Taken Steps to Address Problems, but Needs to Further Implement Systems Development Best Practices*, GAO-15-238 (March 2015), www.gao.gov/assets/670/668834.pdf (4.8 MB).

11. See Department of Health and Human Services, Office of Inspector General, *Initial Review of CMS's Automated System for Processing Financial Assistance Payments* (attachment to a letter to the Honorable Gus Bilirakis, May 8, 2017), https://oig.hhs.gov/oas/reports/region2/21702001.pdf (492 KB).

12. See Centers for Medicare & Medicaid Services, "Data and Program Reports" (May 2019), https://go.usa.gov/xVSqD. In 2018, CMS changed the name of its EHR incentive programs to the Medicare and Medicaid Promoting Interoperability Programs to focus on improving interoperability and patients' access to health information.

office-based physicians had adopted a certified EHR system, and 96 percent of all nonfederal acute care hospitals had a certified health IT system.[13]

Although interoperability of EHRs was an important goal of the HITECH Act, that goal has not been achieved.[14] (Interoperability is the ability of two or more systems to exchange information and the ability of those systems to use the information that has been exchanged without special effort.) The Office of the National Coordinator (ONC) at CMS has reported that electronic health information is often spread across multiple providers that use different systems that are not interoperable.[15] In 2017, just over 40 percent of hospitals engaged in all four domains of interoperability defined by the ONC: sending, receiving, finding, and integrating electronic patient records from external sources.[16]

Question. The CBO report states: "Under the current system, CBO estimates, an average of 29 million people per month—11 percent of U.S. residents under age 65—were uninsured in 2018."

- The report found that 243 million people under the age of 65 had health insurance. Where does this group of people get their insurance? How many of these individuals obtain their insurance from companies or businesses? Unions? Self-employment?
- Would the individuals who currently have coverage, roughly 300 million Americans, be affected if we moved to a single-payer system? How many people who currently have coverage would be disrupted by the potential effects of such a massive overhaul?
- What is the breakdown of the uninsured population near retirement, 50–64 years old? What is their general health status? What are their overall health conditions?

Answer. People under the age of 65 obtain health insurance coverage from various sources. A majority of those people have employment-based coverage—in 2019, an estimated 159 million people, or 58 percent of the total nonelderly population.[17] Of that total, roughly 6 million people are covered by multiemployer union plans.

On average, another 69 million people under the age of 65 obtain coverage through Medicaid or CHIP, 14 million obtain insurance through private nongroup plans, 1 million (who live in Minnesota and New York) are covered by the Basic Health Program, 8 million are covered by Medicare, and 3 million have coverage from other sources, such as student health plans or foreign sources.

13. See Office of the National Coordinator for Health Information Technology, "Health IT Dashboard" (updated June 17, 2019), https://dashboard.healthit.gov/quickstats/quickstats.php.

14. See Julia Adler-Milstein, "Moving Past the EHR Interoperability Blame Game," *NEJM Catalyst* (July 2017), https://catalyst.nejm.org/ehr-interoperability-blame-game/.

15. See Government Accountability Office, *Health Information Technology: HHS Should Assess the Effectiveness of Its Efforts to Enhance Patient Access to and Use of Electronic Health Information*, GAO-17-305 (March 2017), www.gao.gov/assets/690/683388.pdf (6.6 MB).

16. See Office of the National Coordinator for Health Information Technology, *Variation in Interoperability Among U.S. Non-federal Acute Care Hospitals in 2017,* ONC Data Brief 42 (November 2018), https://go.usa.gov/xppxG (PDF, 647 KB).

17. The responses to this question are based on CBO's estimates for 2019. All of those estimates reflect average monthly enrollment over the course of the year. See Congressional Budget Office, *Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2019 to 2029* (May 2019), www.cbo.gov/publication/55085. That report was published shortly after the release of *Key Design Components and Considerations for Establishing a Single-Payer Health Care System.*

CBO and JCT estimate that in 2019 between 4 million and 5 million people are enrolled in health insurance that is subsidized by the income tax deduction for health insurance premiums that is available to people who are self-employed.[18] Many of those people purchase insurance on an individual basis instead of as part of a group; their coverage is categorized as nongroup rather than employment-based even though their subsidies are work-related.

Effects of a Single-Payer System on People Who Currently Have Coverage. In CBO's estimation, if private insurance was eliminated under a single-payer system, the following people under age 65 would need to switch their coverage to the single-payer plan: 159 million with employment-based insurance, 14 million with nongroup coverage, and 1 million with coverage through the Basic Health Program. Those estimates cannot be added to yield an estimate of the total number of people with private insurance because some people report more than one type of coverage. The role of private insurance under a single-payer system would depend on its design. For example, the system might eliminate private insurance, or it could retain a role for private insurance, such as offering benefits that supplement the public plan.

If current public programs were eliminated, people of all ages who participated in those programs would need to switch their coverage: an estimated 75 million enrolled in Medicaid, 7 million enrolled in CHIP, and 61 million enrolled in Medicare. (Those numbers count people with two sources of coverage, such as Medicare and Medicaid, in both categories.) Depending on the system's design, some people who now have public coverage could continue to have such coverage under a single-payer system, but their covered benefits and cost sharing might change.

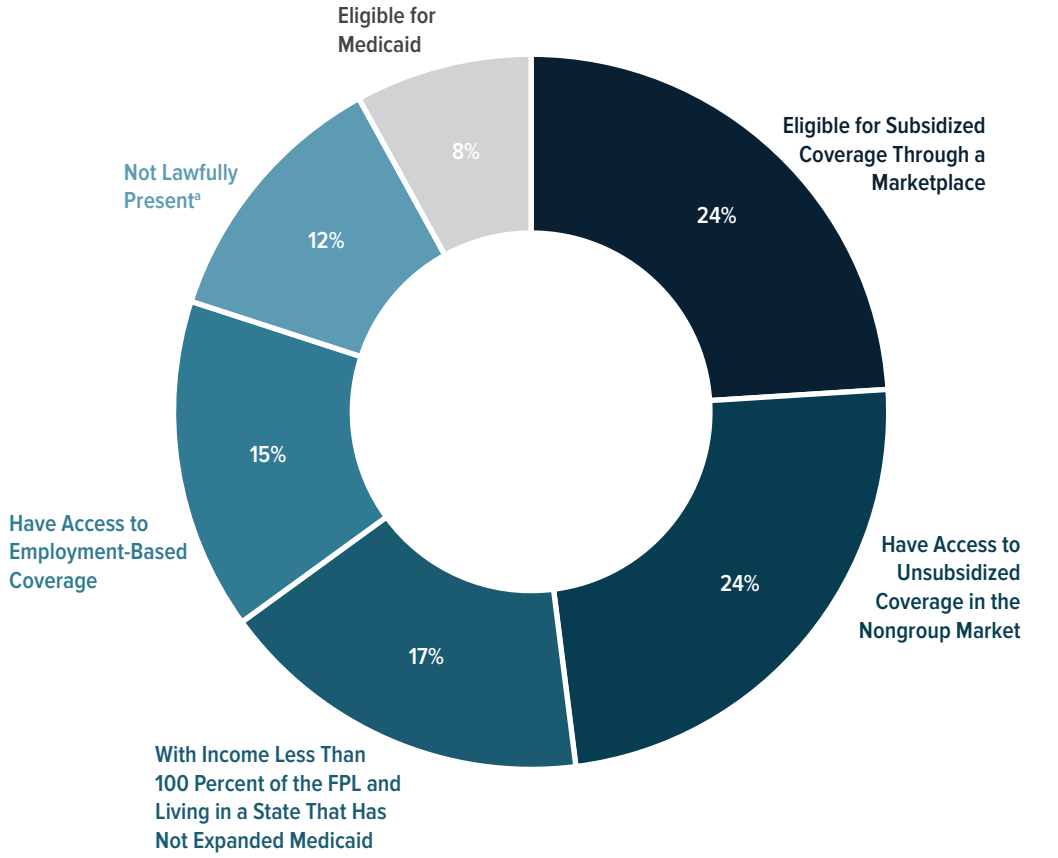
The Uninsured Population 50 to 64 Years Old. Among people ages 50 to 64 who are uninsured, CBO estimates, 24 percent are eligible for subsidized coverage through a marketplace, 24 percent have access to unsubsidized coverage in the nongroup market but choose not to purchase it, 17 percent have income less than 100 percent of the federal poverty guidelines (commonly referred to as the federal poverty level, or FPL) and live in a state that did not expand Medicaid, 15 percent have access to employment-based coverage, 12 percent are noncitizens who are not lawfully present in this country, and 8 percent are eligible for Medicaid but are not enrolled (see Figure 1).

According to CBO's analysis of data from the 2018 National Health Interview Survey, people between the ages of 50 and 64 who were uninsured had worse self-reported health status than people in the same age category who were insured. Among people ages 50 to 64 who were uninsured, 45.4 percent reported that they were in excellent or very good health, 34.0 percent were in good health, and 21.0 percent were in fair or poor health. By contrast, among people ages 50 to 64 who had health insurance, 54.4 percent reported that they were in excellent or very good health, 29.2 percent were in good health, and 16.3 percent were in fair or poor health. However, among people ages 50 to 64, the uninsured were less likely than those with insurance coverage to report having ever been told by a medical professional that they had certain medical conditions, such as diabetes (12.6 percent versus 14.1 percent), hypertension (35.7 percent versus 43.6 percent), or coronary heart disease (2.3 percent versus 4.9 percent). Those differences in reported health conditions might reflect differences between people with and without insurance coverage—specifically, differences in the nature and amount of their contact with the medical system—and thus differences in the opportunity for certain conditions to be diagnosed.

18. This estimate includes policyholders plus their dependents.

Figure 1.

Composition of the Uninsured Population Ages 50 to 64, 2019



Sources: Congressional Budget Office; staff of the Joint Committee on Taxation.

FPL = federal poverty level.

a. Noncitizens who are not lawfully present in this country are ineligible for marketplace subsidies and for most Medicaid benefits.

Question. The CBO report states: "An expansion of insurance coverage under a single-payer system would increase the demand for care and put pressure on the available supply of care.... If the number of providers was not sufficient to meet demand, patients might face increased wait times and reduced access to care."

- What factors led CBO to state: "...patients might face increased wait times and reduced access to care"?
- In a single-payer system with little or no cost sharing relative to our current system, would demand for medical services increase? If provider payments decreased, would a single-payer system have the capacity to meet the demand? Please explain these trade-offs and risks.
- What does "reduced access to care" mean in CBO's view?
- What do wait times in other countries with single-payer health systems currently look like compared to the United States?

- What about systems within the United States that the government administers? The VA is primarily a government-run health care system. Were wait times ever a problem at the VA? What are recent examples?

Answer. A single-payer system with little cost sharing for medical services would lead to increased demand for care in the United States because more people would have health insurance and because those already covered would use more services. The extent to which the supply of care would be adequate to meet that increased demand would depend on various factors, such as the payment rates for providers and any measures taken to increase supply. If coverage was nearly universal, cost sharing was very limited, and the payment rates were reduced compared with current law, the demand for medical care would probably exceed the supply of care–with increased wait times for appointments or elective surgeries, greater wait times at doctors' offices and other facilities, or the need to travel greater distances to receive medical care. Some demand for care might be unmet.

Certain government policies could increase supply in the short run. For example, states could ease restrictions on the responsibilities that nurse practitioners and physicians' assistants are allowed to assume.

Over the longer term, the federal government could implement policies to encourage investment in the health care system. Examples include investing in both physical infrastructure (for instance, subsidizing the cost of additional hospital beds) and human capital (for instance, more heavily subsidizing medical education). Without sufficient investment over the long term, wait times could lengthen as providers' costs rise with other costs in the economy and the population grows.

Wait Times in the United States and Other Countries. In 2016, wait times in the United States were comparable to those in other countries for routine care, but wait times tended to be shorter for treatment by specialists or elective surgeries. A much larger share of the U.S. population reported barriers to obtaining care because of costs rather than wait times.[19] The reverse would be the case under a single-payer system in the United States that had little or no cost sharing.

Access to Care in Public Programs in the United States. The federal government administers health insurance for the elderly and the disabled through the Medicare program. It provides coverage for that population to receive care from private providers and contracts with private insurers to offer coverage. Medicare beneficiaries generally do not report issues with access to care.[20] Almost all providers accept Medicare patients.

Medicaid is a health insurance program for the low-income population that is administered jointly by the federal and state governments. Because of the relatively low payment rates set by state governments, Medicaid beneficiaries report more access issues—such as difficulty obtaining appointments—than privately insured patients do.[21]

Rather than administering an insurance plan, the Department of Veterans Affairs (VA) operates an integrated health care system in which most of the veteran beneficiaries receive

19. See Commonwealth Fund, *International Profiles of Health Care Systems* (May 2017), https://tinyurl.com/ybx6hj3v (PDF, 3.4 MB).

20. See Medicare Payment Advisory Commission, "Chapter 4: Physician and Other Health Professional Services," *Report to the Congress: Medicare Payment Policy* (March 2019), pp. 100–108, https://go.usa.gov/xVhWU (PDF, 367 KB).

21. See Medicaid and CHIP Payment and Access Commission, "Key Findings on Access to Care," https://go.usa.gov/xV4X7.

only a portion of their health care (with few or no out-of-pocket expenses). According to the March 2018 VA Inspector General Report, access to health care—including wait times, scheduling practices, and the distance to facilities—continues to be an issue for VA.[22] To address those issues, the VA MISSION Act of 2018 (which went into effect in June 2019) expanded VA's capacity to provide health care at non-VA facilities for eligible veterans.

Question. The CBO report states: "Public spending would increase substantially relative to current spending if everyone received long-term services and supports benefits."

- What are long-term services and supports (LTSS) benefits and who receives them under the current system?
- How are these benefits covered now? What is the role of the states in funding the benefits?
- How would utilization change if these benefits were made free for patients?
- Please discuss the Community Living Assistance Services and Supports (CLASS) program. What was the program? What was the CBO cost estimate (both within the 10-year window and beyond)? Why did this program never go into effect? Was this program repealed?

Answer. Long-term services and supports include a range of health services and other types of assistance to people who have difficulty completing self-care tasks because of disabling conditions or chronic illnesses. LTSS care is provided in nursing homes and other institutional settings, in people's homes, and in community-based settings. LTSS includes care furnished by paid providers and by unpaid family members and friends.[23]

Funding for LTSS. Public and private entities spent an estimated $366 billion on LTSS in 2016.[24] Public sources accounted for 70 percent of that total spending. Medicaid (including both federal and state payments) accounted for 42 percent, Medicare accounted for 22 percent, and other public sources (such as the Veterans Health Administration) accounted for 6 percent. Many of the people who receive Medicaid benefits for LTSS use their own funds to pay for such services before they qualify for Medicaid. Out-of-pocket payments accounted for 16 percent of spending on LTSS in 2016. Payments by private insurance and other private sources make up a small portion of LTSS spending.

Changes in Utilization of LTSS Care If It Was Free. Utilization of LTSS would increase if those benefits had little or no cost sharing. Demand for such care would increase among those who would otherwise use their own funds to pay for it. Much of LTSS is unpaid (or informal) care currently provided by family members and friends. If a single-payer system covered LTSS with little or no cost sharing, a substantial share of unpaid care might shift to paid care. That effect could be particularly large if the single-payer plan covered home- and community-based services, which many people prefer to care in an institution.

22. See Department of Veterans Affairs, Office of Inspector General, "Audit of Veteran Wait Time Data, Choice Access, and Consult Management in VISN 15" (March 13, 2018), https://go.usa.gov/xV4kc.

23. See Erica L. Reeves and MaryBeth Musumeci, *Medicaid and Long-Term Services and Supports: A Primer* (Kaiser Family Foundation, December 2015), https://tinyurl.com/y45ybqnr.

24. See Congressional Research Service, *Who Pays for Long-Term Services and Supports?* (August 2018), https://fas.org/sgp/crs/misc/IF10343.pdf (340 KB). Experts disagree on whether skilled nursing facility care and home health care covered under Medicare should be classified as LTSS. In the estimates presented in this response, spending on those services under Medicare is included in the total estimated spending on LTSS.

The CLASS Program. The ACA authorized a national, voluntary insurance program—known as the Community Living Assistance Services and Supports program—that was intended to help people cover the cost of LTSS. The CLASS program, which was never implemented, would have allowed working adults to make premium contributions for five years before being eligible to claim benefits under the program. They would have been required to be actively employed or to have earned an income for at least three of the first five years of enrollment in the program. In addition, eligible workers could not have been excluded because of their health status or preexisting conditions. The program would have provided a daily cash benefit if a person had difficulty with at least two activities of daily living.[25]

CBO estimated that the difference between the premiums and costs in the initial years of the CLASS program would result in net federal savings of $70 billion over the first 10 years because no benefits would have been paid out in the first five years of the program. However, CBO also reported that the program would increase budget deficits in later years by far more than the savings in the first 10 years.[26]

Designing a program that would have been actuarially sound proved to be a challenge because it would have needed to attract enough relatively healthy enrollees to ensure that the program's premiums and the interest on those premiums were adequate to pay for future benefits. But the program would have been most appealing to people with the greatest likelihood of needing care, and people might have postponed enrolling in the program until they became at risk for being disabled. Because of those challenges, the Secretary of Health and Human Services announced in 2011 that she did not "see a viable path forward for CLASS implementation," and the program was later repealed in January 2013.[27]

Question. The CBO report highlights several issues hospitals might face if there was a shift to single-payer health care: "A single-payer system could retain current ownership structures, or the government could play a larger role in owning hospitals and employing providers. In one scenario, the government could own the hospitals and employ the physicians, as it currently does in most of the VHA system."

- What is the hospital ownership structure in the United States today?
- How would the quality of care change during a transition if the government takes more of a responsibility in the ownership of hospitals?
- What other changes could hospitals see if we change to a single-payer system?

25. See Joanne Kenen, "The CLASS Act (Updated)," *Health Affairs*, Health Policy Brief (November 2011), www.healthaffairs.org/do/10.1377/hpb20111117.188451/full/.

26. See Congressional Budget Office, *Measuring the Costs of Federal Insurance Programs: Cash or Accrual?* (December 2018), www.cbo.gov/publication/53921, and "Estimating the Budgetary Effects of the Affordable Care Act," *CBO Blog* (June 17, 2014), www.cbo.gov/publication/45447.

27. See Joanne Kenen, "The CLASS Act (Updated)," *Health Affairs,* Health Policy Brief (November 2011), https://www.healthaffairs.org/do/10.1377/hpb20111117.188451/full/.

Answer. Currently, there are 6,210 hospitals in the United States. Of that total, 5,262 (or 85 percent) are community hospitals, which are nonfederal, short-term general and specialty hospitals.[28] Both private and public entities own hospitals. Specifically:

- 48 percent are privately owned not-for-profit community hospitals;
- 21 percent are privately owned for-profit community hospitals;
- 16 percent are state and local government community hospitals;
- 3 percent are federal government hospitals;
- 10 percent are nonfederal psychiatric hospitals; and
- 2 percent include nonfederal long-term care hospitals and hospital units within an institution, such as prison hospitals or school infirmaries.[29]

Among community hospitals, 56 percent are private not-for-profit hospitals, 25 percent are for-profit hospitals, and 18 percent are owned by a state or local government.

The quality of care delivered in a hospital is not necessarily determined by its form of ownership. Depending on other features of a single-payer system, such as hospital payment rates, publicly owned hospitals under a single-payer system might provide better or worse care on average than privately owned hospitals under the current system. The transfer of ownership from private to public might be disruptive to the daily operation of hospitals, however. Such disruption might negatively impact the quality of care for patients.

The effects of a single-payer system on hospitals would depend on the system's design. A key design feature would be the method of determining payments to hospitals. Under one approach that has been discussed, hospital payment rates would be set to equal Medicare rates, which are much lower on average than the rates that private insurers pay hospitals for their commercial plans and much higher than the "base rates" paid by Medicaid. However, after accounting for additional payments from state Medicaid programs to hospitals that are not tied to particular admissions, Medicaid payment rates are similar to—and may even be greater than—Medicare rates.[30]

On balance, CBO expects that a single-payer system that paid hospitals using Medicare rates would result in a substantial decline in hospitals' average payment rates. Such a system would place considerable financial pressure on hospitals, particularly those that derive a substantial share of their business from commercially insured patients.

28. According to the definition developed by the American Hospital Association, the specialty hospitals captured in the definition of community hospitals include those that focus on areas such as obstetrics and gynecology; eye, ear, nose, and throat; long-term acute care; rehabilitation; and orthopedics. Excluded are psychiatric hospitals and hospitals not accessible by the general public, such as prison hospitals and college infirmaries.

29. See American Hospital Association, "Fast Facts on U.S. Hospitals, 2019" (accessed June 13, 2019), https://tinyurl.com/y8nquhjs.

30. For analyses of how Medicaid hospital payment rates compare with Medicare rates, see Devin A. Stone, Bridget A. Dickensheets, and John A. Poisal, "Comparison of Medicaid Payments Relative to Medicare Using Inpatient Acute Care Claims From the Medicaid Program: Fiscal Year 2010–Fiscal Year 2011," *Health Services Research*, vol. 53, no. 1 (February 2018), pp. 326–340, http://doi.org/10.1111/1475-6773.12645; Medicaid Payment Advisory Commission, *Medicaid Hospital Payment: A Comparison Across States and to Medicare*, Issue Brief (April 2017), https://go.usa.gov/xp5sf (PDF, 250 KB); and Thomas M. Selden and others, "The Growing Difference Between Public and Private Payment Rates for Inpatient Hospital Care," *Health Affairs*, vol. 34, no. 12 (December 2015), pp. 2147–2150, http://doi.org/10.1377/hlthaff.2015.0706.

A single-payer system could also yield some financial benefits for hospitals. They would not have the administrative costs associated with multiple insurers for billing and prior authorizations. If the single-payer system required no cost sharing, hospitals would no longer incur the administrative expense of billing patients for their portion of the bill. Hospitals would treat fewer uninsured patients and provide less uncompensated care, although the decline in the number of uninsured patients would depend on who was eligible for coverage under the single-payer system. The reduction in the amount of uncompensated care would be particularly beneficial for hospitals that currently provide a substantial amount of such care.

Question. The CBO report states: "The number of hospitals and other health care facilities might also decline as a result of closures, and there might be less investment in new and existing facilities." CBO produced a report in 2016 entitled *Projecting Hospitals' Profit Margins Under Several Illustrative Scenarios*.[31] In the report CBO found that "about 27 percent of [hospitals] had negative profit margins (in other words, they lost money) in that year."

- According to the 2016 CBO report, what were the future projections of hospital margins in the U.S.?
- What were the major factors that were driving more hospitals into financial distress?
- What would happen if all hospitals received only the Medicare reimbursement rate?
- Would the shift to universal Medicare reimbursement rates have a different impact on urban and rural hospitals?
- How many hospitals are closing in the United States? Is there a differential rate between urban and rural hospital closures? What factors are hurting rural hospitals?
- In other countries, has the government had to save hospitals by buying them?
- If CBO were to score a single-payer proposal, could CBO provide a dynamic score? What elements does CBO use to do a dynamic score? Would CBO look at the effect of such a plan on jobs? Would CBO look at hospital closures? Would CBO look at the effect on the economy?

Answer. CBO's 2016 analysis of hospital margins was intended to demonstrate the financial pressures that hospitals will face in the future as a result of various changes, including the provisions of the ACA that reduced Medicare payment updates and expanded insurance coverage. Hospitals' actual financial experience will depend on their responses to those financial pressures.

The Results of CBO's 2016 Analysis. To illustrate possible outcomes, CBO projected hospitals' profit margins under several scenarios.[32] Under one scenario, CBO assumed that hospitals would increase their productivity at the same rate as productivity growth in the economy as a whole and that they would use all of those productivity gains to reduce their costs. Under that scenario, CBO projected, 41 percent of hospitals would have a negative margin in 2025, and the average margin of hospitals in that year would be 3.3 percent. By comparison, in the base year for the analysis (2011), 27 percent of hospitals had a negative margin, and the

31. See Tamara Hayford, Lyle Nelson, and Alexia Diorio, *Projecting Hospitals' Profit Margins Under Several Illustrative Scenarios*, Working Paper 2016-04 (Congressional Budget Office, September 2016), www.cbo.gov/publication/51919.

32. A hospital's profit margin is equal to its revenues minus its costs, expressed as a percentage of its revenues.

average margin was 6.0 percent. Under the other scenarios CBO examined, the financial performance of hospitals was projected to be worse.

CBO found that the main factor contributing to smaller or negative margins for hospitals in the future was the ACA's reduction in Medicare payment updates. Under current law (as specified by the ACA), Medicare's annual update to hospital payment rates is equal to the percentage change in the average price of hospitals' inputs (such as labor and supplies) minus the estimated growth in productivity in the economy overall.

The analysis focused on about 3,000 hospitals that provide acute care and are subject to the cuts in Medicare's payment updates; thus, it excluded most rural hospitals. Most rural hospitals are designated as critical access hospitals, and Medicare pays 101 percent of their reasonable costs for inpatient and outpatient care.

The Effects of Paying All Hospitals Using Medicare Rates. On average, a shift to a single-payer system that paid all hospitals using Medicare rates would reduce payment rates to hospitals substantially compared with the rates that private insurers pay in their commercial plans. A working paper produced by CBO in 2017 found that the rates paid by private insurers for their commercial plans for hospital inpatient care were nearly 90 percent higher than Medicare rates on average.[33] The reduced payment rates would lower the total revenue of hospitals substantially and cause many to change their structure to lower costs. If all hospitals were paid 100 percent of Medicare fee-for-service rates, some would close unprofitable departments or close entirely, and fewer new hospitals would be built in the future, reducing access to care.

The effects of paying all hospitals using Medicare rates under a single-payer system would vary by hospital. For example, the effects would vary according to the percentage of patients that otherwise would have been commercially insured under current law (as opposed to uninsured or covered by Medicare or Medicaid). Hospitals that derive a large percentage of their revenue from commercially insured patients would suffer the greatest loss of revenue. The effects would also vary because the extent to which commercial payment rates for hospitals exceed Medicare rates varies by geographic market and by hospital within those markets.

The Impact of a Single-Payer System on Rural Hospitals. The financial viability of rural hospitals under a single-payer system would depend on the quantity of care they delivered and on the specific payment policies established for those hospitals. If a single-payer system required little or no cost sharing, the quantity of care delivered by rural hospitals would tend to increase. Compared with urban hospitals, rural hospitals have higher costs for uncompensated care as a share of their total expenses and a lower share of patients covered by private insurance (which generally has higher payment rates than Medicare). As a result, a shift to Medicare payment rates combined with increased quantity of care would have smaller effects on rural than urban hospitals in most cases and some rural hospitals would benefit. For rural hospitals overall, the effects on total revenue and people's access to care are unclear.

Under the current system, most rural hospitals receive higher payments from Medicare than they would receive under Medicare's standard payment methods. Under the most common program, Medicare pays hospitals that are designated as critical access hospitals 101 percent of their reasonable costs for inpatient and outpatient care. If the current Medicare payment method for rural hospitals was retained under a single-payer system, the payment rates to rural hospitals for current Medicare beneficiaries would stay the same. Alternatively, payment

33. See Jared Lane Maeda and Lyle Nelson, *An Analysis of Private-Sector Prices for Hospital Admissions*, Working Paper 2017-02 (April 2017), www.cbo.gov/publication/52567.

rates for current Medicare beneficiaries would be lower if rural hospitals were paid Medicare's standard payment rates under a single-payer system.

Several states also target supplemental payments, such as disproportionate share hospital (DSH) payments, to rural hospitals.[34] (DSH payments under Medicaid provide financial assistance to hospitals that serve a large proportion of Medicaid enrollees and other low-income patients.) Whether rural hospitals would receive similar or lower revenues for their current Medicaid beneficiaries would depend in part on whether such supplemental payments were provided under the single-payer system.

Factors Causing Financial Distress. A recent report by GAO found that 113 hospitals closed from 2013 through 2017. During that period, a slightly greater share of rural hospitals closed than urban hospitals. GAO estimated that 64 rural hospitals and 49 urban hospitals closed between 2013 and 2017—about 3 percent of all rural hospitals in 2013 and about 2 percent of all urban hospitals in 2013, respectively.[35] The report found that rural hospital closures were generally caused by financial difficulties, and it listed several factors that might explain the greater financial strains faced by rural hospitals. Those factors include lower demand stemming from increased competition from other providers and a decline in the rural population, as well as lower payments from Medicare as a result of sequestration (automatic spending cuts that occur through the withdrawal of funding for certain government programs) and lower Medicare payments for bad debt as a result of a change in law.[36] By contrast, increased Medicaid enrollment under the Affordable Care Act appears to have improved the financial status of rural hospitals as those enrollees have been provided with greater amounts of care than they would have otherwise received and hospitals have received payments for some care that would otherwise have been uncompensated.

CBO does not have information on whether the governments of other countries have taken over ownership of hospitals under financial distress.

Dynamic Analysis of a Single-Payer Proposal. In a dynamic analysis, CBO takes into account changes that would affect total output in the economy, such as changes in labor supply, household saving, investment, and aggregate demand for goods and services. Those broad macroeconomic changes resulting from legislation can themselves have additional budgetary consequences.

If provided enough time to undertake the complex modeling required to estimate the macroeconomic effects of a single-payer system, CBO could provide an assessment of those effects. To do so, the agency would analyze the effects of the proposed changes on labor markets, household saving, investment, aggregate demand, and output.

Establishing a single-payer health care system would affect the economy and the federal budget in various ways. Effects on people's disposable income and changes in the distribution of such income among households would alter overall demand for goods and services, thereby affecting output. In addition, depending on how the government financed the system—through higher taxes or borrowing—people's incentives to work and save and businesses' incentives to invest could change.

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34. See Medicaid and CHIP Payment and Access Commission, "Rural Hospitals and Medicaid Payment Policy" (August 2018), https://go.usa.gov/xy6k5.

35. See Government Accountability Office, *Rural Hospital Closures: Number and Characteristics of Affected Hospitals and Contributing Factors*, GAO-18-634 (September 2018), www.gao.gov/products/GAO-18-634.

36. The Middle Class Tax Relief and Job Creation Act of 2012 reduced the share of Medicare beneficiaries' bad debt for which Medicare reimbursed hospitals beginning in fiscal year 2013.

When deciding how much to work, for example, people consider not only the higher earnings from working more hours but also the resulting difference in after-tax income. Among people already working, if tax rates were increased to finance a single-payer system, such increases would have two opposing effects. One is the substitution effect, in which marginal tax rates increase: People tend to work fewer hours because other uses of their time become relatively more attractive.[37] Another is the income effect, in which after-tax income drops from what people would have otherwise earned: People tend to work more hours because having less after-tax income requires additional work to maintain the same standard of living. On balance, the first effect appears to be greater than the second, according to CBO's assessment of relevant research. Increases in marginal tax rates, on net, decrease the supply of labor by causing people already in the labor force to work less.[38]

Any dynamic analysis would include a quantitative assessment of the overall impact of the proposal on the economy and on employment but would not include a specific analysis of hospital closures. Other important issues of interest to policymakers—such as effects on the quality and availability of health care and the ways in which the economic circumstances and health of various groups of people would be affected differently—would be discussed qualitatively.

Question. The CBO report states: "By contrast, proposals to establish single-payer systems often prohibit substitutive insurance because of concerns that it might interfere with the operation of the public plan."

- What is substitutive insurance?
- How would substitutive insurance interfere with the public plan? What has happened in countries such as England?
- Today, how many Americans have private insurance plans? What are examples of such plans? What are Medicare Advantage plans? Are they private insurance plans? How many seniors are enrolled in Medicare Advantage plans today? Why do seniors choose these plans?

Answer. Substitutive insurance is a type of private insurance that duplicates the benefits of a single-payer health plan. It could be offered to people who are not eligible for the single-payer system, such as noncitizens who have recently entered the country or are temporary visitors. Substitutive insurance could also be an alternative source of coverage if people were allowed to opt out of the single-payer system.

Effects of Substitutive Insurance on a Single-Payer System. If substitutive insurance was allowed, some people, such as those with high income, might prefer to purchase substitutive insurance that offered more generous benefits or greater access to providers. If providers were allowed to participate in both the single-payer system and the substitutive insurance market and if providers' payment rates in the substitutive insurance plan were higher than in the single-payer system, they might prioritize the treatment of those enrollees. As a result, if many people enrolled in substitutive insurance, patients in the single-payer health care plan might experience longer wait times.

37. The marginal tax rate is the percentage of an additional dollar of income from labor or capital that is paid in taxes.

38. See Congressional Budget Office, *How the Supply of Labor Responds to Changes in Fiscal Policy* (October 2012), www.cbo.gov/publication/43674.

Allowing substitutive insurance could benefit some patients and providers. For example, some people might prefer to enroll in a substitutive insurance plan that suited their needs better than the public plan. Substitutive insurance might also improve the quality of care for people in both private and public plans. For example, private plans might introduce innovative design features to compete with the public plan, such as selectively contracting with higher-quality providers. That might encourage all providers to improve the quality of their care, which could also benefit publicly insured patients. Allowing private plans might also increase providers' income.

In the United Kingdom, for instance, about 11 percent of the population has some form of private insurance. Not all of those policies provide comprehensive major medical coverage that duplicates the benefits of the public plan. For example, few policies cover costs associated with pregnancy, childbirth, the care of newborns, or treatment for mental health, and none cover emergency care, accidents, or general practice visits. Additionally, those policies may have various restrictions, such as taking effect only if the wait times in the National Health Service (NHS) system are longer than a certain period, restricting which private hospitals patients can use without additional payment, or only covering certain conditions (for instance, cancer or cardiac care).[39] The private market shares the physician workforce with the NHS system. The vast majority of specialists are employed by the NHS (about 85 percent) and see private patients on their own time.[40]

Private Health Insurance in the United States. Some examples of private insurance plans include employment-based insurance, Medicare Advantage (MA), Medicare Part D (the prescription drug benefit), and nongroup plans that people purchase through the health insurance marketplaces or directly from insurers or brokers. CBO estimates that, among the population under age 65, 159 million people have employment-based insurance and 14 million people have nongroup coverage in 2019.[41] In addition, CBO estimates that 47 million people are enrolled in Part D for prescription drug benefits and 22 million people are enrolled in Medicare Advantage for health care benefits (about 38 percent of Medicare enrollees).[42] All of those estimates reflect average monthly enrollment over the course of the year.

Medicare Advantage plans are private plans that deliver the benefits of the Medicare program. Beneficiaries have a choice of enrolling in traditional Medicare or MA. MA plans must offer benefits that are at least as comprehensive as traditional Medicare and cover all Part A (Hospital Insurance) and Part B (Medical Insurance) services. In addition, MA plans must include a limit on out-of-pocket expenses, which is not required in traditional Medicare. The benefit design of MA plans can vary widely in terms of the extent of extra benefits, cost sharing, premiums, and provider networks. MA plans also can offer supplemental benefits, such as dental and vision coverage or reduced premiums for prescription drug coverage.[43]

39. See Commission on the Future of Health and Social Care in England, *The UK Private Health Care Market* (2014), https://tinyurl.com/y37zg72s.

40. Ibid.

41. See Congressional Budget Office, *Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2019 to 2029* (May 2019), www.cbo.gov/publication/55085.

42. See Congressional Budget Office, "Medicare—CBO's May 2019 Baseline" (May 2019), www.cbo.gov/system/files/2019-05/51302-2019-05-medicare_0.pdf (203 KB).

43. See John Bertko and others, *Medicare Advantage: Better Information Tools, Better Beneficiary Choices, Better Competition* (November 2017), https://tinyurl.com/y5uehdrr (PDF, 674 KB).

Some people choose to enroll in MA plans because they typically offer extra benefits—such as reduced cost sharing on Medicare benefits and, in some cases, coverage for dental, vision, or hearing services—and because of MA's out-of-pocket limit on medical expenses. MA patients face a more restricted network of providers, and they may need to receive prior approval before seeing a specialist or before receiving certain treatments.

Question. There are several sections of the report that mention "utilization management" and choices that would need to be made about what services and treatments would be covered in a single-payer system. For example, the CBO report states: "An independent board could recommend whether or not new treatments and drugs should be covered after their clinical and cost-effectiveness had been demonstrated—a role fulfilled in England by the National Institute for Health Care and Excellence."

- What does CBO mean by "utilization management"?
- What trade-offs and risks would occur if there is no control compared to too much control?
- How do we make these decisions now for federal programs such as Medicare or the ACA?
- What is the United States Preventive Services Task Force? What are some examples of recommendations that have been made from them?
- Under a single-payer system what types of decisions would be made regarding covered treatments and drugs? What are some examples?

Answer. Utilization management refers to methods used by or on behalf of payers to manage health care costs by influencing decisions about patient care.[44] Utilization management includes review of care prior to its provision and more intensive management of high-cost patients. Prior review involves the payers' assessment of the appropriateness of proposed procedures or services. High-cost case management focuses on patients with past or expected large medical expenditures. Through an assessment of individual needs, alternative treatment options with lower costs might be identified. Retrospective review (that is, review of claims after the provision of care) is not typically considered utilization management. Payers could use the information from retrospective review for provider education programs and to select providers for their networks.

Trade-offs and Risks of Utilization Management. On the one hand, the use of cost-containment techniques through utilization management could reduce waste in the system and lower the growth of total health care spending. In a system in which the provision of care was limited by its supply, the reduction or elimination of unnecessary care would free up providers' time, thus improving access to care for those who need it compared with allocation of care in some other way, such as by using a waiting list. On the other hand, a payer's assessment of the appropriateness of care might differ from that of the patient or the provider. Greater control by a payer over a patient's choices of services could also adversely affect access to and quality of care for that patient. Less spending on medical services could also alter manufacturers' incentive to develop new technologies or providers' incentive to invest in capital, which could affect patients' choices over the longer term.

44. See Institute of Medicine (U.S.) and Committee on Utilization Management by Third Parties, Marilyn Jane Field and Bradford H. Gray, eds., *Controlling Costs and Changing Patient Care? The Role of Utilization Management* (National Academies Press, 1989), https://tinyurl.com/yxmkl2lf.

How Federal Programs Make These Decisions Now. In the United States, public programs have implemented few utilization management programs directly. Private insurers participating in public programs—such as Medicare Advantage, Medicare Part D prescription drug insurance, and subsidized insurance purchased through the ACA's marketplaces—have increasingly used them to lower costs. For example, some private insurers require prior authorization for patients seeking certain care, such as expensive therapies.

The U.S. Preventive Services Task Force (USPSTF). The USPSTF was formed in 1984 to make independent, evidence-based recommendations about preventive health care services, including medications and screening. The USPSTF is made up of 16 volunteer members who are nationally recognized experts in prevention, evidence-based medicine, and primary care. Their fields of practice and expertise include behavioral health, family medicine, geriatrics, internal medicine, pediatrics, obstetrics and gynecology, and nursing. Task force members are appointed by the Director of the Agency for Healthcare Research and Quality (AHRQ) to serve four-year terms. Members are screened to ensure that they have no substantial conflicts of interest that could impair the scientific integrity of the task force's work. AHRQ has been authorized by the Congress to convene the task force and to provide ongoing scientific, administrative, and dissemination support to the task force.

The USPSTF's recommendations are based on a systematic review and synthesis of peer-reviewed literature. The services graded are those that would be provided in a primary care setting or that would be received following referral from a primary care provider. The recommendations apply to asymptomatic patients.

The USPSTF assigns grades of "A," "B," "C," "D," and "I" to health care services and procedures. The task force recommends that clinicians offer or provide services with a grade of "A" or "B." Services with a grade of "C" can be recommended to select patients on the basis of the provider's judgment and the patient's preferences. The task force discourages the use of services with a grade of "D." When there is insufficient evidence about a given set of services, those services receive a grade of "I." The task force does not take costs into account when deciding the grade given to a preventive health care service.

In many cases, the USPSTF's recommendations are tailored to specific populations. For example, the grade for abdominal aortic aneurysm screening depends on patients' sex, age, and smoking history. The task force's recommendations are made available on its website (www.uspreventiveservicestaskforce.org/BrowseRec/Index) and in peer-reviewed publications.

Some examples of recommendations from the USPSTF include:

- Screening for colorectal cancer starting at age 50 and continuing until age 75 (grade A).
- Screening for depression in the general adult population, including pregnant and postpartum women (grade B).
- Recommending that all women who are planning or capable of pregnancy take a daily supplement containing 0.4 to 0.8 milligrams of folic acid (grade A).
- Referring adults who are overweight or obese and have additional risk factors for cardiovascular disease (CVD) to intensive behavioral counseling—or offering such services—to promote a healthful diet and physical activity for CVD prevention (grade B).
- Screening for osteoporosis with bone-measurement testing to prevent osteoporotic fractures in women age 65 or older (grade B).

Decisions About Coverage Under a Single-Payer System. To specify the benefit package for a single-payer system, policymakers would first need to decide the set of services to include,

which might encompass the essential health benefits provided by the Affordable Care Act, the benefits covered by Medicare or Medicaid, or some other set, perhaps based on a cost-effectiveness criterion or the federal government's willingness to pay to cover certain services. Decisions would also need to be made about which new treatments and technologies would be covered. One approach would be to limit coverage to items or services that are judged to be reasonable and necessary for the diagnosis or treatment of illness and injury, similar to Medicare's existing national coverage determination process.

Alternatively, an independent board could recommend whether or not new treatments and drugs should be covered after their clinical efficacy and cost-effectiveness had been demonstrated. For example, policymakers would need to decide whether a single-payer system would cover gene therapy treatments that might be very costly, such as those that treat spinal muscular dystrophy. Another example is whether the single-payer system would cover specialty drugs that treat rare conditions but might be costly to develop, or whether experimental treatments would be covered. If experimental treatments were covered, policymakers would need to decide how much evidence would be required before coverage of a new treatment was authorized. Policymakers would also need to decide how much to pay for DNA tests and new diagnostic tests, and the ways in which medical care could be individualized for patients.

Question. The CBO report helpfully provides examples of other countries which have some elements of single-payer systems.

- What are examples of countries that have a more market-based system?
- What are examples of countries that have hybrid systems, some public and some private, and some which are shared?
- What are examples of controls used in other countries to contain the budgetary impacts of their single-payer systems? Can the government decide which treatments to offer? Can they approve use of certain medications? What factors do these governments/systems use to determine which treatments to allow and which not to allow? Does cost play a role in their decision making? What is the process they use for rare but groundbreaking treatments? Could a potential treatment, that doctors might say is reasonable, be denied due to decisions that were made by the government or a board? In other countries can the government overrule what a patient or guardian would request?
- Which other countries use global budgets in their single-payer systems? Is it common or rare? What would happen to patients in facilities that run out of money before the next budget cycle?

Answer. Germany and Switzerland are examples of countries that have achieved universal coverage through a more market-based health care system rather than a single-payer system. Those two countries have a multipayer system, in which people can choose from a number of competing private, nonprofit insurance plans.[45] In Germany, about 90 percent of the population chooses from the more than 100 private, nonprofit "sickness funds" that participate in the statutory health insurance system. The rest of the population chooses from private insurance plans operating under a separate system. In both Germany and Switzerland, all citizens and legal residents are required to have health insurance.

45. Unless noted otherwise, all of the information on the health care systems of other countries included in this response comes from Commonwealth Fund, *International Profiles of Health Care Systems* (May 2017), https://tinyurl.com/ybx6hj3v (PDF, 3.4 MB).

Hybrid Health Care Systems. Germany and Switzerland could also be regarded as having hybrid systems because each country relies primarily on public financing for health care, and government bodies in each country regulate the benefit packages that private insurers offer. In Germany, a federal government agency specifies broad requirements concerning the benefit package, and a committee consisting largely of representatives of providers and the sickness funds has the authority to decide whether specific services and drugs are included in the benefit package. To the extent possible, the committee takes into account studies of the comparative effectiveness of different treatments. In Switzerland, a federal agency specifies the services that must be included in the benefit package by evaluating whether services are effective, appropriate, and cost-effective. CBO did not find any specific information on the process for approving coverage for new treatments for rare conditions in those countries.

Cost-Containment Methods in Countries With Single-Payer Systems. Global budgets, which are discussed in greater detail below, are commonly used in countries with single-payer systems to contain costs. Such countries also contain costs through the prices they pay for medical care. Countries with single-payer systems also use various forms of utilization management to contain health care spending. In Canada's single-payer system, some provinces make lower payments to specialists when a patient has not been referred by a primary care physician. In England, access to specialists generally requires a referral from a primary care physician. Taiwan monitors the use of services and costs in near real-time through its information technology system to identify wasteful spending and inappropriate care.

In countries with a single-payer system, the government determines which health care services and drugs are covered. The benefit package typically provides comprehensive major medical coverage, including hospital and physician care, mental health services, and diagnostic tests. Prescription drugs are covered by most single-payer systems, but not by the Canadian system. For new treatments and technologies, a group of experts generally provides evidence on their cost-effectiveness to agencies that make decisions about their coverage or payments. Examples include the National Institute for Health Care and Excellence (NICE) in England, the Health Technology Assessment division of the Center for Drug Evaluation in Taiwan, and the Canadian Agency for Drugs and Technologies in Health in Canada.[46] For treatments of rare conditions, other countries with single-payer systems generally have a separate process for their appraisals, such as the Highly Specialised Technology evaluations by NICE in England.[47] Canada is establishing a new federal agency, the Canadian Drug Agency, to assess the cost-effectiveness of drugs and negotiate prices, and the new agency is tasked with developing a national strategy for drugs that treat rare diseases.[48] Currently in Canada, the cost-effectiveness of cancer drugs is assessed through the pan–Canadian Oncology Drug Review, which is a separate review process from other drugs (or the Common Drug Review).[49]

A potential treatment that a doctor deems reasonable might not be covered by a single-payer system. CBO determined that information on whether and under what circumstances

46. See Center for Drug Evaluation, Taiwan, "Health Technology Assessment" (accessed on October 24, 2019), http://www.cde.org.tw/eng/HTA/; and Canadian Agency for Drugs and Technologies in Health (accessed on October 24, 2019), https://cadth.ca/about-cadth.

47. See National Institute for Health Care and Excellence, "NICE Highly Specialised Technologies Guidance" (accessed on October 24, 2019), https://tinyurl.com/yybengso.

48. See Government of Canada, "Moving Forward on Implementing National Pharmacare" (accessed on October 24, 2019), https://tinyurl.com/y2gl6o5b.

49. See Maureen E. Trudeau and others, "Pan-Canadian Oncology Drug Review (pCODR): A Unique Model to Support Harmonization of Cancer Drug Funding Decisions in Canada," *Journal of Clinical Oncology*, vol. 36, supplement 30 (October 2018), pp. 41–41.

physicians or patients can appeal coverage decisions in countries with single-payer systems was not readily available. Some patients in such situations obtain care in other countries.

Global Budgets. Global budgets (which establish a prospective budget for health care spending during a specified period) are commonly used in other countries with single-payer systems. England and Taiwan both set national global budgets for their single-payer systems. In Canada, most hospitals operate under annual global budgets. In Australia, Denmark, and Sweden, hospitals receive part of their funding through global budgets and part through other methods, such as predetermined payments per admission based on the patient's diagnosis.

One limitation of a global budget is that health care providers might reduce the number of services they deliver if it appears their total costs will exceed their budget. The likelihood of this occurring depends partly on how the global budget is determined and updated over time. In England, the global budget is allocated to approximately 200 local organizations that are responsible for paying for health care. Since 2010, the global budget in England has grown by about 1 percent annually in real (inflation-adjusted) terms, compared with average real growth of about 4 percent previously. The relatively slow growth in the global budget since 2010 has created severe financial strains in the health care system. Providers' payment rates have been reduced, many providers have incurred financial deficits, and wait times for receiving care have increased.

Congressman Roy

Question. CBO estimated in the report that an average of 29 million people per month—11 percent of the U.S. residents under the age of 65—were uninsured in 2018.

- Of the 29 million people who are under the age of 65 and uninsured, how many are eligible for health benefits but not enrolled?
- How many have access to insurance but choose not to purchase it?
- Who pays for their health care right now, the uninsured population under the age of 65, under the current system? For example, if someone receives medical care without coverage, who pays for their services? What is the net cost of this coverage?

Answer. CBO estimates that 30 million people who are under the age of 65 are uninsured in 2019. Of those people, CBO estimates that 23 percent are eligible for subsidized coverage through a marketplace; 20 percent are noncitizens who are not lawfully present in this country; 15 percent are eligible for Medicaid or CHIP but are not enrolled; 12 percent have income that is less than 100 percent of the federal poverty level and live in a state that did not expand Medicaid; and 30 percent have access to coverage through an employer or directly from an insurer but have chosen not to purchase it.[50]

The uninsured seek care in various settings, including physicians' offices, community health centers, and hospitals. Some uninsured patients pay for their care out of pocket. In some cases, they pay a provider's full charges, which are typically higher than the payments providers receive from insured patients. In other cases, low-income uninsured patients receive

50. The responses to this question are based on CBO's estimates for 2019. See Congressional Budget Office, *Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2019 to 2029* (May 2019), www.cbo.gov/publication/55085. That report was published shortly after the release of *Key Design Components and Considerations for Establishing a Single-Payer Health Care System.*

charity care—that is, services are furnished by the provider at no cost or at a reduced price. Providers can also incur bad debt as a result of treating uninsured patients—that is, the provider bills the patient but receives no payment or only a partial payment.

People who are eligible for Medicaid or CHIP but not enrolled are identified in most states when they go to a hospital. Those people are regarded as presumptively eligible for a limited period. In such cases, Medicaid pays the hospital for the person's care. The person must file a complete Medicaid application after leaving the hospital in order to obtain Medicaid eligibility for a longer period. In addition, in most states, when people apply for Medicaid they can receive retroactive coverage for up to three months before the date of application. If, during that period, applicants met Medicaid eligibility criteria and incurred medical expenses, Medicaid pays providers for any covered health care services they used. Data are not available on the amount that Medicaid spends on hospital care for people determined to be presumptively eligible or the amount that Medicaid pays providers under the retroactive coverage option.

CBO is not aware of any recent studies focusing on the amount of health care used by the uninsured or the sources of payment for that care. The most recent such study is of limited relevance because it relied on data for 2013 and thus does not capture the effects of the insurance coverage expansions under the Affordable Care Act.[51]

The federal, state, and local governments provide financial support to providers to help offset the costs of caring for the uninsured. Examples of such support include Medicare and Medicaid disproportionate share hospital payments and funding for the Veterans Health Administration, community health centers, state and local health departments, and the Indian Health Service.

Question. Would individuals who currently have coverage, roughly 300 million Americans, be affected if we moved to a single-payer system? How many individuals who currently have coverage would have their coverage disrupted by the potential effects of such an overhaul?

Answer. If private insurance was eliminated under a single-payer system, people who currently have it would enroll in the public plan. Among people under age 65, CBO estimates that 159 million have employment-based insurance in 2019, 14 million have private nongroup coverage, and 1 million have coverage through the Basic Health Program.[52] Those estimates cannot be added to yield an estimate of the total number of people with private insurance because some people report more than one type of coverage. People who currently have private insurance would probably need to switch their coverage. The role of private insurance under a single-payer system would depend on its design. For instance, the system might eliminate private insurance, or it could retain a role for private insurance, such as by offering benefits that supplement the public plan.

If current public programs were eliminated, people who currently have public coverage would enroll in a new public plan under a single-payer system. Their covered benefits and cost sharing might change, depending on the system's design. Taking into account people of

51. See Teresa A. Coughlin and others, *Uncompensated Care for the Uninsured in 2013: A Detailed Examination* (Kaiser Commission on Medicaid and the Uninsured, May 2014), https://tinyurl.com/y45a95aq.

52. See Congressional Budget Office, *Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2019 to 2029* (May 2019), www.cbo.gov/publication/55085.

all ages, CBO estimates that there are 75 million enrolled in Medicaid in 2019, 61 million enrolled in Medicare, and 7 million enrolled in CHIP.[53]

Question. What percentage of total health expenditures is NOT paid for by the federal government, which would likely be shifted to the federal government under a single-payer system?

Answer. Currently, national health care spending—which totaled $3.5 trillion in 2017—is financed through a mix of public and private sources. Private sources paid more than half of that amount, and state or local governments paid about one-tenth. The federal government paid 37 percent of the total, or $1.3 trillion.[54] The amount of total health care spending that would be shifted to the federal government under a single-payer system would depend on the design of the system. Two key design features are the services that would be covered by the single-payer system and the amount of cost sharing that would be required. In a system covering a comprehensive set of benefits with little cost sharing, the shift of national health care spending from other payers to the federal government would be substantial.

Question. The report stated that roughly 29 million people do not have coverage, and 11 million of those individuals are not legally present in the United States. Has CBO done analyses on the federal spending impact of those 11 million people, including the net impact on healthcare spending? If so, please include the relevant responses.

Answer. An average of 11 million people per month in 2018 were estimated to be noncitizens who were not lawfully present, and about half of the 11 million people had health insurance that year (mainly through private insurers).[55] Noncitizens who are not lawfully present are ineligible for most federal programs, including Medicare, Social Security, Supplemental Security Income, the Supplemental Nutrition Assistance Program, subsidies for nongroup health insurance, Pell grants and federal student loans, and unemployment insurance.[56] Noncitizens who are not lawfully present are not eligible to enroll in Medicaid. However, Medicaid pays hospitals for emergency services provided to noncitizens who are not lawfully present if they would have qualified for Medicaid if not for their immigration

53. See Congressional Budget Office, "Medicaid—CBO's May 2019 Baseline" (May 2019), www.cbo.gov/system/files/2019-05/51301-2019-05-medicaid.pdf (139 KB); "Medicare—CBO's May 2019 Baseline" (May 2019), www.cbo.gov/system/files/2019-05/51302-2019-05-medicare_0.pdf (203 KB); and "Children's Health Insurance Program—CBO's May 2019 Baseline" (May 2019), www.cbo.gov/system/files/2019-05/51296-2019-05-chip.pdf (171 KB).

54. The estimates of national health care spending by source of payment are from Centers for Medicare & Medicaid Services, National Health Expenditure Accounts, "National Health Expenditures by Type of Service and Source of Funds: Calendar Years 1960–2018" (accessed February 15, 2019), https://go.usa.gov/xEUS6. The estimates of national and federal spending on health care include spending on investment in the medical sector, which accounts for 5 percent of national spending on health care and 3 percent of federal spending on health care. The estimates of federal spending for Medicare exclude the effects of premiums and other offsetting receipts. The estimates do not account for tax subsidies, such as the federal tax exclusion for employment-based health insurance.

55. See Congressional Budget Office, *Key Design Components and Considerations for Establishing a Single-Payer Health Care System* (May 2019), www.cbo.gov/publication/55150.

56. See Congressional Budget Office, *How Changes in Immigration Policy Might Affect the Federal Budget* (January 2015), www.cbo.gov/publication/49868.

status.[57] In fiscal year 2018, federal Medicaid spending on emergency services provided to such people was $1.6 billion, or 0.4 percent of total federal spending on Medicaid.[58]

Noncitizens who are not lawfully present are generally not eligible to enroll in CHIP. However, since 2002, states have had the option to cover prenatal care to women regardless of their immigration status by extending CHIP eligibility to the unborn child. As of January 2019, 16 states had exercised that option.[59] No data are available on the number of noncitizens who are not lawfully present who have received such services under CHIP.

Question. The report states, "participants would not have a choice of insurer or health benefits... the benefits provided by the public plan might not address the needs of some people."

- Can you elaborate on what that means? The plan might not address the needs of some people?
- How many people in the US are covered by private insurance? How many are covered by a public program?

Answer. Under a single-payer system that eliminated private insurance entirely, there would be only one insurer with a standardized set of benefits. Thus, patients would not have a choice of insurer or benefits, and those standardized benefits might not meet the needs of some people. For example, certain specialty drugs or expensive new treatments, such as gene therapy, might not be covered under a single-payer system.

CBO estimates that, among the population under age 65 in 2019, average monthly enrollment for people with employment-based insurance is 159 million, and the number of people with nongroup coverage is 14 million.[60]

Among the entire population, the agency estimates, an average of 61 million people are enrolled in Medicare on a monthly basis in 2019: 47 million are enrolled through a private insurer in Medicare Part D (for prescription drug benefits) and 22 million are enrolled through a private insurer in Medicare Advantage (for health care benefits).[61] Average monthly enrollment in Medicaid and CHIP is 75 million and 7 million, respectively, in 2019. (Those numbers count people with two sources of coverage, such as Medicare and Medicaid, in both categories.) Most Medicaid beneficiaries are enrolled in one or more private managed care plans.[62]

57. See Samantha Artiga and Maria Diaz, *Health Coverage and Care of Undocumented Immigrants*, Issue Brief (Kaiser Family Foundation, July 2019), pp. 3–4, https://tinyurl.com/y48owh5b (PDF, 270 KB).

58. Those estimates are from the Medicaid Financial Management Report for Fiscal Year 2018 produced by the Centers for Medicare & Medicaid Services. That report is not yet publicly available.

59. See Tricia Brooks, Lauren Roygardner, and Samantha Artiga, *Medicaid and CHIP Eligibility, Enrollment, and Cost Sharing Policies as of January 2019: Findings From a 50-State Survey* (Kaiser Family Foundation, March 2019), pp. 10–11, https://tinyurl.com/y4c8n7ye (PDF, 2 MB).

60. See Congressional Budget Office, *Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2019 to 2029* (May 2019), www.cbo.gov/publication/55085.

61. See Congressional Budget Office, "Medicare—CBO's May 2019 Baseline" (May 2019), www.cbo.gov/system/files/2019-05/51302-2019-05-medicare_0.pdf (203 KB).

62. See Congressional Budget Office, *Exploring the Growth of Medicaid Managed Care* (August 2018), www.cbo.gov/publication/54235.

Question. A recent Association of American Medical Colleges study found the U.S. will see a shortage of up to nearly 122,000 physicians by 2032—this is under current law. Would a single payer system in the United States lead to an even greater shortage of physicians in the U.S.?

Answer. CBO has not reviewed the methods and assumptions used in the study by the Association of American Medical Colleges. That study concluded that the United States will face a shortage of physicians, but experts disagree about that. A report by the Institute of Medicine reviewed the available studies and concluded that the evidence does not indicate that the United States faces such a shortage.[63]

If a single-payer system had little or no cost sharing, the demand for physicians' services would tend to rise. If payment rates were reduced, on average, the supply of care from physicians would tend to fall. Both of those factors would contribute to a shortage of physicians in the United States. By contrast, the time that was previously spent on administrative tasks associated with multiple insurers and utilization management could be used instead to increase the supply of care. On net, whether a single-payer system would lead to a shortage of physicians would depend on the system's design. The government could also implement some policies that would increase the supply of physicians, such as increasing subsidies for medical education. Lower payments to providers would cause changes in the nature of the health care system in the long term, such as leading different people to become physicians, and could result in greater use of nurse practitioners and physician assistants. Some of the decisions involved, such as the scope of practice for health professionals, would be made at the state level.

Question. Has CBO done a report on average wait times for care in the United States under current policy? If so, what do average wait times look like? What would average wait times look like for a patient under a single-payer system?

Answer. CBO has not conducted an analysis of average wait times for care under the current system or under a single-payer system. Average wait times under a single-payer system would depend on the system's design features, such as the covered services, cost-sharing requirements, and providers' payment rates. For example, if there was little or no cost sharing and payment rates were substantially lower than what providers would receive under current law, CBO expects that average wait times would increase.

Question. With respect to Obamacare's Medicaid expansion, has CBO done any analysis of crowd out—both the numbers of people dropping private coverage to enroll in expansion, and the Medicaid spending for those individuals? I've seen some reports suggesting significant numbers of people may be dropping private coverage to enroll in Medicaid, Louisiana specifically. Can CBO elaborate on this?

Answer. CBO has not conducted its own analysis of the extent to which people drop private coverage to enroll in Medicaid as a result of the ACA. However, recent peer-reviewed studies found mixed results, with some showing little or no evidence of crowding out from Medicaid

63. See Institute of Medicine, "Chapter 2: Background on the Pipeline to the Physician Workforce," in Jill Eden, Donald Berwick, and Gail Wilensky, eds., *Graduate Medical Education That Meets the Nation's Health Needs* (National Academies Press, 2014), www.nap.edu/read/18754/chapter/4.

and others showing some evidence of that phenomenon in certain populations.[64] Decker, Lipton, and Sommers (2017), Frean, Gruber, and Sommers (2017), and Courtemanche and others (2017) found little or no evidence of such crowding out.[65] Wehby and Lyu (2018) found some evidence of crowding out of private coverage, including both individually purchased and employment-based coverage, among certain groups of people, particularly among adults ages 19 to 26 and women.[66] Sommers, Kenney, and Epstein (2014) examined the phenomenon in Connecticut and the District of Columbia, which implemented the ACA Medicaid expansion before 2014. They found evidence of some crowding out of private coverage in Connecticut (accounting for 30 percent to 40 percent of the increase in Medicaid coverage), particularly for healthier and younger adults ages 19 to 25, but found no evidence of crowding out in the District of Columbia.[67]

The data from Louisiana contribute to the literature that shows some evidence of crowding out. Louisiana expanded Medicaid to nonelderly adults with income up to 138 percent of the federal poverty level on July 1, 2016. The data about that experience have not been analyzed using methods as rigorous as those applied in many of the peer-reviewed studies, which used statistical methods to control for other factors that could cause insurance coverage rates to change. One study used two types of analysis and concluded that the Medicaid expansion in Louisiana resulted in a substantial crowding out of private coverage.[68]

The first analysis relied on estimates from a survey of Louisiana residents that found that, among other things, the number of nonelderly adults with income up to 138 percent of the FPL who had private insurance coverage declined from 2015 to 2017.[69] The biggest decline among people in that segment of the population was for employment-based insurance; the number of people with such coverage fell from about 181,000 in 2015 to about 140,000 in 2017. The crowding-out study characterized the difference between those two numbers (about 40,000) as the number of nonelderly adults with income up to 138 percent of the FPL who dropped employment-based insurance to enroll in Medicaid. However, the decline of 40,000 nonelderly adults with employment-based insurance and income up to 138 percent of the FPL was mostly due to the fact that the survey estimated a substantial decline in the total number of nonelderly adults in that income range in Louisiana (from

64. See Kaiser Family Foundation, *The Effects of Medicaid Expansion Under the ACA: Updated Findings From a Literature Review* (August 2019), p. 4, https://tinyurl.com/yxp66v2v (PDF, 1.5 MB).

65. See Sandra L. Decker, Brandy J. Lipton, and Benjamin D. Sommers, "Medicaid Expansion Coverage Effects Grew in 2015 With Continued Improvements in Coverage Quality," *Health Affairs*, vol. 36, no. 5 (May 2017), pp. 819–825, https://doi.org/10.1377/hlthaff.2016.1462; Molly Frean, Jonathan Gruber, and Benjamin D. Sommers, "Premium Subsidies, the Mandate, and Medicaid Expansion: Coverage Effects of the Affordable Care Act," *Journal of Health Economics*, vol. 53 (May 2017), pp. 72–86, https://doi.org/10.1016/j.jhealeco.2017.02.004; and Charles Courtemanche and others, "Early Impacts of the Affordable Care Act on Health Insurance Coverage in Medicaid Expansion and Non-Expansion States" *Journal of Policy Analysis and Management*, vol. 36, no. 1 (Winter 2017), pp. 178–210, https://doi.org/10.1002/pam.21961.

66. See George L. Wehby and Wei Lyu, "The Impact of the ACA Medicaid Expansions on Health Insurance Coverage Through 2015 and Coverage Disparities by Age, Race/Ethnicity, and Gender," *Health Services Research*, vol. 53, no. 2 (April 2018), pp. 1248–1271, https://doi.org/10.1111/1475-6773.12711.

67. See Benjamin D. Sommers, Genevieve M. Kenney, and Arnold M. Epstein, "New Evidence on the Affordable Care Act: Coverage Impacts of Early Medicaid Expansions," *Health Affairs*, vol. 33, no. 1 (January 2014), pp. 78–87, https://doi.org/10.1377/hlthaff.2013.1087.

68. See Chris Jacobs, *What You Need to Know About Medicaid Crowd Out* (Pelican Institute for Public Policy, 2019), https://tinyurl.com/vero52f (PDF, 434 KB).

69. See Stephen R. Barnes and others, "Louisiana Health Insurance Survey, 2017" (sponsored by the Louisiana Department of Health), Table 2.5, https://tinyurl.com/y58neud8 (PDF, 1.2 MB).

about 900,000 in 2015 to about 715,000 in 2017). When measured on a percentage basis, the decline in employment-based coverage among that segment of the population was much smaller (from 20.1 percent in 2015 to 19.6 percent in 2017). Moreover, that percentage change in employment-based coverage might have been due to changing economic conditions or other factors and cannot be attributed entirely to people choosing to drop their coverage.

In the second analysis, the study focused on people who enrolled in Medicaid in Louisiana under the expanded eligibility criteria in August 2017. The study reported that 36 percent of those people had dropped private coverage within 30 days of enrolling in Medicaid. The 36 percent figure appears not to be limited to people who voluntarily dropped their coverage before enrolling in Medicaid but also includes people who lost their coverage (for example, because of the loss of employment or a change from full- to part-time employment). A challenge is to distinguish between people who lost their insurance coverage because of the Medicaid expansion (for example, if employers of low-wage workers stopped offering health insurance as a result of the Medicaid expansion) and people who lost private coverage for other reasons (such as losing their jobs). The former represent crowding out and the latter do not.

Question. Finally, and with respect to the budgetary treatment of cost-sharing reductions, did CBO tell Budget Committee staff that CBO now assumes that all states will incorporate CSRs into their premium estimates over time? On June 8 last year, CBO wrote that it "generally expects the costs associated with CSRs to be covered by increases in premiums."[70] Is CBO required to assume payments will be made in all cases—not some cases, or generally, or over time, but in all cases, and in all states?

Some states, including North Dakota, Vermont, and South Dakota did not allow insurers to raise premiums for 2018 after CSR payments stopped. Yet CBO assumed that each of these states would do the exact opposite. Did CBO contact these states regarding their insurance markets when adjusting the treatment of CSRs in 2018, and when were they contacted? Director Hall had previously admitted that he provided incomplete and inaccurate information to the Budget Committee Members when asked about this issue at a January 2018 hearing. I am greatly concerned about this issue and would appreciate it if CBO could provide clarity on this subject in response to the above QFRs.

Answer. Starting in the spring of 2018, CBO anticipated in its baseline projections that the expenses associated with cost-sharing reductions (CSRs) would be covered in all states by the government's premium tax credits. In most cases, insurers promptly increased premiums to accomplish that result.[71] However, in the few cases in which states barred such increases in 2018, the agency projected that premiums were sufficient to cover the cost of CSRs without increases for that purpose. In 2019, insurance regulators in all states (but not the District of Columbia) have allowed insurers to explicitly increase premiums for silver plans in the marketplaces to account for CSRs.

In preparing its projections, CBO discussed this matter with some insurers and state regulators. For many states—including North Dakota, Vermont, and South Dakota—CBO relied

70. See Congressional Budget Office, letter to the Honorable Mark Meadows providing information about the budgetary treatment of cost-sharing reductions (June 8, 2018), www.cbo.gov/publication/53961.

71. See Congressional Budget Office, *Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2019 to 2029* (May 2019), www.cbo.gov/publication/55085, and *Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2018 to 2028* (May 2018), www.cbo.gov/publication/53826.

on information provided by the National Association of Insurance Commissioners and the Commonwealth Fund and on information in insurers' public rate filings for the 2018 plan year.[72]

Regarding the budgetary treatment of CSRs, if legislation was enacted that appropriated funds for direct payments for CSRs, CBO would update its baseline projections to incorporate those appropriations and to reflect lower premium tax credits and other effects because insurers would no longer increase gross premiums for silver plans offered through the marketplaces to cover the costs of providing CSRs. For such legislation—which would change the means of funding the CSR entitlement—CBO would estimate that enactment would not affect the federal deficit because the obligations stemming from the entitlement to CSRs could be fully satisfied through either a direct payment or higher premiums and larger premium tax credits. Those procedures reflect consultation with the budget committees about the baseline and about cost estimates relative to that baseline.

72. See National Association of Insurance Commissioners, "System for Electronic Rates & Forms Filing" (accessed most recently on February 25, 2019), www.serff.com; Sabrina Corlette, Kevin Lucia, and Maanasa Kona, "States Step Up to Protect Consumers in Wake of Cuts to ACA Cost-Sharing Reduction Payments," *To the Point* (blog entry, October 27, 2017), http://tinyurl.com/y728ro2y; and Centers for Medicare & Medicaid Services, "Rate Review" (accessed most recently on February 25, 2019), https://ratereview.healthcare.gov.

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Surprise Billing in Private Health Insurance: Overview and Federal Policy Considerations

December 12, 2019

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Prepared for Members and
Committees of Congress

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SUMMARY

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December 12, 2019

Surprise Billing in Private Health Insurance: Overview and Federal Policy Considerations

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In response to individuals receiving large, unexpected medical bills for out-of-network care, Congress has recently been considering legislation to address surprise billing. As the term is currently being discussed, *surprise billing* typically refers to situations where consumers are unknowingly, and potentially unavoidably, treated by providers outside of the consumers' health insurance plan networks and, as a result, unexpectedly receive larger bills than they would have received if the providers had been in the plan networks. In the 116th Congress, federal proposals have sought to address surprise billing in the context of two types of situations: (1) where an individual receives emergency services from an out-of-network provider and (2) where an individual receives services from an out-of-network provider that is working at an in-network facility.

Although no federal requirements directly address surprise billing, at least half of the states have implemented policies to address surprise billing in some capacity. However, the state laws are limited in application, as certain types of plans, such as self-funded plans offered by employers, are exempt from state insurance regulation. State policies to address surprise billing vary in terms of the types of consumer financial protections provided (e.g., consumer balance billing limitations) and the related requirements on insurers and providers to establish such protections. Among states that offer similar types of consumer protections, policies may vary in their application and may differ according to the types of situations addressed (e.g., emergency services, out-of-network care at an in-network facility), the types of plans addressed (e.g., HMO, PPO), and the methods used to determine insurer payments to providers for such services (e.g., benchmark, arbitration).

Similar to many state laws, recent federal legislative proposals related to surprise billing typically seek to address the financial relationships between insurers, providers, and consumers. They do so by establishing new requirements on insurers, providers, or both to create a degree of consumer protection related to reducing patient financial responsibilities with respect to some types of out-of-network care.

In addition to including language that limits consumer cost sharing in surprise billing situations, the federal proposals typically include language that specifies the methods by which insurers determine payment to providers for the services being addressed in the bill (since solely reducing consumer financial liability in such situations would reduce the total amount providers receive for their services). When combined with balance billing prohibitions, this type of requirement effectively results in what the insurer and provider recognize as the total payment for out-of-network care.

To date, federal proposals are largely aligned in how they would address consumer protections in surprise billing situations. However, the proposals differ in how they would address total payment for specified services furnished by out-of-network providers.

Federal proposals generally have focused on at least one of two methods to determine insurers' financial responsibility: (1) selecting a benchmark provider payment rate that serves as the basis for determining specific amounts that insurers must pay providers, net of consumer cost sharing or (2) establishing an alternative dispute resolution process, such as arbitration, with provider payment determined by a neutral third party.

This report discusses selected policy issues that Congress may want to consider as it assesses surprise billing proposals. The report concludes by providing an overview of how surprise billing proposals may affect some combination of insurers, providers, and consumers. An **Appendix** table compares two federal proposals that have gone through committee markup procedures: Title I of S. 1895 (Alexander), which went through a Senate Committee on Health, Education, Labor, and Pensions (HELP) markup session on June 26, 2019, and Title IV of the amendment in the nature of a substitute (ANS) to H.R. 2328, which went through a markup session held by the House Committee on Energy and Commerce on July 17, 2019.

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Surprise Billing

As the term is currently being discussed, *surprise billing* typically refers to situations where a consumer is unknowingly, and potentially unavoidably, treated by a provider outside of the consumer's health insurance plan network and, as a result, unexpectedly receives a larger bill than he or she would have received if the provider had been in the plan network.[1]

Most recently, in federal policy discussions, surprise billing has commonly been discussed in the context of two situations: (1) where an individual receives emergency services from an out-of-network provider and (2) where a consumer receives nonemergency services from an out-of-network provider who is working in an in-network facility. However, surprise billing may occur in other situations (e.g., ground ambulance and air ambulance services) where consumers are unknowingly and unavoidably treated by an out-of-network provider.

As these situations imply, surprise billing is rooted in most private insurers' use of provider networks. Therefore, this report begins with a discussion of the relationship between provider network status and private health insurance billing before discussing existing federal and state requirements around surprise billing.

This report then discusses various policy issues that Congress may want to consider when assessing surprise billing proposals. Such policy topics include what plan types should be addressed; what types of services or provider types should be addressed; what types of consumer protections should be established; what requirements (including financial requirements) should be placed on insurers, providers, or both; how these policies will be enforced; and what is the role of the state. The list of topics discussed in this report is not exhaustive but should touch on many aspects of the surprise billing proposals currently under consideration.

The report also briefly discusses potential impacts of the various surprise billing approaches. It then concludes with an **Appendix** table comparing two federal proposals that have gone through committee markup procedures. Specifically, the proposals included in the appendix are Title I of S. 1895 (Alexander), which went through a Senate Committee Health, Education, Labor, and Pensions (HELP) markup session on June 26, 2019, and Title IV of the amendment in the nature of a substitute (ANS) to H.R. 2328, which went through a markup session held by the House Committee on Energy and Commerce on July 17, 2019. As of the date of this report, no other proposals have been approved through committee markup or gone further in the legislative-making process.

Private Health Insurance Billing Overview

The charges and payments for health care items or services under private health insurance are often the result of the contractual relationships between consumers, insurers, and providers for a given health plan.

[1] A consumer may be surprised to receive larger-than-expected medical bills for other reasons. For example, the surprise component may arise because a consumer misunderstands the terms of his or her health insurance policy and receives a bill for an unexpected amount. In another example, a consumer may be covered under a plan with different cost-sharing amounts for emergency services and other nonemergency services (e.g., the plan has higher cost sharing to disincentivize emergency department use as compared with care that can be provided in another outpatient setting). In the event a consumer receives a bill for services furnished in an emergency department of a hospital, the consumer may be surprised to receive a bill for a larger amount than expected because the insurer determined that the visit was not an emergency. Such other reasons generally are outside the scope of this report and are not included in this report's usage of the term *surprise billing*.

Health care providers establish dollar amounts for the services they furnish; such amounts are referred to as *charges* and reflect what providers think they should be paid. However, the actual amounts that a provider is paid for furnishing services vary and may not be equal to the provider-established charges. The amounts a provider receives for furnished services, and how the payment is divided between the insurer and the consumer, can vary due to a number of factors, including (but not limited to) whether a given provider has negotiated a payment amount with a given insurer, whether an insurer pays for services provided by out-of-network providers, enrollee cost-sharing requirements, whether a provider can bill the consumer for an additional amount above the amounts paid by the consumer (in the form of cost sharing), and the insurer.

Figure 1 highlights the effects of the aforementioned distinctions. The following sections discuss them in the context of in-network and out-of-network billing.

In-Network Coverage

Under private insurance, the amount paid for a covered item or service is often contingent upon whether a consumer's insurer has contracted with the provider. Insurers typically negotiate and establish separate contracts with hospitals, physicians, physician organizations (such as group practices and physician management firms), and other types of providers.[2] For each provider where such a contract exists with a particular insurer, that provider is then generally considered to be a part of that insurer's provider network (i.e., that provider is considered *in network*).

The contents of contracts between insurers and providers vary and typically are the result of negotiations between providers and insurers; however, these contracts generally specify the amounts that providers are to receive for providing in-network services to consumers (i.e., *negotiated amounts*).[3] Negotiated amounts typically are lower than what providers would otherwise charge, had they not contracted with an insurer.

When an in-network provider furnishes a service to a consumer, the insurer and consumer typically will share the responsibility of paying the provider the negotiated amount established in the contract.[4] The consumer's portion of the negotiated amount is determined in accordance with the cost-sharing requirements of the consumer's health plan (e.g., deductibles, co-payments, coinsurance, and out-of-pocket limits; see **Figure 1**).[5] Consumers who receive covered services from in-network providers generally have lower cost-sharing requirements than consumers who receive the same services out of network.

Generally, in-network providers are contractually prohibited from billing consumers for any additional amounts above the negotiated amount (i.e., balance bill).

[2] In some instances, an insurer may jointly negotiate with multiple entities. For example, an insurer may negotiate one contract with a large health system that combines physicians and hospitals.

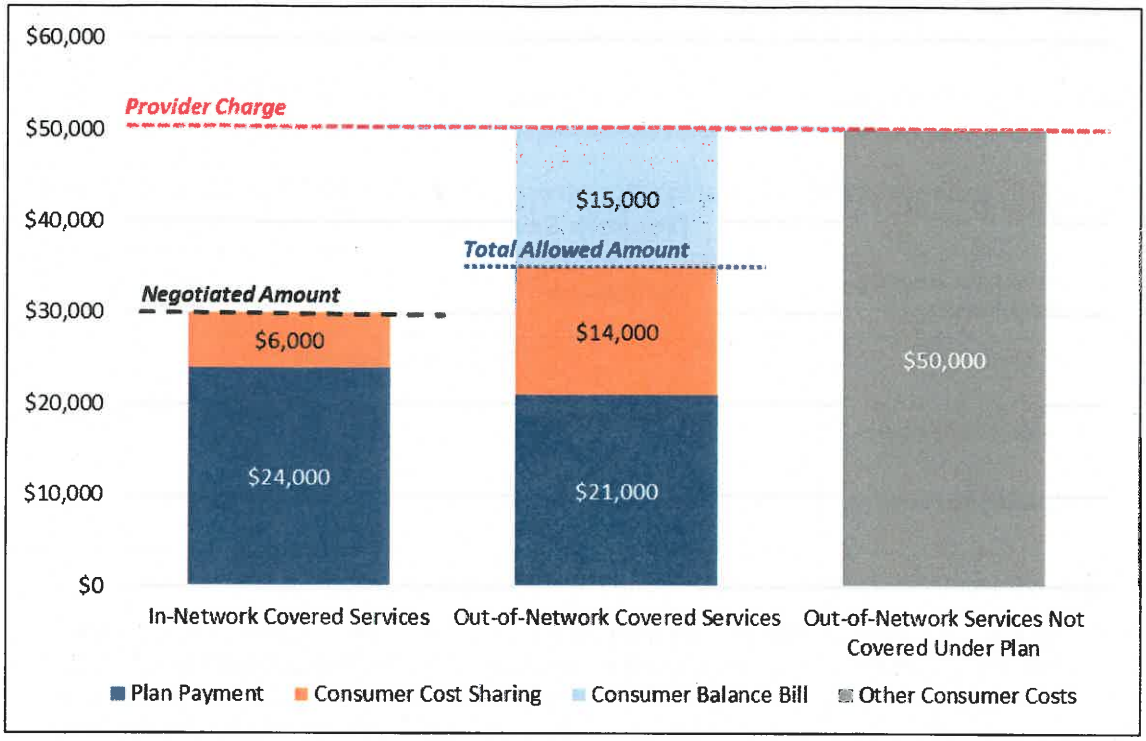
[3] The negotiated amount an insurer pays for particular services typically varies among all providers that have contracted with the insurer. Such discrepancies may be the result of various factors, including provider and insurer market concentration.

[4] Some services may be provided without cost to the consumer. For example, plans generally are required to provide coverage for certain preventive health services without imposing cost sharing. 42 U.S.C. §300gg-13.

[5] For definitions of such cost-sharing terms, see Centers for Medicare & Medicaid Services (CMS), *Glossary*, at https://www.healthcare.gov/glossary/.

Figure 1. Illustrative Examples of Billing Under Private Health Insurance

(20% coinsurance for in-network services and 40% coinsurance for out-of-network services)



Source: Congressional Research Service.

Notes: These examples are for illustrative purposes only; they do not represent the full spectrum of possible billing scenarios. The examples assume the deductible has been met, the in-network out-of-pocket (OOP) limit has not been reached, and there is no out-of-network OOP limit. In the example, Provider Charge = $50,000, Total Allowed Amount = $35,000, and Negotiated Amount = $30,000. Consumer cost-sharing amounts are based on these totals, where applicable. Outside of this example, coinsurance rates for in-network and out-of-network services may vary by plan type.

Out-Of-Network Coverage

In instances where a contract between an insurer and provider does not exist, the provider is considered out of network. The total costs for services furnished by an out-of-network provider, and who pays for such services, depend on a number of factors; one key factor is whether the plan covers out-of-network services in the first place.

Generally, point of service plans and preferred provider organization (PPO) plans cover out-of-network services, whereas exclusive provider organization plans and health maintenance organization (HMO) plans generally only cover services by providers within the plan's network (except in an emergency).[6]

Insurer Pays for Out-Of-Network Services

In instances where an insurer pays some amount toward out-of-network services, both the consumer and the insurer contribute some amount to the provider, with the consumer's amount determined in accordance with the plan's cost-sharing requirements. Consumer cost-sharing

[6] See footnote 11 and "Emergency Services."

requirements for services provided by an out-of-network provider may be separate from (and are typically larger than) cost-sharing requirements for the same services provided by an in-network provider. For example, a plan may have different deductibles for in-network and out-of-network services.

Table 1 provides an example of how cost-sharing requirements may differ for in-network and out-of-network services.

Table 1. Example of Cost-Sharing Requirements for a Plan That Covers Out-of-Network Services

Selected Cost-Sharing Requirements	In-Network	Out-of-Network
Deductible	$350 overall deductible	
Coinsurance Rate (Outpatient Surgery)	15% of negotiated amount	35% of total allowed amount
Out-of-Pocket Limit	$7,000 (includes amounts for in-network providers only)	No limit

Source: Congressional Research Service (CRS) illustrative example.

Although cost-sharing requirements will indicate how the cost for the service is shared between an insurer and a consumer, the insurer needs to determine the total amount that cost-sharing requirements will be based on (since there are no negotiated amounts established in contracts between out-of-network providers and insurers). The amount ultimately determined by the insurer is often referred to as the *total allowed amount* and does not necessarily match the negotiated amount insurers may have contracted with other providers or the provider charge amount for that service. If a total allowed amount is larger than a negotiated rate, then the consumer's payment for out-of-network services could be larger than a corresponding payment for in-network services because of increased cost sharing, as per the terms of the plan and the fact that the total cost of services on which consumer cost sharing is based is larger.

Insurers have their own methodologies for calculating the total allowed amount. They may do so by incorporating the usual, customary, and reasonable rate (UCR), which is the amount paid for services in a geographic area based on what providers in the area usually charge for the same or similar medical services.[7]

If an out-of-network provider's total charge for a service exceeds the total allowed amount (and if allowed under state law), the provider may directly bill (i.e., *balance bill*) a consumer for the amount of that difference (sometimes referred to as the *excess charge*; see **Figure 1**). The consumer would therefore be responsible for paying amounts associated with any cost-sharing requirements *and* the balance bill.

The provider is responsible for collecting any balance bill amounts; from an administrative standpoint, it is considered more difficult to collect these balance bill amounts than to collect payments from insurers.[8] In some instances, providers may ultimately settle with balance-billed consumers for amounts that are less than the total balance bill.

[7] CMS, "UCR (Usual, Customary, and Reasonable)," at https://www.healthcare.gov/glossary/ucr-usual-customary-and-reasonable/.

[8] Loren Adler et al., *State Approaches to Mitigating Surprise Out-of-Network Billing*, USC-Brookings Schaeffer

There are no federal restrictions on providers balance billing consumers with private health coverage.

Insurer Does Not Pay for Out-of-Network Services

If the insurer pays only for in-network services, the consumer is responsible for paying the entire bill for out-of-network services (represented in **Figure 1** as "Out-of-Network Services Not Covered Under Plan").[9] Although the consumer pays the provider in this instance, the consumer costs are not technically cost sharing (since the insurer is not sharing costs with the consumer), nor are they the balance remaining after the provider receives certain payments. Therefore, this report refers to these costs as *other consumer costs*.[10]

Similar to balance bills, providers are responsible for collecting these other consumer costs and ultimately may decide to settle with the consumer for amounts that are less than the initial provider charges.

Existing Requirements Addressing Surprise Billing

Federal Requirements

Currently, no federal private health insurance requirements address surprise billing; however, federal requirements do address related issues. The Affordable Care Act (ACA; P.L. 111-148, as amended) established requirements regarding consumer cost sharing for, and plan coverage of, out-of-network emergency services and consumer cost-sharing requirements for ancillary provider services furnished at in-network facilities.

Emergency Services

As a result of the ACA, if a self-insured plan or a fully insured large-group plan, small-group plan, or individual-market plan covers services in a hospital emergency department, the plan is required to cover emergency services irrespective of the provider's contractual status with the plan.[11] In other words, insurers of plans that cover in-network emergency services are effectively required under the ACA to contribute some amount to a provider that furnishes out-of-network

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Initiative for Health Policy, February 2019, p. 6, at https://www.brookings.edu/wp-content/uploads/2019/02/Adler_et-al_State-Approaches-to-Mitigating-Surprise-Billing-2019.pdf. Hereinafter, Adler et al., *State Approaches*.

[9] Under federal statute, plans that cover in-network emergency services are required to cover out-of-network emergency services, even if the plan would not otherwise cover other out-of-network care. See "Emergency Services." For ease of discussion, this report will use the term *plans that do not cover out-of-network services* to describe plans that do not contribute some amount to pay for out-of-network care with this exception.

[10] A consumer generally is also responsible for the entire bill if he or she receives a service that is not covered by the plan (i.e., an excluded service), regardless of whether they received the service from an in-network provider.

[11] Emergency services include medical screening examinations that are within the capability of the emergency department of a hospital and any further medical examination and treatment that are within the capabilities of the staff and facilities available at the hospital and necessary to stabilize the consumer. The plan is also required to cover emergency services without the need for any prior authorization and without the imposition of coverage limitations. 42 U.S.C. §300gg-19a(b). For a description of the distinction between self-insured and fully funded plans and how federal private health insurance requirements apply to such plans, see CRS Report R45146, *Federal Requirements on Private Health Insurance Plans*.

emergency services to an enrolled consumer, even if the insurer otherwise would not contribute any amount for services furnished by other types of out-of-network providers.

More specifically, insurers are required to recognize the greatest of the following three payment standards as the total allowed amount for emergency services: (1) the median amount the insurer has negotiated with in-network providers for the furnished service;[12] (2) the usual, customary, and reasonable amount the insurer pays out-of-network providers for the furnished service; or (3) the amount that would be paid under Medicare for the furnished service.[13] (Insurers may recognize another amount as the total allowed amount provided such amount is larger than all three of the aforementioned amounts.) After determining the appropriate total allowed amount, the insurer and the consumer each will pay the provider a portion of the total allowed amount, according to the cost-sharing requirements of the consumer's plan.

The ACA requirement also addressed a consumer's payment responsibility vis-à-vis her health plan for out-of-network emergency care. Specifically, when a consumer receives emergency services from an out-of-network provider, the ACA limits a consumer's cost sharing, expressed as co-payment amount or coinsurance rate, to the in-network amount or rate of the consumer's health plan.[14] In other words, if a consumer receives out-of-network emergency services and is enrolled in a plan that has a 15% coinsurance rate for in-network services and a 30% coinsurance rate for out-of-network services, the consumer will be responsible for 15% of the total allowed amount for the out-of-network care.[15]

The requirement does not address the plan deductible or out-of-pocket limits. Therefore, if a plan has separate deductibles and out-of-pocket limits for in-network and out-of-network services, then the plan may require that consumer payments for out-of-network emergency services be applied to these out-of-network amounts. As a result, although a consumer would be subject to in-network co-payment amounts or coinsurance rates, the consumer may still be responsible for greater cost sharing than if the payments for the services were applied to the in-network deductible and out-of-pocket limit.

The requirement does not limit a provider from balance billing the consumer after receiving consumer cost-sharing and insurer payment amounts.

Ancillary Provider Services

Individual-market and small-group plans must adhere to network adequacy standards in order to be sold on an exchange. As part of these standards, plans with provider networks must count consumer cost sharing for an essential health benefit furnished by an out-of-network ancillary

[12] If there is no per-service amount negotiated with in-network providers (such as under a capitation or other similar payment arrangement), this amount is disregarded and insurers determine an appropriate total allowed amount based on the other two factors. 45 C.F.R. §147.138(b)(3)(i)(A).

[13] 45 C.F.R. §147.138(b)(3). The *greatest-of-three* payment standard does not apply in cases where state law prohibits a consumer from being balanced billed or where the issuer is contractually responsible for such amounts. 45 C.F.R. §147.138(b)(3)(iii).

[14] 42 U.S.C. §300gg-19a(b)(1)(C)(ii)(II) and 45 C.F.R. §147.138(b)(3).

[15] In the event that the total allowed amount determined in accordance with 45 C.F.R. §147.138(b)(3) is larger than the negotiated rate for in-network services, the consumer would pay a larger amount for the out-of-network services as compared with the in-network services, even though the coinsurance rate would be identical. The opposite would be true should the total allowed amount determined in accordance with 45 C.F.R. §147.138(b)(3) be smaller than the negotiated rate for in-network services.

provider at an in-network facility toward the consumer's in-network out-of-pocket maximum, unless the plan provides a notice to the consumer prior to the furnishing of such services.[16]

State Requirements

Although there are no federal requirements that directly address surprise billing, at least half of states have implemented policies to address some form of surprise billing. As of July 2019, 26 states had addressed surprise billing for emergency department services and 19 states had addressed surprise billing for nonemergency care at in-network hospitals.[17] State policies to address surprise bill vary and, as a result, have created different sets of requirements on insurers and providers to establish different sets of protections for consumers. However, state surprise billing laws are consistent in that they do not apply requirements to self-insured plans (see text box below).

Federal and State Regulation of Insurance

States are the primary regulators of the business of health insurance, as codified by the 1945 McCarran-Ferguson Act. Each state requires insurers to be licensed in order to sell health plans in the state, and each state has a unique set of requirements that apply to state-licensed issuers and the plans they offer. State oversight of health plans applies only to plans offered by state-licensed issuers. Because self-insured plans are financed directly by the plan sponsor, such plans are not subject to state law.

The federal government also regulates state-licensed insurers and the plans they offer. Federal health insurance requirements typically follow the model of federalism: federal law establishes standards, and states are primarily responsible for monitoring compliance with, and enforcement of, those standards. Generally, the federal standards establish a minimum level of requirements (*federal floor*) and states may impose additional requirements on insurers and the plans they offer, provided the state requirements neither conflict with federal law nor prevent the implementation of federal requirements. The federal government also regulates self-insured plans, as part of federal oversight of employment-based benefits. Federal requirements applicable to self-insured plans often are established in tandem with requirements on fully insured plans and state-licensed issuers. Nonetheless, fewer federal requirements overall apply to self-insured plans compared with fully insured plans.

Note: For an overview of the regulation of private health plans, see "Regulation of Private Health Plans" in CRS Report R45146, *Federal Requirements on Private Health Insurance Plans*.

Multiple research organizations have highlighted the differences among state policies. They have shown whether state surprise billing policies (1) determine the amounts or methodologies by which providers are paid by insurers and consumers for specified out-of-network services; (2) include transparency standards for providers and insurers (e.g., notification requirements on providers or requirements on insurers with respect to provider directory maintenance), (3) address different types of provider settings and services, and (4) address different types of plans (i.e., HMO or PPO).[18]

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[16] 45 C.F.R. §156.230. In general, health insurance plans offered through exchanges must be *qualified health plans* (QHPs). As defined in 42 U.S.C. §18021, a QHP is a plan that is offered by a state-licensed health insurance issuer that meets specified requirements, is certified by an exchange, and covers the essential health benefits (EHB) package. For more information on essential health benefits, see CRS In Focus IF10287, *The Essential Health Benefits (EHB)*.

[17] Maanasa Kona, The Commonwealth Fund, *State Balance Billing Protections*, July 31, 2019, at https://www.commonwealthfund.org/publications/maps-and-interactives/2019/jul/state-balance-billing-protections. Hereinafter Kona, *State Balance Billing Protections.*

[18] Kona, *State Balance Billing Protections*, Jack Hoadley, Sandy Ahn, and Kevin Lucia, The Center on Health Insurance Reforms, *Balance Billing: How Are States Protecting Consumers from Unexpected Charges?*, June 2019, at https://www.rwjf.org/en/library/research/2015/06/balance-billing—how-are-states-protecting-consumers-from-unexpe.html (hereinafter Hoadley, Ahn, and Lucia, *Balance Billing*), and National Academy of State Health Policy (NASHP), *Comprehensive State Laws Enacted to Address Surprise Balance Billing*, March 2019, at https://nashp.org/

The National Academy of State Health Policy (NASHP) examined the differences between the eight states with surprise billing laws. As an example of the variance between states, NASHP indicated that the eight states varied in terms of how the total allowable amount is set under the laws. Further, two states set payment standards based on a greater of multiple benchmark rates, one state sets payment standards based on a lesser of multiple benchmark rates, one state sets payment standards based on the *commercially reasonable value*, one state sets payment standards based on the rates set under a regulatory authority within the state, and four states create a dispute-resolution process to resolve surprise balance bills.[19]

In addition to the often-discussed out-of-network emergency services provided in facilities and services provided by out-of-network providers at in-network facilities, some states have attempted to regulate ground and air ambulance surprise billing, albeit to a lesser extent.[20] Although states have attempted to regulate air ambulances, they have been limited in their ability to do so as a result of the Airline Deregulation Act of 1978 (P.L. 95-504), which preempts state regulation of payment rates for certain air transportation carriers (including air ambulances).[21]

Policy Considerations

Federal surprise billing proposals, like state laws, typically seek to address the current financial relationships between insurers, providers, and consumers for certain services. In doing so, the proposals generally would establish new requirements on insurers, providers, or both in specified billing situations to create a degree of consumer protection.

As an example, requirements on insurers may address how the insurer pays for specified services or what consumer cost-sharing requirements would be under specified plans. Requirements on providers may address the extent to which providers may balance bill consumers. Requirements on both entities may establish the terms under which insurers and providers participate in alternative dispute resolution processes (e.g., arbitration) to determine the amount providers are paid by insurers and consumers for surprise bills.

Surprise billing can be addressed in a variety of ways, and the following sections discuss questions policymakers may want to consider when evaluating these different approaches. The following policy discussions are examples of the types of questions policymakers may want to consider when evaluating surprise billing proposals and should not be treated as an exhaustive list.

Furthermore, due to the development, introduction, and modification of numerous federal proposals on this topic during the 116th Congress, the policy discussions in this section of the report generally do not include specific references to any current or historical federal proposals.

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wp-content/uploads/2019/03/Surprise-Billing-Laws-Chart-final-for-pdf-3.14.19.pdf (hereinafter NASHP, *Comprehensive State Laws*).

[19] NASHP, *Comprehensive State Laws*.

[20] Adler, et al., *State Approaches*, p. 30.

[21] Of the four states that attempted to limit air ambulance balance billing, as identified by the Government Accountability Office (GAO) in its report on air ambulance private health insurance billing, three faced litigation regarding such laws and regulations. One case was dismissed for lack of subject matter jurisdiction, and the other two cases were decided with both state policies being preempted by the Airline Deregulation Act of 1978. GAO, *Air Ambulance: Available Data Show Privately-Insured Patients Are at Financial Risk*, March 20, 2019, p. 21, at https://www.gao.gov/assets/700/697684.pdf. Hereinafter, GAO, *Air Ambulance*.

The report references state surprise billing laws to provide examples and context, but such references should not be considered comprehensive references of *all* applicable state laws.

Although specific federal policies are not explicitly discussed in this section of the report, the report concludes with an **Appendix** that provides side-by-side summaries of the two surprise billing proposals from the 116th Congress that have passed through committee markups, both as part of larger bills. Specifically, the proposals included in the appendix are Title I of S. 1895 (Alexander), which went through a Senate Committee on Health, Education, Labor, and Pensions (HELP) markup session on June 26, 2019, and Title IV of the amendment in the nature of a substitute (ANS) to H.R. 2328, which went through a markup session held by the House Committee on Energy and Commerce on July 17, 2019.[22]

What Plan Types Could Be Addressed?

Federal private health insurance requirements generally vary based on the segment of the private health insurance market in which the plan is sold (individual, small group, large group, and self-insured).[23] Some requirements apply to all market segments, whereas others apply only to selected market segments.[24] For example, plans offered in the individual and small-group markets must comply with the federal requirement to cover the essential health benefits; however, plans offered in the large-group market and self-insured plans do not have to comply with this requirement.

States, in their capacity as the primary regulators of health insurance plans, can regulate fully insured plans in the individual, small-group, and large-group markets. States are not able to directly apply surprise billing requirements to self-insured plans, but certain state requirements may affect state residents enrolled in a self-insured plan. For example, at least one state (New Jersey) has allowed self-insuring entities to opt in to surprise billing requirements.[25]

Relatedly, state requirements on providers may affect consumers with self-insured coverage. For example, New York established an arbitration process for certain surprise billing situations, which applied to providers and fully insured plans. This arbitration process did not apply to self-insured plans. However, results from a National Bureau of Economic Research working paper suggest the policy affected consumers with both fully insured and self-insured plans. The authors hypothesized that because most providers were unaware of whether the consumer's plan was fully insured or self-insured, providers billed amounts that were "likely chosen to reflect the possibility of arbitration."[26]

In light of this example, to the extent that a federal proposal would establish requirements on providers for consumers enrolled in plans in a specific market segment (e.g., only self-insured

[22] The summary of Title IV of the amendment in the nature of a substitute (ANS) to H.R. 2328 in the **Appendix** also incorporates language from amendments to the ANS related to surprise billing, including the amendment to the ANS offered by Rep. Ruiz and Rep. Bucshon. A full list of all amendments can be found in the **Appendix** footnotes.

[23] For an overview of federal requirements on private health insurance plans, see CRS Report R45146, *Federal Requirements on Private Health Insurance Plans*.

[24] Consumers may have other types of private coverage (e.g., short-term, limited-duration insurance) that may not be subject to the same requirements applicable to individual, small-group, large-group, or self-insured plans.

[25] It is unclear the extent to which self-insuring entities within the state have opted in. P.L. 2018, Chapter 32, 218th Legislature (2018), New Jersey, at https://www.njleg.state.nj.us/2018/Bills/AL18/32_.PDF.

[26] Zack Cooper, Fiona Scott Morton, and Nathan Shekita, *Surprise! Out-Of-Network Billing for Emergency Care in the United States,* National Bureau of Economic Research, Working Paper no. 23623, July 2017, Revised January 2018 p. 32. Hereinafter, Cooper, Scott Morton, and Shekita, *Surprise!*

plans), providers may need to develop processes to determine whether a consumer has such a plan, as this information is not necessarily available to the provider when services are furnished. Broadly applying a provider requirement so that it addresses consumers enrolled in all types of health plans would minimize the potential that consumers inadvertently receive a surprise bill. Many federal proposals would be broadly applicable to self-insured and fully insured individual, small-group, and large-group private health insurance plans, though there has been some variance with respect to certain types of plans (e.g., Federal Employees Health Benefits [FEHB] Program plans).[27]

What Types of Services or Provider Types Could Be Addressed?

Federal surprise billing proposals from the 116th Congress have commonly focused on variants of two different types of services: (1) where an individual receives emergency services from an out-of-network provider and (2) where an individual receives services from an out-of-network provider that is working at an in-network facility.

For context on the prevalence of surprise billing, a recent study estimated that 20% of hospital inpatient admissions from an emergency department, 14% of outpatient visits to an emergency department, and 9% of elective inpatient admissions in 2014 were likely to produce surprise medical bills (i.e., were "cases in which one or more providers were out of network and the patient was likely to be unaware of the provider's status or unable to choose an in-network provider for care instead").[28] Another study found that the prevalence of similarly defined "surprise" out-of-network billing increased for emergency department visits and inpatient admissions between 2010 and 2016.[29]

Researchers have suggested that surprise billing tends to occur around these particular types of services due to a unique set of market forces that differentiate these services from how other services function within the provider-insurer-consumer relationship.[30]

Many providers decide to join an insurer's network (thereby accepting a lower negotiated rate for services) knowing that by doing so, the insurer will steer their enrollees toward in-network providers.[31] Insurers steer their enrollees toward in-network providers by limiting plan coverage to in-network providers only or providing more generous coverage for in-network providers as compared with other out-of-network providers (i.e., reduced cost sharing). This approach effectively disincentives consumers from seeking out-of-network care in most situations.

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[27] The Federal Employees Health Benefits (FEHB) Program provides health insurance to federal employees, retirees, and their dependents. For more information on this program, see CRS Report R43922, *Federal Employees Health Benefits (FEHB) Program: An Overview*.

[28] Christopher Garmon and Benjamin Chartock, "One in Five Inpatient Emergency Department Cases May Lead to Surprise Bills," *Health Affairs*, vol. 36, no. 1 (2017), at https://www.healthaffairs.org/doi/pdf/10.1377/hlthaff.2016.0970. Hereinafter, Garmon and Chartock, "One in Five." The authors looked at a nationwide claims database that included claims from 2007 to 2014 for individuals with employer-sponsored health insurance. Such data may not be representative of all private insurers.

[29] Eric C. Sun et al., "Assessment of Out-of-Network Billing for Privately Insured Patients Receiving Care in In-Network Hospitals," August 12, 2019. Hereinafter, Sun et al., "Assessment of Out-of-Network Billing." The authors looked at a nationwide health insurance claims database that included claims from 2010 to 2016 for individuals from all 50 states receiving private health insurance from a large commercial insurer. Such data may not be representative of all private insurers.

[30] Adler, et al., *State Approaches*, p. 4, and Cooper, Scott Morton, and Shekita, *Surprise!*, p. 3.

[31] Other market forces also affect a provider's decision to join a network (e.g., provider or insurer market concentration, reputational concerns).

However, in the aforementioned billing situations, consumers are not necessarily able to choose an in-network provider. For example, a consumer may be unconscious due to a medical emergency and unable to decide whether he or she wants to be seen by an in-network or out-of-network emergency provider. In this instance, the consumer may be taken to the nearest hospital emergency department (without consideration of network status of the hospital and/or the emergency department providers within the hospital). As another example, consumers may be able to select or seek out a particular in-network hospital or in-network surgeon for a specific procedure, but the consumers are unlikely to be able to select every provider participating in that specific procedure. This is especially true if the consumer is unaware of the need for additional assistance when he or she arranges the procedure.

Considering this, certain emergency and ancillary providers may have fewer incentives to join the network of a health insurer, since they are more likely to receive constant demand for their services regardless of network status and consumer choice. Instead, these provider types may find it more beneficial to stay out of network in order to be able to charge more for their services than the negotiated rate they would accept had they been considered in network.[32]

However, surprise billing is not limited to the aforementioned situations. It can occur in other situations (e.g., ambulance services or in situations where an in-network physician sends a consumer's lab test to an out-of-network lab).[33]

Some federal surprise billing proposals address air ambulance services, albeit fewer than address emergency services and services provided by out-of-network providers at in-network facilities. Air ambulances are similar to the previously discussed situations in that consumers often are not able to choose an in-network air ambulance due to the urgency associated with the request for services. In addition, the "relative rarity and high prices charged [by air ambulance providers] reduces the incentives of both air ambulance providers and insurers to enter into contracts with agreed-upon payment rates."[34] For context, the Government Accountability Office found, as a result of its analysis of FAIR Health claims data, that 69% of air ambulance transports for privately insured consumers were out of network.[35]

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[32] Researchers have hypothesized that one of the largest emergency department physician staffing companies (TeamHealth) has leveraged its ability to go out of network to facilitate higher in-network payment rates for services during negotiations with insures. TeamHealth, along with another large emergency department physician staffing company, EmCare, which has a high rate of out of network billing according to researchers, were both recently acquired by private equity firms and were explicitly identified in a press release announcing the launch of a congressional investigation into private equity firms' role in surprise billing. Cooper, Scott Morton, and Shekita, *Surprise!,* p. 25. House Committee on Energy and Commerce, "Pallone and Walden Launch Bipartisan Investigation into Private Equity Firms' Role in Surprise Billing Practices," press release, September 16, 2019, at https://energycommerce.house.gov/newsroom/press-releases/pallone-and-walden-launch-bipartisan-investigation-into-private-equity-firms.

[33] For research on the prevalence of surprise medical billing among different specialties, see Kevin Kennedy, Bill Johnson, and Jean Funglesten Biniek, "Surprise Out-of-Network Medical Bills During In-Network Hospital Admissions Varied by State and Medical Specialty, 2016," *#HealthyBytes* (blog), Health Care Cost Institute, March 28, 2019, at https://www.healthcostinstitute.org/blog/entry/oon-physician-bills-at-in-network-hospitals; and Sun et al., "Assessment of Out-of-Network Billing."

[34] GAO, *Air Ambulance*, p. 8.

[35] GAO acknowledges that its findings "reflect the subset of transports in the FAIR Health data set with information on network status." FAIR Health is an "independent, nonprofit organization that collects data [from private insurers] for and manages a database of private health insurance claims data." The FAIR Health data set may not be representative of all private insurers. GAO, *Air Ambulance*, p. 16.

In conclusion, surprise billing proposals may address one or multiple different types of situations. To the extent that the proposals address multiple situations, they may treat such situations similarly or may apply different types of requirements to each situation.

How Could a Proposal Address Consumer Protections?

In surprise billing situations, the consumer is typically the one being surprised. Correspondingly, proposals seeking to address surprise billing situations generally include provisions that would establish consumer protections.

Most federal surprise billing proposals from the 116th Congress generally address consumer financial liabilities in these situations. Generally, they do so by tying consumer cost sharing (in some capacity) to what cost sharing would be had specified services been provided in network and by limiting the extent to which consumers can be balance billed for specified services.

In addition, some federal proposals incorporate various requirements designed to inform consumers so they can make more informed choices about seeing in-network or out-of-network providers. In current federal proposals, this has most commonly taken the form of consumer notification requirements, which are designed to inform the consumer, prior to receiving out-of-network services, that he or she might be seen by an out-of-network provider (among other pieces of information). Some federal proposals link such notification requirements with consumer financial protections, so that the consumer financial protections would not apply in instances where notification requirements were satisfied (e.g., a consumer may be balanced billed only if the provider satisfied consumer notification requirements).

The aforementioned financial protections and notification requirements typically are established by creating requirements on insurers, providers, or both. They may take a variety of forms, as discussed in the subsequent sections.

What Could Be the Consumer's Financial Responsibility in Surprise Billing Situations?

As stated in the "Private Health Insurance Billing Overview" section, privately insured consumers may be liable for three types of consumer financial responsibilities when receiving services: cost sharing, balance bills, and other consumer costs. In out-of-network situations, consumers with plans that cover out-of-network benefits would potentially be responsible for consumer cost sharing and balance bills, whereas consumers with plans that do not cover out-of-network benefits would be responsible for other consumer costs.

Surprise billing requirements may address any combination of these three consumer financial responsibilities (cost sharing, balance billing, and other consumer costs), which would have direct implications on the total amount that consumers pay, and the total amount that providers receive as payment, for these services.[36] Cost-sharing and balance billing requirements would affect those

[36] Restrictions on the total consumer liability in certain billing situations would not necessarily mean that the provider would receive an offsetting amount from a consumer's plan (i.e., that the total amount the provider received for such services would be equal to what he or she would have received under current law). Therefore, surprise billing proposals that include consumer financial protections also generally include provisions that would address the amount providers would receive for such services (e.g., by incorporating a benchmark payment for services, by incorporating an arbitration process that would be used to determine payment for such services). In other words, most surprise billing proposals effectively specify how the costs associated with a reduced consumer payment should be shared between the consumer, insurer, and provider. Such considerations are discussed further in "How Could a Proposal Address Insurer

consumers with plans that cover services provided by out-of-network providers, whereas other consumer cost requirements would affect insured consumers with plans that do not cover services provided by out-of-network providers.[37] The following sections discuss how surprise billing requirements associated with each of these financial responsibilities may be structured.

Cost Sharing

Consumer cost sharing for specified out-of-network services could be limited by defining, through requirements on plans, consumer cost-sharing rates for out-of-network services. Most federal proposals generally include cost-sharing requirements that tie cost sharing (in some capacity) to corresponding in-network requirements. One study of state-level surprise billing laws indicated that state-level laws generally included similar cost-sharing requirements.[38] Although it has been common to tie out-of-network cost sharing to in-network requirements (e.g., the same co-payment amount or the same coinsurance percentage) for certain services, cost sharing could be tied to any rate or amount.

Cost-sharing requirements do not need to apply to deductibles, coinsurance rates, co-payment amounts, *and* out-of-pocket limits. For example, under current federal law, when a consumer receives emergency care from an out-of-network provider, the cost-sharing requirement, expressed as a co-payment or coinsurance rate, is limited to the in-network amount or rate of the consumer's health plan.[39] Cost sharing does not address the plan deductible or out-of-pocket maximum. Therefore, under this requirement, insurers may apply out-of-network deductibles and out-of-pocket maximums for emergency services if such cost-sharing requirements generally apply to out-of-network benefits, which could increase the amount owed by the consumer as compared with a requirement that aligned the deductible, co-payment amount, coinsurance rate, and out-of-pocket limit.

Cost-sharing requirements do not necessarily specify the total *dollar amount* that a consumer pays for out-of-network services. For example, coinsurance is based on a percentage of the amount recognized by the insurer as the total cost of care.[40] Therefore, the total cost-sharing dollar amount a consumer ultimately pays for care also may be influenced by any provisions that establish methodologies for determining the total cost of care for specified surprise billing situations.

Balance Billing

Establishing limitations on cost-sharing requirements alone does not prohibit or limit the extent to which a consumer may be balance billed (in instances where the plan covers out-of-network services).[41] Therefore, if policymakers were interested in defining the extent to which a provider may balance bill a consumer (if at all), such language also would need to be included. Requirements that insulate consumers from balance billing may be placed on providers or

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and Provider Financial Responsibilities in Surprise Billing Situations?"

[37] For example, a proposal could address only plans that cover out-of-network care (i.e., the proposal would not address other consumer costs), as is the case with some surprise billing protections in Arizona. Kona, *State Balance Billing Protections.*

[38] NASHP, *Comprehensive State Laws.*

[39] 42 U.S.C. §300gg-19a(b)(1)(C)(ii)(II) and 45 C.F.R. §147.138(b)(3)(ii).

[40] For out-of-network services, this amount is referred to as the *total allowed amount*. See "Insurer Pays for Out-Of-Network Services."

[41] Balance billing does not occur when insurers do not contribute any amount toward an out-of-network service.

insurers. For example, language may explicitly prohibit, fine, or limit the extent to which a provider can directly balance bill a consumer. By contrast, language may require insurers to "hold the consumer harmless" and pay the provider "their billed charges or some lower amount that is acceptable to the provider."[42] From the consumer's perspective, both types of requirements would have similar effects, in that both requirements would result in the consumer only being responsible for paying the cost sharing associated with the service.

According to one study of state-level surprise billing laws, 28 states had incorporated provisions (as of July 31, 2019) that insulated consumers from certain balance bills through requirements on insurers, providers, or both.[43]

Other Consumer Costs

Surprise billing proposals may be structured so that consumers with a plan that does not cover out-of-network services (e.g., HMO) are treated differently in surprise billing situations than consumers with plans that do cover out-of-network services (e.g., PPO).[44] For example, a surprise billing proposal may be structured so it applies only to consumers with plans that cover out-of-network benefits (i.e., it would not address other consumer cost situations).[45] In other words, this type of policy could reduce a consumer's financial liabilities in surprise billing situations if the consumer were enrolled in a plan with out-of-network benefits, but it would not address the consumer's financial liabilities if the consumer were enrolled in a plan that does not cover out-of-network benefits.[46]

Alternatively, proposals may define the financial liability individuals face for receiving out-of-network care while enrolled in a plan that does not cover out-of-network benefits. Such requirements would effectively define the other consumer cost (i.e., the total cost of care) and could incorporate similar methodologies used in other surprise billing laws (e.g., benchmark). Without any additional requirements, the consumer would still be responsible for the entire other consumer cost.

Proposals also could include provisions that require insurers to cover a portion of the other consumer cost, effectively requiring the consumer's plan to cover that particular benefit.[47] This could occur because of language that explicitly requires plans to cover a particular benefit or defines the amount that a plan must contribute for specified services.[48]

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[42] Hoadley, Ahn, and Lucia, *Balance Billing*, p. 6.

[43] Kona, *State Balance Billing Protections*.

[44] Under current law, plans that cover emergency services are required to contribute some amount to a provider that furnishes out-of-network emergency services to a consumer, even if it would not contribute any amount for services furnished by other types of out-of-network service providers. Therefore, emergency service cost-sharing requirements and balance billing restrictions would apply to all plans that cover emergency services, regardless of whether the plan would cover any other out-of-network services. See "Emergency Services" and 42 U.S.C. §300gg-19a.

[45] For example, Arizona's surprise billing arbitration process does not apply to health plans that exclude out-of-network coverage. Arizona Department of Insurance, *Surprise Out-of-Network Bill Dispute Resolution*, at https://insurance.az.gov/soonbdr.

[46] Under current law, consumers with plans that cover out-of-network benefits generally pay less out-of-pocket for out-of-network services than consumers enrolled in plans that do not cover out-of-network services.

[47] Using **Figure 1** as an example, this would effectively make column 3 situations function similar to column 2 situations, though other requirements in the proposal may limit the extent to which a provider may balance bill.

[48] For an example of explicit language, see 42 U.S.C. §300gg-19a(b)(1)(B) and "Emergency Services."

Excluded Services

Although other consumer costs are generally referenced throughout this report in the context of network status, a consumer also may be in an *other consumer cost* situation if they receive a service that is not covered by the plan (i.e., receive an *excluded service*). Regardless of whether the consumer received the excluded service from an in-network provider, the consumer generally would be responsible for the full cost of care. Surprise billing proposals could apply protections only to covered services or could be applicable more broadly (e.g., to all specified services, without reference to whether the plan covers such services).

To date, many federal surprise billing proposals have addressed other consumer costs by requiring insurers to cover a portion of such costs. Many federal proposals have done this by making surprise billing provisions that limit consumer costs in surprise billing situations to a specified amount (e.g., in-network cost sharing) and require insurers to contribute some amount to providers applicable to all plans, irrespective of whether a plan would cover such out-of-network service.

What Kind of Information Could Be Provided to the Consumer Prior to the Receipt of Services?

Because surprise billing may occur when a consumer is *unknowingly* treated by a provider outside of the consumer's health insurance plan's network, surprise billing proposals may include a variety of requirements that would seek to provide consumers with more information about the providers in their network and/or the care they are to receive in order to make an informed decision about their medical care providers. Such requirements alone would not eliminate surprise billing but could reduce the prevalence of *unexpected* out-of-network use, which in turn would decrease the prevalence of surprise billing.[49]

The effectiveness of such provisions in reducing surprise billing is tied to the extent to which consumers can use the new information to decide whether to receive services from an out-of-network provider (e.g., consider information utilization in emergency situations).

Notification

In the surprise billing context, consumer notifications typically are discussed as a way to provide various pieces of information (e.g., about provider network status and estimates of related financial responsibilities) to consumers prior to the receipt of services so consumers can make informed decisions about their medical care providers. This type of requirement can apply to insurers, providers, or both.

If considering a notification requirement, policymakers may want to identify what information should be included within a notification requirement. For example, the notification may be structured to include the provider's and/or facility's network status, the estimated costs of the services, the provider's ability to bill the consumer for amounts other than plan cost-sharing amounts, or any other piece of information that policymakers feel needs to be provided to consumers.[50] In addition, policymakers may want to address who is responsible for providing the notice to the consumer (i.e., insurer or provider), when the notice must be provided to the consumer, and if and when the consumer must provide consent to the notice.

[49] Although such requirements may reduce the prevalence of surprise billing, consumers who receive out-of-network care, expectedly or unexpectedly, still may be balance billed or responsible for other consumer costs.

[50] Many states require insurers to provide consumers with information in plan summaries regarding the financial consequences of going out of network. Hoadley, Ahn, and Lucia, *Balance Billing*.

Notice requirements should account for any limitations on the types of services and settings that would be subject to such requirement and the consumer's ability to use (and, where applicable, consent to) such information (e.g., emergency situations or complications mid-procedure). Furthermore, any notification requirement should account for whether the insurer or provider subject to the notification requirement has access to the information that is required to be included in the notice.

A notification requirement may be coupled with consumer financial liability protections. For example, some federal proposals apply consumer financial liability protections in some surprise billing situations (e.g., non-emergent care) only when a provider does not adhere to a corresponding notification requirement.

Provider Directories

Provider directories contain information for consumers regarding the providers and facilities that are in a plan network. Provider directory requirements may fall on insurers and providers.[51] Insurers typically are responsible for developing and maintaining the directory; however, the information used to populate the provider directory typically comes from the providers.

If considering provider directory requirements, policymakers may want to identify what information is included in the directory, how the information is made available to the consumer (e.g., posted on a website), and how often the directory needs to be updated or verified.

A provider directory requirement may be coupled with consumer financial liability protections. In these instances, policymakers may consider how financial liability protections would interact with provider directory requirements. For example, financial liability protections could be limited to situations where a consumer receives services from a provider based on incorrect provider directory information.

What Types of Requirements Could Be Placed on Insurers, Providers, or Both?

In considering surprise billing proposals, there has been debate around how to shield consumers from receiving unexpected and likely large bills from out-of-network providers that the consumer did not have the opportunity to choose while balancing the impact of establishing a method for ensuring payment for those services. Proposals to address surprise billing situations have generally sought to address the lack of a contractual relationship between insurers and out-of-network providers by establishing standards for determining the total provider payment and the insurer payment net of specified consumer cost sharing. Other methods have sought to create network requirements that would reduce the probability that a consumer would be treated by an out-of-network provider at an in-network facility.

The following sections will discuss these different types of requirements.

How Could a Proposal Address Insurer and Provider Financial Responsibilities in Surprise Billing Situations?

As discussed in the "Private Health Insurance Billing Overview" section, in general, payment for out-of-network services depends on whether the plan covers out-of-network benefits. Regardless

[51] There are some existing federal private health insurance provider directory requirements, which apply to insurers offering plans on exchanges. 45 C.F.R. 156.230(b).

of whether or not a plan provides out-of-network benefits, there is no contract establishing a set payment rate between an insurer and an out-of-network provider. If an insurer provides out-of-network benefits, the insurer determines the amount it will pay and the provider can balance bill consumers. If an insurer provides no out-of-network benefits, the insurer will not pay anything toward the out-of-network service. Both scenarios are subject to state and federal law that may define the amount insurers pay out-of-network providers in certain situations (e.g., federal requirements related to emergency services, state surprise billing laws).

Most federal proposals in the 116th Congress to address surprise billing situations include provisions establishing methodologies for determining how much insurers must pay out-of-network providers in specified surprise billing situations. To date, proposals have focused on two main methods for determining the financial responsibility of insurers. One approach has been to select a benchmark payment rate that would serve as the basis for determining a final payment amount that a provider must be paid for a service. The other approach has been to establish an alternative dispute resolution process, such as arbitration, with provider payment determined by a neutral third party.[52] The final payment amount determined by either approach may affect consumer cost sharing to varying degrees based on a consumer's plan. For example, under a plan that has a coinsurance to determine a consumer's cost sharing for a service, rather than a co-payment, the amount that the consumer would be responsible for would depend on the final payment rate for a service.

In addition to discussing the benchmark and arbitration approaches, this section includes a discussion on using a *bundled payment approach*. In this approach, an insurer makes one payment (net of cost sharing) to a facility, and that facility then is responsible for paying providers practicing within the facility. Following that discussion will be a section on the possibility of establishing network requirements to address surprise billing situations, including network matching.

When considering a proposal that establishes a method for determining payment rates, policymakers may want to consider a number of factors; these factors include, but are not limited to, the potential effects on the financial viability of providers and the financial impact on health insurers, which in turn may affect health insurance premiums. This may include consideration of the cost and burden associated with establishing payment rates and the predictability of each method for determining payment rates. In addition, policymakers may want to consider the extent to which these payment models would apply uniformly to all types of plans, services, and/or providers. The various options all have trade-offs, and the relative effect of a given proposal on providers and insurers might vary depending on the local health care market structure. A full assessment of the different choices is beyond the scope of the report.

Policy solutions for surprise billing situations that involve setting out-of-network payment rates may have secondary effects that result from potential changes in relative leverage between insurers and providers. For example, a proposal that would establish higher out-of-network rates than in-network rates previously agreed upon between providers and insurers for certain services may encourage some providers to go out of network or remain out of network to obtain the higher rate. This may lead insurers to raise in-network rates for these services to incentivize providers to join networks. If this response subsequently leads to higher average in-network rates as well as out-of-network rates (along with increased out-of-network coverage), then it may result in higher premiums in the market. Conversely, if the proposal lowers out-of-network payment rates below

[52] With respect to alternative dispute resolution, this report will focus on arbitration. Another type of alternative dispute resolution is mediation. The state of Texas passed a law that requires providers and insurers to use a mediation process to settle payment disputes for surprise bills over $500.

in-network rates previously agreed upon between providers and insurers, the proposal may increase the amount of leverage insurers have when negotiating with providers for network inclusion, creating downward pressure on in-network payment rates.

Benchmark Approach

Federal surprise billing proposals that use a benchmark approach involve tying payment to a reference price, such as Medicare rates or market-based private health insurer rates. A benchmark-based surprise billing proposal would be structured to specify one or more benchmarks and a methodology for calculating a final payment rate.[53]

Medicare as a Benchmark

Some recent federal proposals would require insurers to pay an out-of-network provider a rate tied to the payment for that service under Medicare. Studies have shown that Medicare rates for physician services provided by specialists most often involved in surprise billing situations (e.g., pathology, anesthesiology, radiology) generally are lower than commercial rates paid by insurers in the private health insurance markets.[54] Policymakers seeking to adjust for the differences between Medicare and commercial rates may structure payment as a percentage of Medicare rates. For example, some surprise billing state laws establish private health insurance rates for certain services at Medicare plus an added percentage.[55]

Market-Based Benchmark

As compared with a Medicare benchmark approach, a market-based benchmark approach may raise different questions that need to be considered in order to determine the most appropriate reference price on which to base payment. Determining the market data that will provide the foundation for a benchmark for out-of-network payment rates is critical, as the effect may go beyond setting out-of-network payment rates. The distribution of data, which can vary, may have an anchoring effect on the negotiation of in-network payment rates. For example, a proposal that relies on a benchmark that would result in out-of-network payment rates below current in-network payment rates for some providers may shift the negotiating leverage in favor of insurers, which may then use the threat of the lower out-of-network rate to negotiate lower in-network rates. If a proposal results in higher out-of-network payment rates than in-network payment rates for some providers, the leverage to negotiate will shift toward providers, who may demand higher in-network payment rates.

Policymakers may need to decide whether to base the benchmark on provider charges or insurer payment rates. Provider charges are the amounts that providers charge a consumer and/or insurer for a furnished service. These amounts generally will be higher than the negotiated amounts, because they do not include any discount negotiated between insurers and providers. There are no

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[53] The Massachusetts Health Policy Commission evaluated Massachusetts claims data to produce a study that illustrates how payments to Massachusetts providers for certain services would vary under different benchmarks. Massachusetts Health Policy Commission, *The Price is Right? Variation in Potential Out-of-Network Provider Payment Benchmarks*, August 14, 2019, at https://www.mass.gov/files/documents/2019/08/12/Datapoints_OON.pdf.

[54] Daria Pelech, *An Analysis of Private-Sector Prices for Physicians Services*, Congressional Budget Office, Working Paper 2018-01, January 2018, at https://www.cbo.gov/publication/53441, Erin Trish et al., "Physician Reimbursement in Medicare Advantage Compared with Traditional Medicare and Commercial Health Insurance," *JAMA Internal Medicine*, vol. 177, no. 9 (September 2017), pp. 1287-1295, at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5710575/.

[55] As an example, the state of California established a payment standard requiring insurers to pay the greater of the average contracted rate for a service or 125% of Medicare.

federal proposals that rely on provider charges as a benchmark for setting payment for services provided by out-of-network providers. There are federal proposals using a benchmark approach that rely on private insurer in-network payment rates.

Insurer payment rates could be specified as an insurer's *usual, customary, and reasonable* (UCR) rates or as an insurer's in-network contracted rates. UCR rates are a method that insurers use to determine payment to providers for out-of-network services if a plan provides out-of-network benefits. Insurers have discretion over how UCR rates are calculated, and such determinations vary from insurer to insurer. In-network contracted rates are the payment rates determined either through negotiation between insurers and providers for in-network services or based on a fee schedule developed by an insurer; a provider must agree to this fee schedule for inclusion in the insurer's network.

Once policymakers establish whether a proposal uses provider charges or insurer payment rates, they may specify a methodology for determining the final payment rate. For example, a policy proposal may specify a mean, a median, a percentage, or a percentile of the benchmark rate. The most appropriate metric will depend on the underlying distribution of the benchmark data being used and how the resulting payment rate compares with current in-network and out-of-network rates.[56]

To the extent that a benchmark is based on market-based rates, policymakers may want to consider whether to limit the rates included in the benchmark to a specific geographic area to account for the variations in the underlying cost of health care services in different communities. However, a geographic region that is too large may not account for the discrepancies between markets within the region—for example, rural and urban health care costs—and a geographic region that is too small may result in situations where only one particular provider or insurer is included.

Policymakers also may want to consider whether to set a benchmark based on current payment data or on historical payment rates combined with an inflation factor. Using historical rates may mitigate potential fluctuations in in-network rates in response to implementing a surprise billing approach, including changes in network strategies by insurers or providers looking to influence future payments. However, using historical rates may not, depending on the data used, account for material changes in a local health care market (e.g., changes in technology, market consolidation, etc.).

Finally, there may be situations in which an insurer does not have the appropriate data to determine payment rates under a market-based benchmark. For example, an insurer that is a new entrant to a market will not have established in-network payment rates for past years. In such a case, the new entrant may have to rely on public or privately run databases that aggregate payment rate data of other insurers in a market to determine an average in-network rate for a particular provider type in a particular geographic area. Given such a situation, policymakers may want to consider whether to specify a source of data, whether public or private, for reference prices an insurer may use to calculate payment rates or a set of standards for databases that an insurer may use to establish payment rates. The quality and breadth of the data may affect the degree to which reference prices accurately represent the market and population. Currently, there is no universal source of data for all market types and insurers. Some states operate all-payer claims databases (APCDs); of the states that have APCDs, a subset of the APCDs are voluntary

[56] Massachusetts Health Policy Commission, *HPC Datapoints: The Price is Right? Variation in Potential Out-of-Network Provider Payment Benchmarks*, August 14, 2019.

initiatives that may not collect data from all insurers in the state.[57] However, state APCDs cannot require the collection of data from self-insured group health plans.[58]

Multiple Benchmarks

Proposals may specify multiple benchmarks. In these types of proposals, multiple benchmarks may be used to establish guardrails (i.e., a floor or a ceiling) to counterbalance the potential anchoring effects of a single benchmark discussed earlier.

There are different methodologies for determining which benchmark would apply in a surprise billing situation. The methodology may involve choosing whether the payment should be based on the greatest or least among the various benchmarks. If using a *greatest of* approach, then the insurer would be responsible for paying a rate to a provider based on the benchmark that results in the highest payment rate among the various specified benchmarks. A *least of* approach would make an insurer responsible for paying a provider a payment rate that is based on the benchmark that results in the lowest payment rate among the various specified benchmarks. For example, an insurer may be required to pay a provider a percentile of UCR or, at a minimum, a percentage of Medicare.

Alternative Dispute Resolution

Some federal surprise billing proposals from the 116th Congress have considered an alternative dispute resolution process, such as arbitration. In an arbitration model, the provider and the insurer would submit proposals for payment amounts to a neutral third party. The third party would then determine, on a case-by-case basis, the total amount to be paid to the provider, which would include the insurer payment and the consumer cost sharing. The cost-sharing parameters would be determined under the proposal, not by the arbitrator, and would depend on the cost-sharing structure of the consumer's health plan. However, the rate set by the arbitrator can affect the amount paid by the consumer. The arbitration model might provide more flexibility than the benchmark in that payment would not be fixed based on a reference price. However, it might involve more administrative costs to determine payment rates on a case-by-case basis and would provide less predictability regarding payment rates for out-of-network services.

As arbitration relies on a third party to decide payment, proposals typically establish criteria for determining who may act as an arbitrator. Criteria may include a conflict-of-interest standard to ensure the third party does not have an interest in the process's outcome.

Policymakers also may want to consider whether to establish standards for when insurers or providers may elect arbitration. Standards may be structured to require a minimum amount of time after a provider has billed for a service before either the provider or the insurer may seek arbitration to settle a payment dispute. This approach would afford providers and insurers an opportunity to negotiate a payment rate.

In addition to a time requirement, policymakers seeking to limit resources expended on arbitration may consider establishing a threshold requirement to prohibit providers and insurers from seeking arbitration for charges under a certain dollar amount. If a proposal does not include a threshold requirement, then providers and insurers would be able to seek arbitration for any surprise billing payment dispute. The requirement may be structured to provide a specific

[57] Not all states have established state all-payer claims databases (APCDs). All-Payer Claims Database Council, *Interactive State Report Map*, at https://www.apcdcouncil.org/state/map.

[58] States that have established APCDs do not collect data on plans preempted from state regulation by the Employee Retirement Income Security Act (ERISA). Gobeille v Liberty Mutual Insurance Co. 136 S. Ct. 936 (2016).

amount, which may include a method for adjusting the amount year to year to account for inflation. Alternatively, policymakers could choose to provide authority to agencies to establish a method for determining the threshold amount.

If a threshold requirement is set in a way that prohibits parties from seeking arbitration below a certain dollar amount, then policymakers may want to consider how to address payment for amounts under the threshold. A proposal could be structured to require insurers to pay any charges under the threshold amount, or a benchmark, as described earlier, could be used on a limited basis for any charged amounts under the threshold.

Once it is determined who may seek arbitration for a surprise billing dispute, policymakers may want to consider how to structure the arbitration process, including how an arbitrator decides payment. One possible approach, taken by the state of New York, would be to institute a baseball-style arbitration process in which each party submits its best and final offer to the arbitrator, who then decides which offer to accept as the final payment rate. Another possibility would be to provide the arbitrator with the flexibility to decide a final payment rate that may differ from the proposals submitted by the parties to the arbitration. Regardless of the flexibility given to the arbitrator, policymakers may want to consider specifying factors that the arbitrator should take into account when making a final decision.

Hybrid Approach

It is possible to combine the benchmark and arbitration approaches. For example, in response to stakeholder concerns regarding the use of particular methods for determining final payment amounts, some states and one federal proposal pair the use of a benchmark with the option of arbitration if either party is not satisfied with the payment rate established by the benchmark.[59] Another hybrid approach could involve establishing an arbitration process in which the arbitrator picks one amount from a list of benchmarks to establish a final payment rate.

Bundled Payment Approach

Some researchers have proposed a bundled payment approach as an alternative to establishing how much an insurer must pay directly to an out-of-network provider.[60] Instead of regulating the relationship between an insurer and the out-of-network provider, a bundled payment approach would focus on the insurer and the facility in which the service was provided. An insurer would make one payment to the facility, after which the facility would be responsible for paying providers for services provided in the facility. Instituting a bundled payment would shift the onus from the out-of-network provider to the facility to negotiate with the insurer for a bundled rate. It would then be the facility's responsibility to negotiate with the providers for payment of services provided within the facility. Currently, no federal proposals or state laws use a bundled payment approach to address surprise billing.

[59] The federal proposal is Title IV of the Amendment in the Nature of a Substitute to H.R. 2328 (as offered by Rep. Pallone), 116th Cong. (2019). Jack Hoadley, Kevin Lucia, and Maanasa Kona, *States Are Taking New Steps to Protect Consumers from Balance Billing, But Federal Action is Necessary to Fill Gaps*, The Commonwealth Fund, at https://www.commonwealthfund.org/blog/2019/states-are-taking-new-steps-protect-consumers-balance-billing-federal-action-necessary.

[60] Cooper, Scott Morton, and Shekita, *Surprise!*

How Could a Proposal Address Network Requirements?

An alternative to focusing on payment for out-of-network services would be to reduce the probability that consumers would inadvertently receive care from out-of-network providers. An alternative to setting a benchmark or establishing an arbitration process would be to set network requirements.

Network Adequacy Requirements

Network adequacy is a measure of a plan's ability to provide access to a sufficient number of in-network providers, including primary care and specialists. In the individual and small-group markets, states have been the primary regulator of plan networks and have network adequacy standards for most health insurance plans. The ACA created a federal network adequacy standard.[61] However, the federal government defers to states to enforce network adequacy standards.[62] Self-insured plans are not subject to network adequacy standards.

Instituting stricter network adequacy standards (i.e., requiring plan networks to include a larger number of providers of varying types) may not address all surprise billing situations. Unless network adequacy standards require all providers to be in network, they do not guarantee that insurers will contract with every provider that a consumer may see, especially in situations where a consumer travels outside the plan's service area.[63]

Network Matching

Some researchers have proposed another network-based approach, referred to as *network matching*, which would involve the creation of an in-network guarantee to address surprise billing situations in which consumers receive care from out-of-network providers in in-network facilities.[64] An in-network guarantee would ensure that a facility and the providers practicing in that facility contract with the same insurers to be included in the same networks. However, surprise bills might still occur in the case of emergency services, when consumers may not have the option to choose an in-network facility, especially when a consumer travels outside the service area of his or her health plan. No current federal proposals or state laws use a network matching approach to address surprise billing.

An in-network guarantee could be structured in a few ways. Policymakers could create an in-network guarantee that applies to insurers and would prohibit insurers from contracting with a facility unless the facility guaranteed that all providers practicing in the facility would contract to be in the same networks as the facility.

Another way to structure an in-network guarantee would be to prohibit the insurer from paying out-of-network providers for any services provided to the consumer in an in-network facility.

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[61] 45 C.F.R. 156.230.

[62] CMS, *2019 Letter to Issuers in the Federally Facilitated Exchanges*, April 9, 2018, at https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/2019-Letter-to-Issuers.pdf.

[63] Garmon and Chartock, "One in Five." Munira Z. Gunja et al., *Americans' Experiences with ACA Marketplace Coverage: Affordability and Provider Network Satisfaction*, The Commonwealth Fund, July 2016, at https://www.commonwealthfund.org/sites/default/files/documents/___media_files_publications_issue_brief_2016_jul_1883_gunja_americans_experience_aca_marketplace_affordability_v2.pdf. Mark A. Hall and Paul B. Ginsburg, *A Better Approach to Regulating Provider Network Adequacy*, USC-Brookings Schaeffer Initiative for Health Policy, September 2017, at https://www.brookings.edu/wp-content/uploads/2017/09/regulatory-options-for-provider-network-adequacy.pdf.

[64] Loren Adler, Matthew Fielder, and Benedic Ippolito, "Network Matching: An Attractive Solution to Surprise Billing," *Health Affairs*, May 29, 2019, at https://www.healthaffairs.org/do/10.1377/hblog20190523.737937/full/.

When paired with a prohibition on balance billing, a provider that was previously not incentivized to be in network because of the possibility of higher out-of-network payments might be incentivized to negotiate with an insurer to be included in plan networks to obtain payment beyond consumer cost sharing.

How Could Surprise Billing Requirements Be Enforced?

To the extent a surprise billing proposal imposes any prohibitions or affirmative obligations on the insurer, the provider, or both, a question remains as to how to enforce any such limits or requirements. The current legal framework for enforcing discrete requirements for insurers and providers may be a template for Congress to consider when drafting surprise billing legislation. Potential enforcement mechanisms include authorizing the Secretary of Health and Human Services (HHS) and/or the Secretary of Labor—depending on the plan type[65]—to bring enforcement actions or allowing private entities to seek a right of action in a court against a regulated entity.[66] An enforcement scheme also may attach specified statutory penalties to a violation of the statute.[67] Depending on whether a surprise billing proposal amends an existing statute, these options may be included as the principal enforcement mechanism or could be added to supplement any existing enforcement schemes.

Current Enforcement Mechanisms on Private Health Insurance Issuers

A number of federal surprise billing proposals would amend provisions (including the emergency services provision) under Part A of Title XXVII of the Public Health Service Act (PHSA).[68] This part of the PHSA, as amended by the ACA, was incorporated by reference into Part 7 of the Employee Retirement Income Security Act (ERISA) and Chapter 100 of the Internal Revenue Code (IRC).[69] As a result, these three statutes' existing enforcement mechanisms may be relevant to any additional prohibitions or requirements added to Part A of Title XXVIII of the PHSA by a surprise billing proposal. Existing enforcement provisions under these statutes currently apply only to insurers and not to providers.[70]

Public Health Service Act

In general, the existing enforcement provisions for Title XXVII of the PHSA's requirements apply to health insurance issuers in the group and individual markets and to self-funded nonfederal governmental group plans.[71] With respect to health insurance issuers, states are the primary enforcers of the PHSA's requirements.[72] If the HHS Secretary determines that a state has

[65] The Department of Labor would be responsible for enforcing regulations on plans regulated under ERISA (i.e., self-funded plans). The Department of Health and Human Services (HHS) would be responsible for implementation and enforcement when regulating health plans under the Public Health Service Act (PHSA), including fully insured plans in the individual and small-group markets.

[66] See, for example, 42 U.S.C. §§1320a-7a(c) and 1395dd(d)(2).

[67] See, for example, 42 U.S.C. §1395dd(d)(1).

[68] See, for example, S. 3592, 115th Cong. (2018); S. 1531, 116th Cong. (2019).

[69] See 29 U.S.C. §1185d; 26 U.S.C. §9815.

[70] See 42 U.S.C. §300gg-22; 29 U.S.C. §1132; 26 U.S.C. §4980D.

[71] 42 U.S.C. §300gg-21(a)(1).

[72] 42 U.S.C. §300gg-21(a)(1). Title XXVII of the PHSA also applies to nonfederal governmental group plans. See §300gg-21(a)(2). The Secretary of HHS is the primary enforcer of the PHSA requirements as to these governmental plans. See §300gg-22(b)(1)(B). Prior to enactment of the ACA, these governmental plans could elect to exempt their

failed to substantially enforce a provision of Title XXVII of the PHSA with respect to health insurance issuers in the state,[73] or if a state informs the Secretary that it lacks the authority or ability to enforce certain PHSA requirements, the Secretary is responsible for enforcing these provisions.[74] In the event that federal enforcement is needed, the HHS Secretary may impose a civil monetary penalty on insurance issuers that fail to comply with the PHSA requirements.[75] The maximum penalty imposed under PHSA is $100 per day for each individual with respect to which such a failure occurs,[76] but the Secretary has the discretion to waive part or all of the penalty if the failure is due to "reasonable cause" and the penalty would be excessive.[77]

Employee Retirement Income Security Act

Part 7 of ERISA currently includes various requirements for (1) group health plans, which generally consist of both insured and self-insured plans providing medical care that an employer establishes or maintains, and (2) health insurance issuers offering group health insurance coverage.[78] ERISA provides two general enforcement mechanisms for these requirements. First, the Secretary of Labor may initiate a civil action against group health plans of employers that violate ERISA, but the Secretary may not enforce ERISA's requirements against health insurance issuers.[79] Second, Section 502(a) of ERISA authorizes a participant or beneficiary of a plan to initiate certain civil actions against group health plans and health insurance issuers.[80] Plan beneficiaries may, for instance, bring actions against the plans to recover or clarify their benefits under the terms of the plans.[81]

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plans from certain requirements under Title XXVII of the PHSA. See §300gg-21(a)(2)(A). This opt-out election, however, does not apply to the provisions added to the PHSA by the ACA. See §300gg-21(a)(2)(E).

[73] Although the statute does not specify what a state needs to do in order to be considered "substantially enforcing" the PHSA's requirements, regulations outline the procedure the HHS Secretary must follow in making a determination as to whether federal enforcement is needed. See 45 C.F.R. §§150.207 et seq. In general, if CMS, on behalf of the Secretary, receives a complaint or other information indicating that a state is failing to enforce PHSA's requirements, it must assess the information received and consider whether the complainant had made reasonable efforts to exhaust available state remedies. 45 C.F.R. §150.209. If CMS determines there is a reasonable question on whether there has been a substantial failure to enforce, it would issue a written notice to the relevant state officials and provide the state an opportunity to respond. 45 C.F.R. §150.213. If CMS makes a preliminary determination that the state has not substantially enforced the PHSA, it would provide the state with a reasonable opportunity to correct such failure and demonstrate evidence of enforcement. 45 C.F.R. §150.217. If the state cannot do so within the applicable timeline, CMS would issue the state a written notice of its final determination that also identifies the PHSA requirements that CMS would be enforcing. 45 C.F.R. §150.219.

[74] 42 U.S.C. §300gg-22(a)(2).

[75] 42 U.S.C. §300gg-22(b)(2)(C)(i).

[76] 42 U.S.C. §300gg-22(b)(2)(C)(i). With respect to self-funded government group plans, the HHS Secretary is the primary enforcer of the PHSA requirements. 42 U.S.C. §300gg-21(a)(2)(A).

[77] 42 U.S.C. §300gg-22(b)(3)(E). As of April 8, 2016, Missouri, Oklahoma, Texas, and Wyoming have notified CMS that they do not have the authority to enforce or are not otherwise enforcing the PHSA's requirements pertaining to the ACA's insurance market reform provisions. See CMS, Center for Consumer Information & Insurance Oversight, "Compliance and Enforcement," at https://www.cms.gov/cciio/programs-and-initiatives/health-insurance-market-reforms/compliance.html (last accessed on July 12, 2019). CMS thus has the responsibility to enforce these provisions in those states.

[78] See 29 U.S.C. §1181.

[79] 29 U.S.C. §1132(b)(3).

[80] 29 U.S.C. §1132(a).

[81] 29 U.S.C. §1132(a)(1)(B).

Internal Revenue Code

In general, the group health provisions in Chapter 100 of the IRC apply to all group health plans (including church plans), but they do not apply to governmental plans and health insurance issuers.[82] Under the IRC, the group health plan requirements are enforced through the imposition of an excise tax.[83] Failure to comply with an IRC requirement generally would subject a group health plan to a tax of $100 for each day in the noncompliance period with respect to each individual to whom such failure relates.[84] Limitations on a tax may be applicable under certain circumstances (e.g., if the person otherwise liable for such tax did not know, and exercising reasonable diligence would not have known, that such violation existed).[85] Failure to pay the applicable excise tax may result in further penalties, and a dispute regarding any penalty liabilities may be resolved by a proceeding before a U.S. district court or the Court of Federal Claims.[86]

Current Enforcement Mechanisms on Providers

As noted above, the PHSA, ERISA, and IRC currently do not include enforcement provisions that apply to providers; instead, the applicable statutes impose requirements on only the relevant group health plans and health insurance issuers.[87] Indeed, because the regulation of medical providers is traditionally within the province of the states, federal law has generally limited its role in regulating providers to specified circumstances.[88] To the extent any federal requirements are imposed on providers, the requirements generally are enforced through provisions specific to the applicable regulatory framework.[89] The enforcement provisions applicable to federal health care programs (including Medicare and Medicaid), for instance, authorize the HHS Secretary to initiate enforcement proceedings against any person (including a health care provider) for certain specified violations, including the submission of improperly filed claims and the improper offer or acceptance of payments to reduce the provision of health services.[90] Violators may be subject to civil penalties, be excluded from further participation in federal health programs, or both.[91] Thus, to the extent a surprise billing proposal would impose specific limits or requirements

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[82] See 26 U.S.C. §§9801, 9832(a), 5000(b)(1).

[83] 26 U.S.C. §4980D.

[84] 26 U.S.C. §4980D.

[85] See 26 U.S.C. §4890D(c).

[86] See 26 U.S.C. §§6671-6672.

[87] See footnotes 71, 78 & 82.

[88] See, for example, Lars Noah, *Ambivalent Commitments to Federalism in Controlling the Practice of Medicine*, 53 Univ. Kan. L. Rev. 149, 149-50 (2004).

[89] See footnotes 90 and 91.

[90] 42 U.S.C. §1320a-7a(a) & (b).

[91] 42 U.S.C. §1320a-7a(c). Other examples of federal regulations on health care providers may be found under the Controlled Substances Act (CSA) and the Federal Food, Drug & Cosmetic Act (FD&C Act). The CSA imposes certain registration, recordkeeping, and other requirements on health care providers and other "registrants" as part of its regulatory framework governing the manufacture, distribution, and use of certain controlled substances (including prescription drugs). 21 U.S.C. §822(a). The CSA generally enforces these regulatory requirements through civil penalties. 21 U.S.C. §842(c). Certain "knowing" violations may subject a violator to imprisonment of up to two years. 21 U.S.C. §842(c)(2). Under the FD&C Act, the Federal Drug Administration (FDA) may require certain new drugs or biologics to be subject to a distribution safety protocol known as Risk Evaluation and Mitigation Strategies (REMS), which may impose certain dispensing or prescriber requirements on health care providers. See 21 U.S.C. §355-1(e) and (f). Violation of REMS requirements may subject a provider to an FDA enforcement action and civil penalties. *See* 21 U.S.C. §355(p), 21 U.S.C. §311(a) & (d).

directly on providers, policymakers may want to consider enforcement provisions specific to those regulatory requirements.

Consistent with this approach, many federal surprise billing proposals to date—particularly if they would amend Part A of Title XXVII of the PHSA—include enforcement provisions that would apply specifically to providers in this context.[92] The proposals generally would limit the application of these enforcement provisions to providers who have not been subject to an enforcement action under applicable state law.[93]

How Could a Federal Surprise Billing Proposal Interact with State Surprise Billing Laws?

As discussed in the "State Requirements" section of this report, many states have enacted laws that address surprise billing in various situations and incorporate different policies discussed throughout this report. Given the likely overlap between state laws and any potential federal laws, policymakers may want to consider how federal surprise billing policies should interact with related state laws. In other words, policymakers may want to determine which laws are applicable in situations addressed by both federal and state laws. They may opt to have federal law defer to state law, have federal law preempt state law, or some combination thereof. To date, many federal proposals have included language that would maintain state surprise billing laws and would apply federal law only in instances where states do not have such laws.

In the event that a federal surprise billing law would provide deference to state surprise billing laws, it may be worth considering how such deference would be provided. For example, a federal proposal that addresses ambulances may be drafted so that federal law does not apply in any state with any type of surprise billing law, regardless of whether such state law addresses ambulances. As mentioned earlier in this report, state surprise billing laws have varied in their application to different situations and/or providers, and some states have only applied surprise billing laws and regulations to a narrow set of situations. For example, surprise billing protections in Arizona, Massachusetts, Missouri, New Hampshire, and Oregon apply only for emergency services provided by an out-of-network provider at in an in-network hospital.[94] Therefore, this type of federal ambulance surprise billing law would not apply in those states.

It is also possible that a federal surprise billing law would apply only to services, situations, and plans that *have not been* addressed by state surprise billing laws (or have been addressed in a manner that does not satisfy criteria included within such proposal). This type of policy would likely result in multiple different ways to handle surprise billing situations within a state. For example, fully insured plans could be subject to state laws and self-insured plans could be subject to federal laws.[95] As a result, enrollees of different types of plans may have different protections

[92] See, for instance, S. 1895, Section 102(b) creating PHSA Section 2795(a). This provision would impose a civil monetary penalty of no more than $10,000 on a provider for violating certain prohibitions and requirements under the bill and would authorize the HHS Secretary to initiate enforcement actions against a provider.

[93] See, for instance, S. 1895, Section 102(b) creating PHSA Section 2795(c)(3). This provision would direct the HHS Secretary to waive the penalties under the bill if the provider has already been subject to enforcement action under applicable state law for a violating conduct.

[94] Kona, *State Balance Billing Protections*.

[95] As discussed in "Federal and State Regulation of Insurance" in this report, states are precluded from being able to regulate self-insured health plans and therefore have not been able to require that such plans adhere to state surprise billing requirements. However, at least one state (New Jersey) has allowed self-insuring entities to opt in to such requirements. It is unclear the extent to which self-insuring entities within the state have opted in. P.L. 2018, Chapter

in surprise billing situations.[96] The extent of the aforementioned discrepancy would correspond to the extent to which state residents are enrolled in a self-insured plan. For reference, in 2017, Hawaii had the lowest percentage of private sector employees enrolled in a self-insured plan at an employer offering health insurance coverage (31.2%) and Wyoming had the highest percentage (72.4%).[97] The national average was 59.4% in 2017.[98]

This difference can also be highlighted in the context of the interactions between surprise billing protections in Arizona, Massachusetts, Missouri, New Hampshire, and Oregon, which apply only for emergency services provided by an out-of-network provider at in an in-network hospital, and a hypothetical federal policy that applies to emergency services generally and provides deference to state laws. In this example, state law would apply to emergency services provided by an out-of-network provider at an in-network hospital and federal law would apply to emergency services provided by an out-of-network provider at an out-of-network hospital.

Considering that a surprise billing federal policy would affect insurers, providers, or both and could alter these parties' incentives to enter into network agreements together (see "Potential Policy Impacts"), the combination of a federal policy with varying state policies would likely result in a unique set of incentives for insurers and providers within each state.

By contrast, a federal surprise billing law may be structured so that state deference is not provided. Under this type of proposal, a federal surprise billing law would be uniformly applicable to all states, regardless of previous state surprise billing legislative action.

In addition to considering the relationship between state and federal surprise billing laws, policymakers may want to incorporate policies that provide states with opportunities to tailor a federal proposal. For example, a federal policy could allow states to select the benchmark parameter used for plan payments out of a list included in the federal policy, or a federal policy could allow states to further determine the information included in a notification requirement. Such provisions would provide states with the ability to determine how best to incorporate federal policies given the relationship structure between insurers, providers, and consumers within that state.

Potential Policy Impacts

Since policy decisions rarely occur in a vacuum, many of the aforementioned policy considerations directly affect one (or multiple) aspects of the billing process.

These impacts can be considered narrowly, by looking at how specific actors (i.e., insurers, providers, and consumers) may respond to such policy considerations. For example, consider the effects of a federal policy that (1) establishes a benchmark reimbursement rate that is lower than

32, approved June 1, 2018. Assembly No. 2039, at https://www.njleg.state.nj.us/2018/Bills/AL18/32_.PDF.

[96] In addition, to the extent that a state applies different surprise billing policies on health maintenance organization (HMO) plans and preferred provider organization (PPO) plans, there could be additional discrepancies. For example, as of July 31, 2019, Indiana, Rhode Island, and West Virginia applied surprise billing protections only to HMO plans. Kona, *State Balance Billing Protections*.

[97] Agency for Healthcare Research and Quality, Table II.B.2.b.(1), "Percent of Private-Sector Enrollees That Are Enrolled in Self-Insured Plans at Establishments That Offer Health Insurance by Firm Size and State: United States, 2017," in *Medical Expenditure Panel Survey-Insurance Component*, at, https://meps.ahrq.gov/data_stats/summ_tables/insr/state/series_2/2017/tiib2b1.pdf. Hereinafter, Agency for Healthcare Research and Quality, "Percent of Private-Sector Enrollees."

[98] Agency for Healthcare Research and Quality, "Percent of Private-Sector Enrollees."

what insurers currently typically pay out-of-network providers for a specific service provided to consumers and (2) prohibits balance billing.

From the insurer's perspective, an insurer may decide to lower premiums for plans that cover out-of-network benefits if its net payments to providers decrease after adjusting for any changes in consumer cost sharing under the policy. Relatedly, to the extent that such policy requires insurers to cover a portion of *other consumer costs* for specific services, insurers may choose to increase premiums on plans that do not cover out-of-network benefits to cover these additional costs.

From the provider perspective, impacted out-of-network providers may see a reduction in revenue from the lower payment rate and the prohibition on balance billing consumers for those services. The provider also may see a reduction in the administrative costs associated with being an out-of-network provider (e.g., costs associated with communicating with and collecting payments from numerous consumers and/or insurers, costs associated with failure to collect payments from consumers). Depending on the extent to which the provider is affected, the provider may respond to this example federal policy by adjusting the prices of other services not affected by the policy or adjusting what services are offered.

A different surprise billing policy that would establish an arbitration process could create greater administrative costs for insurers and providers. These costs could subsequently be incorporated into premium prices or provider charges for services.[99]

Policy impacts also can be considered more generally by identifying how these policies could alter the relationships between insurers, providers, and consumers. For example, policies that require insurers to pay providers specified amounts for out-of-network services might affect contract negotiations between insurers and providers.

If a proposal required insurers to pay out-of-network providers their median in-network rate for services, insurers might be incentivized to reduce rates for those providers earning above the median amount or be less likely to contract with such providers during subsequent contract negotiations. If insurers did not contract with such providers, the provider would be considered out of network and the plan would pay providers the plan's median rate for services included in the surprise billing proposal. Inversely, providers earning below the median rate might be likely to demand increased payment rates or to consider dropping out of the network, the latter of which would result in those providers also being paid at a plan's median rate. Together, if insurers and providers responded accordingly, a plan's payment rates for the specified services included in a surprise billing proposal would move to the median rates for both in-network and out-of-network providers.

If a proposal required insurers to pay out-of-network providers based on an arbitration model (i.e., dispute resolution process), then some providers that furnish specialized services or work on complex cases might be more likely to demand increased payment rates. This could occur because these providers would otherwise be more likely to receive results that are more favorable as an out-of-network provider participating in an arbitration process that considers the extent of the provider's expertise and the complexity of each case.

[99] Although a surprise billing policy that would establish a benchmark approach also would create administrative costs for insurers, the Congressional Budget Office (CBO) has estimated that insurer administrative costs associated with a benchmark approach would be smaller than insurer administrative costs associated with complying with an arbitration process. "Title IV, No Surprises Act" section of CBO score of H.R. 2328. Congressional Budget Office, H.R. 2328, *Reauthorizing and Extending America's Community Health Act*, September 18, 2019, at https://www.cbo.gov/system/files/2019-09/hr2328.pdf. Hereinafter, CBO, H.R. 2328, *Reauthorizing and Extending America's Community Health Act*.

The Congressional Budget Office (CBO) estimated the net effects of these types of policies on insurance premiums and the related effects on the federal budget in its scoring of two surprise billing bills from the 116th Congress (S. 1895 and H.R. 2328, which are compared in the **Appendix**).[100]

As implied by the policy impacts of these types of proposals on premiums, different policies also could have varying effects on national health expenditures. For example, the surprise billing proposal that required insurers to pay out-of-network providers their median in-network rate for services likely would reduce the aggregate dollar amount of private health insurance spending on out-of-network care relative to current law. This shift likely would occur even if consumers utilized the same amount of services, because "median rates are generally lower than the current overall average rates."[101] Future health expenditures also could grow slower than what is expected under current law if such a benchmark were indexed to an inflationary rate that is generally smaller than the rate of growth for provider rates. Relative to a benchmark-type policy that is tied to median in-network rates, an arbitration model policy likely would result in greater heath expenditures because arbitration would likely affect the negotiation of in-network rates. The potential threat of arbitration may afford certain providers increased leverage during the negotiation of in-network rates.[102] However, the total effect of such policies on national health expenditures would be contingent upon the percentage of expenditures affected by the federal policies.

The discussion of the aforementioned policies should not be interpreted as likely effects of *all* benchmark or *all* arbitration type policies. For example, a benchmark rate set at median rates would have different effects than a benchmark rate set at billed charges.

Although comprehensive studies of state surprise billing laws are limited, there is anecdotal evidence of the impacts of such laws. For example, the effects of implementing a payment methodology were anecdotally evident in California, where a law required insurers to pay certain out-of-network providers the greater of the average contracted rate or an amount equal to 125% of the Medicare fee-for-service (FFS) rate. As a result, at least some insurers took the position that "providers should either accept a lower contract rate or not contract and, potentially, receive only 125% of Medicare FFS rates."[103]

A related example involves insurer responses to a Colorado surprise billing law that required insurers to pay the in-network payment rates for services furnished to enrollees of managed care plans by out-of-network providers at in-network facilities. A subsequent state survey of insurers regarding the implementation of the surprise billing law highlighted that certain insurers felt that "out-of-network providers [were] encouraged not to join networks because they will receive in-network payment regardless" and "hospital-based physicians had greater leverage when negotiating contracts with managed care plans."[104]

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[100] Other aspects of the bills are estimated to have additional impacts on providers and insurers. See CBO, H.R. 2328, *Reauthorizing and Extending America's Community Health Act* and Congressional Budget Office, S. 1895, *Lower Health Care Costs Act*, July 16, 2019, at https://www.cbo.gov/system/files/2019-07/s1895.pdf (hereinafter, CBO, S. 1895, *Lower Health Care Costs Act*).

[101] CBO, H.R. 2328, *Reauthorizing and Extending America's Community Health Act,* and CBO, S. 1895, *Lower Health Care Costs Act.*

[102] CBO, H.R. 2328, *Reauthorizing and Extending America's Community Health Act.*

[103] California Office of Administrative Law, Register 2018, No. 31–Z, August 3, 2018, pp. 1225, 1227-1228, at https://oal.ca.gov/wp-content/uploads/sites/166/2018/08/31z-2018.pdf.

[104] Colorado Department of Regulatory Agencies, Report of the Commissioner of Insurance to the Colorado General Assembly on 10-16-704(3), C.R.S. Consumer Protections Against Balance Billing, January 21, 2010, p. 8, at

The Colorado law did not affect all insurers equally. Of the 52 insurers that issued managed care plans in the private health insurance market during the evaluation period and provided responses to the survey, 7 carriers reported that the law had a positive effect on network adequacy, 20 carriers indicated no change, 21 carriers indicated a negative effect, and 4 carriers indicated insufficient experience and time to evaluate the change.[105]

Relatedly, New York implemented an arbitration-type surprise billing law (independent dispute resolution, or IDR) for emergency physician services and other specified non-emergency services. From 2015 to 2018, different provider types participated in the IDR process differently. For example, plastic surgery providers submitted 40% of emergency service IDR disputes and neurosurgery providers submitted 31% of the specified non-emergency service IDR disputes.[106]

The Colorado and New York examples highlight the likelihood that a federal surprise billing policy will affect individual actors within a market differently, which is the result of existing dynamics between insurers and providers within each specific market (e.g., market concentration and network participation).[107] CBO accounted for this effect in its scoring of the two bills from the 116th Congress.[108] This idea is further compounded by the fact that each state has its own set of regulations (potentially including surprise billing laws). Therefore, the effects of federal surprise billing proposals also will have varying impacts on insurers and providers across states.

http://hermes.cde.state.co.us/drupal/islandora/object/co%3A8599/datastream/OBJ/view.

[105] Colorado Department of Regulatory Agencies, Report of the Commissioner of Insurance to the Colorado General Assembly on 10-16-704(3), C.R.S. Consumer Protections Against Balance Billing, January 21, 2010, p. 8, at http://hermes.cde.state.co.us/drupal/islandora/object/co%3A8599/datastream/OBJ/view.

[106] Linda A. Lacewell, *New York's Surprise Out-Of-Network Protection Law: Report on the Independent*, New York State Department of Financial Services, September 2019, at https://www.dfs.ny.gov/system/files/documents/2019/09/dfs_oon_idr.pdf.

[107] For example, in Texas in 2014, 56% of hospitals within Humana's network did not have an emergency room physician within the insurer network. This figure compared with a rate of 45% and 21% for United and Blue Cross, respectively. Stacey Pogue and Megan Randall, *Surprise Medical Bills Take Advantage of Texans*, Center for Public Policy Priorities, September 15, 2014, p. 3, at https://forabettertexas.org/images/HC_2014_09_PP_BalanceBilling.pdf.

[108] CBO, H.R. 2328, *Reauthorizing and Extending America's Community Health Act,* and CBO, S. 1895, *Lower Health Care Costs Act*.

Appendix. Side-by-Side Comparison of Selected Federal Surprise Billing Provisions

This appendix provides a side-by-side comparison of surprise billing provisions included within two federal bills that have gone through markup procedures. Specifically, the sections of the bills included in the appendix are Title I of S. 1895 (Alexander), which went through a Senate Committee on Health, Education, Labor, and Pensions markup session on June 26, 2019, and Title IV of the amendment in the nature of a substitute (ANS) to H.R. 2328, which went through a markup session held by the House Committee on Energy and Commerce on July 17, 2019.

The language from each bill summarized in this appendix addresses multiple medical billing situations, such as services furnished at an in-network facility by out-of-network providers, services related to an emergency medical condition, and/or air ambulance services. As each bill addresses more than one type of situation, this appendix refers to different situations as *scenarios*. For each proposal, different scenarios are identified numerically in the "Applicable Health Services and Providers" row. Where applicable, each subsequent cell under a given proposal refers back to the terminology used in the "Applicable Health Services and Providers" row to indicate how a given requirement in the proposal applies to each scenario addressed within that specific proposal. In some instances, the requirement may apply solely to one scenario, apply differently across multiple scenarios, or apply similarly to all scenarios.

As an example, Title I of S. 1895 (Alexander) includes provisions regarding six scenarios, including (1) emergency services provided by an out-of-network provider at an emergency department of a hospital or freestanding emergency room and (2) ancillary services performed by an out-of-network provider at an in-network facility if such services would have been covered had they been provided in network. In the "Applicable Health Services and Providers" row for the Title I of S. 1895 (Alexander) column, these scenarios are identified as *Scenario 1* and *Scenario 2*, respectively (with additional scenarios listed accordingly). Subsequently throughout the Title I of S. 1895 (Alexander) column, each reference to Scenario 1 discusses how that particular requirement would apply to emergency services provided by an out-of-network provider at an emergency department of a hospital or freestanding emergency room.

Consumer costs for the services addressed within each of the proposals are discussed in the "Consumer Cost-Sharing" and "Other Consumer Costs" rows; a distinction that incorporates (1) the aforementioned discussion (highlighted in **Figure 1**) around whether a plan does or does not cover services provided by an out-of-network provider that would have been covered if provided by an in-network provider and (2) whether a particular service is a covered benefit under the plan irrespective of the network status of the provider (i.e., whether the service is considered an excluded service).[109]

When reading the appendix table, if the same language is used across the bills for a given feature, it means the bills have language that is identical or substantively similar. However, there may be underlying differences between the bills. For example, both bills create limits on consumer cost-sharing requirements, but the actual requirements that would be affected (e.g., deductible, co-payment) may vary between the bills, depending on how cost sharing is defined in either that bill itself or the amending statute (for bill language that does not include a definition of the term). This appendix table focuses on, and incorporates, language as included and defined in the

[109] In the event that a consumer receives a service that is not covered by the plan, the consumer generally is responsible for the entire bill, regardless of whether the service was provided by an in-network provider. Such amounts are also considered other consumer costs.

aforementioned bills. It does not compare or analyze differences between the bill languages as a result of underlying statutory differences.

Each bill summary is based on a review of the provisions as drafted. If a given proposal lacks specificity or includes inconsistencies, no assumptions were made to fill in gaps or resolve any discrepancies.

Finally, the table does not address drafting errors or other technical issues within the proposals (unless such errors required an interpretation to incorporate bill text into the table).[110] The table also does not address policy implications or identify potential unintended consequences.

[110] Such interpretations are appropriately indicated within the table.

Table A-1. Summary of Selected Provisions Addressing Surprise Billing Situations

Title I of S. 1895 (Alexander)	Title IV of the ANS to H.R. 2328[a] (as offered by Rep. Pallone)
Summary of Key Requirements	
This proposal would explicitly prohibit balance billing by relevant providers and would fine providers that balance bill consumers with private health insurance for the following: (Scenario 1) emergency services provided by an out-of-network provider at an emergency department of a hospital or freestanding emergency room; (Scenario 2) ancillary services performed by an out-of-network provider at an in-network facility if such services would have been covered had they been provided in network; (Scenario 4) services provided to a consumer prior to stabilization if such consumer previously received emergency services or maternal care for a woman in labor in an emergency department of a hospital and was subsequently admitted to the hospital; and (Scenario 6) air ambulance services from an out-of-network provider if such services would have been covered had they been provided in network. In addition, this proposal would not allow balance billing if notification and consent requirements are not met for the following: (Scenario 3) nonemergency, non-ancillary services performed by an out-of-network provider at an in-network facility if such services would have been covered had they been provided in network, and (Scenario 5) any out-of-network services provided to a consumer post-stabilization if such consumer previously received emergency services or maternal care for a woman in labor in an emergency department of a hospital and was subsequently admitted to the hospital. This proposal would not prohibit balance billing if notification and consent requirements are met for the following: (Scenario 3) nonemergency, non-ancillary services performed by an out-of-network provider at an in-network facility if such services would have been covered had they been provided in network, and (Scenario 5) any out-of-network services provided to a consumer post-stabilization if such consumer previously received emergency services or maternal care for a woman in labor in an emergency department of a hospital and was subsequently admitted to the hospital. In situations where surprise billing is not allowed, this proposal would (1) generally tie consumer cost-sharing requirements to what they would be if such services were furnished in network and (2) require plans to pay providers an amount for such items and services as determined according to a benchmark rate (median in-network rate) established within the proposal or (where applicable) in accordance with state law.	This proposal would explicitly prohibit balance billing by relevant providers and would fine providers that balance bill consumers with private health insurance for the following: (Scenario 1) emergency services provided by an out-of-network provider, emergency department of a hospital, or independent freestanding emergency department and (Scenario 2) specified nonemergency items or services performed by an out-of-network provider during a visit at an in-network facility where notification and consent requirements are not met. This proposal would not allow balance billing if notification and consent requirements are not met for (Scenario 2) specified nonemergency items or services performed by an out-of-network provider during a visit at an in-network facility. In situations where surprise billing is not allowed, this proposal would (1) generally tie consumer cost-sharing requirements to what they would be if such items or services were furnished in network and (2) require plans to pay providers an amount for such items and services as determined according to a benchmark rate (median in-network rate) or, in limited situations, an amount established according to an arbitration process established within the proposal. Where applicable, plan payment would be determined in accordance with state law. These scenarios do not make a distinction with respect to whether a plan covers out-of-network care and would apply requirements to a plan regardless of whether such plan covers or does not cover out-of-network benefits. These scenarios would address services that would be covered by the plan if such services were provided in network. It is unclear whether these scenarios would address services that are not covered by a consumer's plan (i.e., excluded services).

Title I of S. 1895 (Alexander)	Title IV of the ANS to H.R. 2328[a] (as offered by Rep. Pallone)
These scenarios do not make a distinction with respect to whether a plan covers out-of-network care and would apply requirements to a plan regardless of whether such plan covers or does not cover out-of-network benefits. In some instances, this proposal limits its application to services that would have been covered by the plan had such services been provided in network (i.e., it would not apply to services that are not covered by the plan).	
Amendment(s) to Current Law	
This proposal would amend PHSA Section 2719A, which addresses plan requirements relating to patient protections. This proposal also would create new Sections 2719B, 2729A, 2795 of the PHSA.	This proposal would amend PHSA Section 2719A, which addresses plan requirements relating to patient protections. This proposal also would create new Sections 2799, 2799A, 2799B and 2799C, and 2799D of the PHSA.
Terms Explicitly Defined in Proposal[b]	
This proposal would define the following terms: in network, enrollee, ancillary services, median in-network rate, and facility.[c]	This proposal would define the following terms: emergency department of a hospital, emergency services, independent freestanding emergency department, median contracted rate, nonparticipating emergency facility, participating emergency facility, nonparticipating provider, participating provider, recognized amount, health plan, participating health care facility, health care facility, "during a visit," verification process, response protocol, database, provider directory information, specified provider, nonparticipating facility, participating facility, All Payer Claims Database, specified claim, and qualifying items and services.
Applicable Health Services and Providers for Consumers with Applicable Coverage (see "Applicable Plans" row)	
Scenario 1: This proposal would apply to emergency services provided by an out-of-network provider at an emergency department of a hospital or freestanding emergency room. Scenario 2: This proposal would apply to ancillary services performed by an out-of-network provider at an in-network facility if such services would have been covered had they been provided in network. Scenario 3: This proposal would apply to nonemergency, non-ancillary services performed by an out-of-network provider at an in-network facility if such services would have been covered had they been provided in network. Scenario 4: This proposal would apply to services provided to a consumer prior to being stable and in a condition to receive notification information if such consumer previously received emergency services or maternal care for a woman in labor in an	Scenario 1: This proposal would apply to emergency services provided by an out-of-network provider, emergency department of a hospital, or independent freestanding emergency department. Emergency services include post-stabilization items and services that are furnished to a consumer before both the consumer is deemed fit to travel using nonemergency medical transportation and where the provider has yet to satisfy notice and consent requirements (see "Consumer Notification and Consent" row of this table). Scenario 2: This proposal would apply to nonemergency items or services (further specified to include equipment and devices, telemedicine services, imaging services, laboratory services, and such other items and services as specified by the Secretary) performed by an out-of-network provider during a visit at an in-network hospital, critical access hospital, ambulatory surgical center, laboratory, or radiology

Title I of S. 1895 (Alexander)	Title IV of the ANS to H.R. 2328[a] (as offered by Rep. Pallone)
emergency department of an out-of-network facility and was subsequently admitted to the out-of-network facility. Scenario 5: This proposal would apply to any out-of-network services provided to a consumer post-stabilization if such consumer previously received emergency services or maternal care for a woman in labor in an emergency department of an out-of-network facility and was subsequently admitted to the out-of-network facility. Scenario 6: This proposal would apply to air ambulance services from an out-of-network provider if such services would have been covered had they been provided in network.	facility/imaging center (regardless of whether the out-of-network provider is at the in-network facility).
Applicable Plans	
Scenario 1: Including corresponding *grandfathered plans*, this proposal would apply to large-group plans, small-group plans, individual plans, and self-insured plans, as long as such plans cover services in an emergency department of a hospital.[d] Scenarios 2-5: Including corresponding grandfathered plans, this proposal would apply to large-group plans, small-group plans, individual plans, self-insured plans, and plans offered under the Federal Employee Health Benefits (FEHB) program.[d] Scenario 6: This proposal would apply to large-group plans, small-group plans, individual plans, and self-insured plans.	Scenario 1: Including corresponding grandfathered plans, this proposal would apply to large-group plans, small-group plans, individual plans, and self-insured plans, as long as such plans cover services in an emergency department of a hospital or an independent freestanding emergency department.[d] Scenario 2: Including corresponding grandfathered plans, this proposal would apply to large-group plans, small-group plans, individual plans, and self-insured plans.[d]
Consumer Cost Sharing	
Scenarios 1, 4[e]: This proposal would limit consumer cost-sharing requirements (expressed as a "copayment amount, coinsurance rate, or deductible") to what they would be if such services were furnished in network. Scenarios 2 and 6: This proposal would limit consumer cost-sharing requirements (expressed as a "copayment amount, coinsurance rate, or deductible") to what they would be if such services were furnished in-network and any coinsurance and deductible would be based on "in-network rates." Such cost-sharing amounts would be counted toward any in-network deductibles or out-of-pocket maximums as if they were made for in-network services. Scenario 3: In instances where the relevant provider did not comply with specified notice and consent requirements (see "Consumer Notification and Consent" row), this proposal would limit consumer cost-sharing requirements (expressed as a "copayment amount, coinsurance rate, or deductible") to what they would be if	Scenario 1: This proposal would limit consumer cost-sharing requirements (expressed as a "copayment amount or coinsurance rate") from exceeding what they would be if such items or services were furnished in network. It also would specify the total provider charge amount that consumer cost-sharing amounts would be based on, which varies depending on whether a state has in effect a law that specifies a methodology for determining "the amount of payment" for such out-of-network item or service. Such cost-sharing amounts would be counted toward any in-network deductibles or out-of-pocket maximums as if they were made for in-network services. Scenario 2: In instances where the relevant provider does not comply with specified notice and consent requirements (see "Consumer Notification and Consent" row), this proposal would limit consumer cost-sharing amounts (expressed as a "copayment amount or coinsurance rate") from exceeding what they would be if such items or services were furnished in network.

Title I of S. 1895 (Alexander)	Title IV of the ANS to H.R. 2328[a] (as offered by Rep. Pallone)
such services were furnished in-network and any coinsurance and deductible would be based on "in-network rates." Scenario 5: In instances where the relevant provider did not comply with specified notice and consent requirements (see "Consumer Notification and Consent" row), this proposal would limit consumer cost-sharing requirements (expressed as a "copayment amount, coinsurance rate, or deductible") to what they would be if such services were furnished in network.	It also would specify the total provider charge amount that consumer cost-sharing amounts would be based on, which varies depending on whether a state has in effect a law that specifies a methodology for determining "the amount of payment" for such out-of-network item or service. Such cost-sharing amounts would be counted toward any in-network deductibles or out-of-pocket maximums as if they were made for in-network services.
Amount Providers Can Charge Consumers Above Cost Sharing (i.e., Balance Bill)	
Scenarios 1[f], 2, 4, and 6: This proposal would explicitly prohibit balance billing by relevant providers. Scenarios 3 and 5: This proposal would explicitly prohibit balance billing by relevant providers if specified notice and consent requirements are not met (see "Consumer Notification and Consent" row). This proposal would not prohibit relevant providers from balance billing consumers if specified notice and consent requirements are met.	Scenario 1: This proposal would explicitly prohibit balance billing by relevant providers. Scenario 2: This proposal would explicitly prohibit balance billing by relevant providers if specified notice and consent requirements are not met (see "Consumer Notification and Consent" row). This proposal would not prohibit relevant providers from balance billing consumers if specified notice and consent requirements are met.
Amount Providers Can Receive from Plans	
Scenarios 1, 2, and 4: In instances where a state surprise billing law that includes a method for determining the amount of payment for services would be applicable, this proposal would require plans to pay providers an amount in accordance with such law. In instances where a state surprise billing law does not exist, would not be applicable, or does not include a method for determining the amount of payment, this proposal would require plans to pay providers the difference between the median in-network rate and the consumer cost sharing. A plan's median in-network rate would be the median amount recognized by the plan as the total maximum payment (including consumer cost sharing) for the same or similar in-network service provided by a provider in the same or similar specialty and provided in the geographic region in which the item or service was furnished. If the plan did not have sufficient information to calculate a median in-network rate for a particular service or provider type in a geographic area, then the plan would be required to demonstrate that it would use information from any database that is free from conflicts of interest and has sufficient information (see "Use of Database to Determine Provider Payment" row).	Scenario 1: In instances where a state surprise billing law includes a method for determining the amount of payment for applicable items or services furnished to a consumer enrolled in a plan that is regulated by the state, this proposal would require plans to pay providers not more than the amount determined in accordance with such state law. In instances where such a state surprise billing law does not exist,[g] this proposal would require plans to pay providers at least the difference between the median contracted rate and the consumer cost sharing. For 2021, a plan's *median contracted rate* would be the median amount recognized by the plan as the total maximum payment (including consumer cost sharing) in 2019, and indexed by inflation (CPI-U) for 2019 and 2020, for the same or similar in-network item or service that is provided by a provider in the same or similar specialty and provided in the geographic region in which the item or service is furnished. For 2022 and subsequent years, the median contract rate would be indexed for inflation (CPI-U) over the previous year's rate. If the plan did not have sufficient information to calculate a median contracted rate for a particular service in a geographic area, then the plan would be required to use

Title I of S. 1895 (Alexander)	Title IV of the ANS to H.R. 2328[a] (as offered by Rep. Pallone)
The Secretary would, through rulemaking, determine a methodology that plans would use to determine a median in-network rate. Scenarios 3 and 5: This proposal would apply the above methodology to plan payments to providers in instances where the relevant provider did not comply with specified notice and consent requirements (see "Consumer Notification and Consent" row). Scenario 6: This proposal would require plans to pay providers the difference between the median in-network rate (as defined above) and the consumer cost sharing. The Secretary would, through rulemaking, determine a methodology that plans would use to determine a median in-network rate.	information from any database that is free from conflicts of interest and has sufficient information (see "Use of Database to Determine Provider Payment" row). If a plan did not offer coverage in that area in 2019, the plan would be required to reimburse based on the methodologies established by the Secretary, which would then be subsequently adjusted for inflation (CPI-U). Further median contracted rate methodologies would be determined by the Secretary through rulemaking. The amount a plan would pay a provider could be adjusted in a subsequent independent resolution process (see "Arbitration of Review Process" row). Scenario 2: This proposal would apply the same methodology to plan payments to providers in instances where the relevant provider did not comply with specified notice and consent requirements (see "Consumer Notification and Consent" row).
Other Consumer Costs[h]	
Scenarios 1, 4, and 5: These scenarios do not make a distinction with respect to whether a plan covers out-of-network care. Therefore, other consumer cost situations where a consumer was enrolled in a plan that did not cover out-of-network benefits would not be handled any differently than other out-of-network billing situations where a consumer was enrolled in a plan that covered out-of-network benefits. These scenarios would address services that would be covered by the plan if such services were provided in network. It is unclear whether these scenarios would address services that are not covered by a consumer's plan (i.e., excluded services). Scenarios 2, 3, and 6: These scenarios do not make a distinction with respect to whether a plan covers out-of-network care. Therefore, other consumer cost situations where a consumer was enrolled in a plan that did not cover out-of-network benefits would not be handled any differently than other out-of-network billing situations where a consumer was enrolled in a plan that covered out-of-network benefits. These scenarios would address services that would be covered by the plan if such services were provided in network. These scenarios would not address services that are not covered by consumer's plan (i.e., excluded services).	Scenarios 1 and 2: These scenarios do not make a distinction with respect to whether a plan covers out-of-network care. Therefore, other consumer cost situations would not be handled any differently than other out-of-network billing situations where a consumer was enrolled in a plan that covered out-of-network benefits. These scenarios would address services that would be covered by the plan if such services were provided in network. It is unclear whether these scenarios would address services that are not covered by a consumer's plan (i.e., excluded services).
Use of Database to Determine Provider Payment	
Scenarios 1-6: If a plan did not have sufficient information to calculate a median in-network rate (see "Amount Providers Can Receive from Plans" row) for a	Scenarios 1 and 2: If a plan did not have sufficient information to calculate a median contracted rate (see "Amount Providers Can Receive from Plans" row) for a

Title I of S. 1895 (Alexander)	Title IV of the ANS to H.R. 2328[a] (as offered by Rep. Pallone)
particular service or provider type in a geographic area, then the plan would use information from any database that is free from conflicts of interest and has sufficient information reflecting allowed amounts in that applicable geographic region. The plan would be responsible for covering the cost of accessing the database.	particular item, service, or provider type within a geographic area, then the plan would use information from any database (e.g., a state all-payer claims database) that is free from conflicts of interest and has sufficient information reflecting allowed amounts in that applicable geographic region to determine a median contracted rate. The plan would be responsible for covering the cost of accessing the database.
Arbitration or Review Process	
This proposal does not establish an arbitration or review process.	Scenarios 1 and 2: After an initial (maximum) 60-day appeal and/or notification period between a plan and a provider/emergency facility regarding a plan payment to a provider/facility, an out-of-network provider, out-of-network emergency facility, or plan could initiate an independent resolution (IDR) process, as established by the Secretaries of HHS and Labor, in which a nongovernmental, certified arbitrator (who agreed to comply with a fee structure for his or her services) would determine the final payment amount. The arbitrator would be mutually selected by the involved plan and provider/emergency facility or would be selected by the HHS Secretary at random. Claims for an item or service with a median contracted rate (see "Amount Providers Can Receive from Plans" row) that did not exceed $1,250 in 2021 could not be submitted to the IDR process. The $1,250 threshold would be adjusted for inflation (CPI-U) in subsequent years. If, under the IDR process, the arbitrator determined that a settlement between the two involved entities was likely, the arbitrator would be permitted to direct the entities to attempt a good-faith negotiation for no more than 10 days. If the negotiation were not successful, the arbitrator would determine a final amount. If the settlement were not reached (or not attempted), the plan and the provider/emergency facility each would be required submit a final offer to the arbitrator. The arbitrator then would determine which amount was the most reasonable within 30 days of being selected as an arbitrator. If the plan owed the provider/emergency facility additional amounts above the initial payment or the provider/emergency facility was required to repay the plan some amount from the initial payment, such amounts would be required to be paid within 30 days. The final payment amount would be considered binding and not subject to judicial review (except in specified instances). In making this determination, the arbitrator would be required to decide reasonability based on a variety of factors specified in the proposal, including the median contracted rate for comparable items or services furnished in the same

Title I of S. 1895 (Alexander)	Title IV of the ANS to H.R. 2328[a] (as offered by Rep. Pallone)
	geographic area; the provider's/emergency facility's level of training, education, experience, and quality and outcomes measurements; and any extenuating circumstances relating the complexity of the items and services or the individual's acuity. The arbitrator would not be permitted to consider the amount that would have been billed by the provider/emergency facility had the provider been allowed to balance bill the consumer. The non-prevailing party would be responsible for paying the IDR fees, unless a settlement was reached before an IDR determination, in which case the fees would be split (though the settling parties could divide the fees another way). The HHS Secretary and the Secretary of Labor would be responsible for publishing specified pieces of information regarding the IDR process.
Consumer Point of Service Notification and Consent	
Scenarios 1-5: This proposal would require facilities furnishing relevant services to provide a notice to, and receive a signature from, a consumer upon intake in an emergency room or upon being admitted at the facility that includes information on the prohibition on balance billing and who to contact in the event that the consumer was balance billed. Scenario 3: This proposal would require in-network facilities to, as soon as practicable and not later than 48 hours prior to providing a service, provide a written or electronic notification to, and obtain signed consent from, a consumer in order to be exempt from the consumer cost-sharing and balance billing requirements. Providers would be required to retain the written consent for at least two years. Scenario 5: This proposal would require in-network facilities and plans to separately provide, prior to the provision of any post-stabilization, out-of-network service, a written or electronic notification to a consumer in a condition to receive such information, including sufficient mental capacity, in order to be exempt from the consumer cost-sharing and balance billing requirements. The consumer would be required to provide written consent. Providers would be required to retain the documentation that the notice was provided and the consumer confirmed receipt of such information for at least two years. Scenario 6: This proposal does not address consumer notification and consent in this scenario.	Scenario 1: This proposal would stop applying emergency service requirements to post-stabilization items and services once a consumer was deemed fit to travel and where the provider had satisfied notice and consent requirements applicable to Scenario 2. Scenario 2: This proposal would require out-of-network providers or facilities to provide a written notification (and an oral explanation of such notification) to, and obtain signed consent from, a consumer (or a consumer representative) in order to be exempt from the consumer cost-sharing and balance billing requirements. (Items or services furnished as a result of unforeseen medical needs would not be exempted.) The relevant provider would be required to provide the notice to the consumer on the date on which the individual was furnished relevant items or services and (where applicable) on the date the appointment for the items or services was made. The provider would be required to obtain the consent not less than 72 hours prior to furnishing items or services. Providers would be required to retain the written notification for at least two years.

Title I of S. 1895 (Alexander)	Title IV of the ANS to H.R. 2328[a] (as offered by Rep. Pallone)
Defined Enforcement Mechanism	
This proposal does not explicitly address enforcement with respect to requirements on plans. With respect to requirements on providers, the proposal provides the following: Scenarios 1-5: In the event a facility or provider were to hold consumers responsible for amounts in addition to consumer cost-sharing amounts established in the bill (with respect to Scenarios 3 and 5) or failed to provide notice or obtain consumer consent (see *"Consumer Point of Service Notification and Consent"* row), then the provider would be liable to a civil monetary penalty of not more than $10,000 for each violation (after applying certain provisions in Section 1128A of the Social Security Act). Such penalty would be waived if a facility or practitioner were already subject to enforcement action under state law. Penalties would not apply in situations where a provider reimbursed a consumer within 30 days of any amounts collected above the allowed amounts. The Secretary would be allowed to establish a hardship exemption to these penalties. Scenario 6: In the event an air ambulance service provider were to hold consumers responsible for amounts in addition to consumer cost-sharing amounts established in the bill, then the provider would be liable to a civil monetary penalty of not more than $10,000 for each violation (after applying certain provisions in Section 1128A of the Social Security Act). Penalties would not apply in situations where a provider reimbursed a consumer within 30 days of any amounts collected above the allowed amounts.	This proposal does not explicitly address enforcement with respect to requirements on plans. With respect to requirements on providers, the proposal provides the following: Scenarios 1 and 2: States would be acknowledged as having the authority to require relevant providers to adhere to consumer balance billing limitations, consumer consent and notification requirements, and provider participation in the IDR process. If the Secretary were to determine that a state had failed to substantially enforce these requirements, the Secretary would be required to enforce such requirements through the use of a civil monetary penalty of not more than $10,000 for each violation. Penalties would not apply in situations where a provider reimbursed a consumer within 30 days for any amounts collected above the allowed amounts. The Secretary would be allowed to establish a hardship exemption to these penalties. Furthermore, the Secretary would be required to establish a process to receive consumer complaints and resolve such complaints within 60 days.
State Law Interaction	
Scenarios 1-5: If a state had a law in effect that provides an alternative method for determining the appropriate compensation that a plan must make to a provider for services in these scenarios, the plan would be required to make a plan payment to a provider according to the state methodology (see "Amount Providers Can Receive from Plans" row). Scenario 6: This proposal does not explicitly indicate how this scenario would interact with state law.	Scenarios 1 and 2: If a state had in effect a law that includes a method for determining the amount of payment for applicable items or services furnished to a consumer enrolled in a plan that is regulated by the state, the plan would be required to make a plan payment to a provider according to the state methodology (see "Amount Providers Can Receive from Plans" row). Additionally, consumer cost-sharing amounts within such a state would be based on a total amount that is the lesser of the amount determined in accordance with the state law or the median contracted rate" (see "Amount Providers Can Receive from Plans" row). Separately, the enforcement provisions within the proposal would not supersede any state law that establishes, implements, or continues any enforcement requirement or prohibition except to the extent that state law prohibits federal enforcement.

Title I of S. 1895 (Alexander)	Title IV of the ANS to H.R. 2328[a] (as offered by Rep. Pallone)
	Other Provisions
This proposal would require the Secretary, in consultation with the Federal Trade Commission and the Attorney General to study the effects of the proposal, including impacts on provider and plan consolidation, health care costs, access to services (including rural and health professional shortage areas), and provide recommendations for effective enforcement of the in-network rate benchmark and for addressing anti-competitive consolidation. Certain aspects of the report would be required to be made in consultation with the Secretary of Labor and the Secretary of the Treasury.	This proposal would authorize appropriations for one-time grants to states to establish or maintain state all payer claims databases (APCDs). This proposal would require the Secretary to consult with appropriate state agencies to develop an audit process for plan compliance with calculating the median contracted rate (see "Amount Providers Can Receive from Plans" row). This proposal would create requirements on plans and providers regarding provider directories and making information about balance billing requirements publicly available. The proposal would establish a statute of limitations with respect to providers billing consumers. This proposal would require providers of emergency air medical services to submit plan claims and cost information to the Secretary. The Secretary would be required to make such information publicly available and subsequently provide a summary report to Congress. A provider who violated the requirement could be liable for a civil monetary penalty of not more than $10,000 for each act. The Comptroller General would be responsible for subsequently submitting a report to Congress that analyzes the cost variation of such providers and makes recommendations that are deemed appropriate by the Comptroller General. This proposal would require the Government Accountability Office to study profit- and revenue-sharing relationships in the commercial health markets, the effects of the proposal on the prevalence of consumers receiving out-of-network care, the effects of the proposal on provider shortages and accessibility (focusing on rural and medically underserved communities), information regarding the grants to states to establish or maintain state APCDs, and cost variation of air ambulance services. This proposal would require the Secretary and Secretary of Labor to separately study the effects of the proposal, including impacts on premiums and out-of-pocket costs, the adequacy of provider networks, and other impacts deemed relevant by the Secretary.

Source: Congressional Research Service analysis of Title IV of the amendment in the nature of a substitute (ANS) to H.R. 2328, relevant amendments to the ANS to H.R. 2328, and S. 1895 (Lower Health Care Costs Act).

Notes: ANS: amendment in the nature of a substitute. The Secretary of Health and Human Services (HHS) is generally referred to as the "Secretary" in the table. Other Secretaries are specified where necessary. The bills analyzed for this appendix use different terms to refer to whether or not a provider has a contractual relation with a plan (e.g., is a participating/non-participating provider), For ease of comparison, this table uses the terms *in network* and *out of network* to reflect whether or not a provider has or does not have such relationship, respectively.

a. The analysis of the ANS offered by Rep. Pallone includes other amendments that were offered by other Representatives, were agreed to by voice vote during the House Committee on Energy and Commerce markup session held on July 17, 2019, and are relevant to surprise billing. Specifically, these are the amendments offered by Rep. Pallone, Rep. Gianforte, Rep. Matsui, Rep. Kuster, Rep. Blunt Rochester, Rep. Luján, Reps. Ruiz and Bucshon, and Rep. Schrader. A list of all amendments offered during the markup session can be found at https://energycommerce.house.gov/committee-activity/markups/markup-of-26-bills-full-committee-july-17-2019.

b. Proposals may define additional terms through reference.

c. The term *facility* is defined in this bill to include "hospitals, hospital outpatient departments, critical access hospitals, ambulatory surgery centers, laboratories, radiology clinics, freestanding emergency rooms, and any other facility that provides services that are covered under a group health plan or health insurance coverage" and is explicitly applicable to Scenarios 2 and 3 and only applicable to Scenarios 1, 4, and 5 in limited instances.

d. The Affordable Care Act (ACA; P.L. 114-148, as amended) provided that group health plans and health insurance coverage in which at least one individual was enrolled as of enactment of the ACA (March 23, 2010) could be *grandfathered* if such plans comply with applicable federal requirements and avoid making specified changes to the plan. For as long as a plan maintains its grandfathered status, it has to comply with only some, but not all, of the federal health insurance requirements established under the ACA.

e. Title I of S. 1895 refers to the requirement applicable under 42 U.S.C. §300gg-19a(b)(2)(C)(ii)(II); however, that subsection does not exist. This appendix assumes that 42 U.S.C. §300gg-19a(b)(1)(C)(ii)(II) should be referenced, as it is elsewhere in the bill.

f. This prohibition on balance billing also applies to plans offered under the FEHB Program in Scenario 1, through reference to 42 U.S.C. §300gg-19a(g) (as such section is added by this bill).

g. It is unclear whether federal law or state law would apply in instances where a state has a surprise billing law that includes a method for determining the amount of payment for applicable items or services but such law does not apply to a particular type of plan (e.g., self-insured plans).

h. The costs discussed in this row are outside the scope of a consumer's plan or apply to consumers without a plan. These consumer costs are not considered a balance bill as the term is used in this report, because balance bills are amounts consumers are charged above what the plan pays. In these instances, the plan pays nothing.

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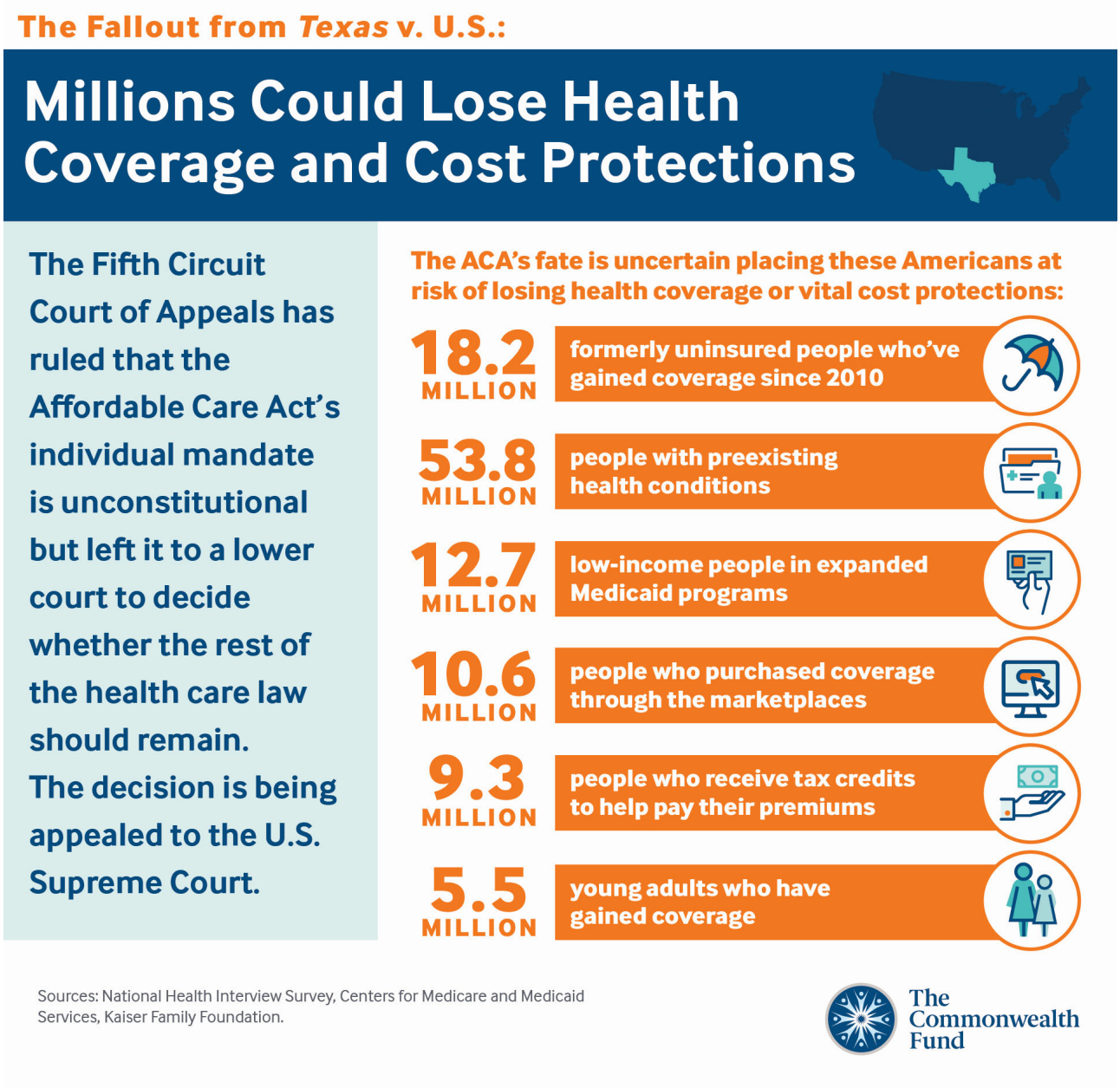
Disclaimer

The Commonwealth Fund

Fallout from Texas v. U.S.: Millions Could Lose Health Coverage and Cost Protections

December 19, 2019



For more information see our recent blog post "Fifth Circuit Appeals Court Strikes Down the Affordable Care Act's Individual Mandate" by Sara R. Collins.

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RESEARCH REPORT

Potential Coverage and Federal Funding Losses for Massachusetts if Texas v. United States Ultimately Overturns the Affordable Care Act



Jessica Banthin, Matthew Buettgens, Linda J. Blumberg

December 17, 2019

SHARE

Abstract

When the ACA was passed in 2010, Massachusetts and six other states had federal Medicaid waivers in place that expanded coverage to people not traditionally covered by Medicaid, such as low-income childless adults. The state's long-standing commitment to health care coverage enabled Massachusetts to achieve the highest insurance rate in the country even before the ACA was in place.

Nonetheless, the ACA increased and formalized federal funding streams for the Massachusetts coverage expansions, which were largely in place before the ACA. If the ACA were overturned today and Massachusetts could not reestablish the subsidized coverage programs that served as a cornerstone of the state's 2006 reform, then 375,000 residents would lose coverage. The uninsured rate would climb from 3.5 percent to 10.2 percent of the nonelderly population, leaving the state worse off than it was before the ACA was implemented. The state would also lose $2.4 billion in federal funding for the state's Medicaid program and for subsidized coverage in the state's Marketplace.

If Massachusetts were able to reestablish its subsidized coverage programs that existed before the ACA with federal funding, then just 40,000 residents would lose coverage. The state would lose $1.4 billion in federal funding, and state spending would have to increase by $731 million. However, if the state were to reestablish its subsidized coverage program without federal funding, it would have to raise its spending on health care programs by $1.7 billion compared with current law.

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Jessica Banthin

Potential Coverage and Federal Funding Losses for Massachusetts if *Texas v. United States* Ultimately Overturns the Affordable Care Act

DECEMBER 2019

Jessica Banthin
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Urban Institute

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BACKGROUND

Texas v. United States, a case currently before the U.S. Court of Appeals for the Fifth Circuit, seeks to overturn the Affordable Care Act (ACA), a major piece of legislation that extends subsidized health insurance coverage to millions of people across the country. The court's decision in the case could be announced any day; however, regardless of the appellate court's decision, the case may go to the Supreme Court. If the Supreme Court overturns the ACA, every state will experience the ramifications. It is extremely difficult to measure the full impact of such a ruling given that hundreds of federal and state laws and regulations were enacted or issued to enfor e the provisions of the ACA. Moreover, over the four years between the 2010 passage of the law and the 2014 implementation of major coverage provisions of the ACA, complex systems, such as those that determine eligibility for Medicaid and the Exchange Marketplace, were developed at the federal and state levels in response to the law's requirements. Health care providers and insurers also developed systems to comply with ACA requirements. It is not simple to reverse these widespread changes, ranging from the way income is measured for Medicaid eligibility to how insurers design health plans and set premiums. In an amicus brief, the American Hospital Association and other hospital groups argue that any ruling that overturned the ACA "would disrupt nine years of innovations that have become enmeshed in the health care landscape [and] wreak havoc on health care delivery in this country."[1] This brief focuses on the implications of repeal for Massachusetts in two specific areas: the effects on health insurance coverage and on federal health care dollars spent in the state. A description of our methods is found in the appendix to this brief.

When the ACA was passed in 2010, Massachusetts and six other states had federal Medicaid waivers[2] in place that expanded coverage to people not traditionally covered by Medicaid — such as low-income childless adults.[3] In Massachusetts, this waiver supported the development and financing of the subsidized health insurance program that was a key element of the state s 2006 health reform initiative and coverage expansion. As this and other reforms demonstrate, Massachusetts has a longstanding commitment to expanding health are coverage and has suc essfully collaborated with various stakeholders to develop policies and programs that support ac ess to health insurance coverage. This shared responsibility and commitment enabled Massachusetts to achieve the highest insurance rate in the country even before the ACA was in place, and to maintain that status since. However, under a repeal of the ACA, Massachusetts, and other similarly situated states, would need to consider whether it could return to the subsidized coverage programs and financing structure in place prior to the ACA. Repeal of the ACA would cause large increases in the uninsured, leaving Massachusetts and its residents worse off than they were before the ACA was implemented.

POTENTIAL IMPACT OF FULL REPEAL **WITHOUT** REESTABLISHMENT OF 2006 SUBSIDIZED COVERAGE PROGRAMS

Our estimates are computed assuming that the ACA was repealed in 2019; we first estimate coverage and spending under current law for 2019 to make those comparisons. Insurance coverage in Massachusetts will decrease significantly if the ACA is repealed and the 2006 coverage programs are not reestablished. We estimate that 375,000 Massachusetts residents would lose health insurance coverage; see Table 1. As a result, the number of uninsured people in the state would nearly triple from about 194,000 to 569,000, and the uninsured rate would climb from 3.5 per ent to 10.2 per ent of the population under age 65, hereafter referred to as the nonelderly population. This means that the uninsured rate would be substantially higher than it was prior to implementation of the ACA in 2014 *and* prior to implementation of the state s own reform effort in 2006. In 2013 (prior to ACA implementation), 4.8 per ent of the Massachusetts nonelderly population was uninsured[4] and in 2006 (prior to state health reform), 8.3 per ent of the nonelderly Massachusetts population was uninsured.[5] In our analysis we assume people would lose coverage immediately in the wake of a Supreme Court ruling that the ACA was unconstitutional.

TABLE 1. HEALTH INSURANCE COVERAGE DISTRIBUTION OF THE NONELDERLY (THOUSANDS OF PEOPLE)

	CURRENT LAW (ACA)		FULL ACA REPEAL **WITHOUT** 2006 SUBSIDIZED COVERAGE PROGRAMS					FULL ACA REPEAL **WITH** 2006 SUBSIDIZED COVERAGE PROGRAMS				
	#	%	#	%	CHANGE FROM CURRENT	PERCENTAGE-POINT CHANGE	% DIFFERENCE	#	%	CHANGE FROM CURRENT	PERCENTAGE-POINT CHANGE	% DIFFERENCE
INSURED (MINIMUM ESSENTIAL COVERAGE)	**5,372**	**96.5%**	**4,997**	**89.8%**	**-375**	**-6.7%**	**-7.0%**	**5,332**	**95.8%**	**-40**	**-0.7%**	**-0.7%**
Employer	**3,295**	**59.2%**	**3,429**	**61.6%**	**134**	**2.4%**	**4.1%**	**3,394**	**61.0%**	**99**	**1.8%**	**3.0%**
Private Nongroup	**351**	**6.3%**	**129**	**2.3%**	**-222**	**-4.0%**	**-63.3%**	**486**	**8.7%**	**135**	**2.4%**	**38.4%**
• ConnectorCare	228	4.1%	0	0.0%	-228	-4.1%	-100.0%	359	6.5%	132	2.4%	57.7%
• Marketplace with Premium Tax Credits	18	0.3%	0	0.0%	-18	-0.3%	-100.0%	0	0.0%	-18	-0.3%	-99.5%
• Unsubsidized Marketplace	44	0.8%	0	0.0%	-44	-0.8%	-100.0%	0	0.0%	-44	-0.8%	-100.0%
• Other Nongroup	61	1.1%	129	2.3%	68	1.2%	110.3%	126	2.3%	65	1.2%	106.3%
Medicaid/CHIP	**1,647**	**29.6%**	**1,361**	**24.4%**	**-286**	**-5.1%**	**-17.4%**	**1,372**	**24.7%**	**-274**	**-4.9%**	**-16.6%**
• Disabled	295	5.3%	293	5.3%	-1	0.0%	-0.5%	294	5.3%	0	0.0%	-0.2%
• Medicaid Expansion	260	4.7%	0	0.0%	-260	-4.7%	-100.0%	0	0.0%	-260	-4.7%	-100.0%
• Traditional Nondisabled Adult	425	7.6%	420	7.5%	-5	-0.1%	-1.1%	420	7.5%	-4	-0.1%	-1.0%
• Nondisabled Medicaid/ CHIP Child	667	12.0%	647	11.6%	-20	-0.4%	-3.0%	658	11.8%	-9	-0.2%	-1.4%
Other Public	**79**	**1.4%**	**79**	**1.4%**	**0**	**0.0%**	**0.0%**	**79**	**1.4%**	**0**	**0.0%**	**0.0%**
UNINSURED	**194**	**3.5%**	**569**	**10.2%**	**375**	**6.7%**	**192.6%**	**234**	**4.2%**	**40**	**0.7%**	**20.6%**
TOTAL	**5,566**	**100.0%**	**5,566**	**100.0%**	**0**	**0.0%**	**0.0%**	**5,566**	**100.0%**	**0**	**0.0%**	**0.0%**

Source: The Urban Institute. Health Insurance Policy Simulation Model (HIPSM), 2019.

The largest share of those who would lose coverage are among the 260,000 people currently enrolled in MassHealth as a result of the ACA expansion in Medicaid eligibility. These enrollees include nondisabled childless adults with incomes up to 138 per ent of the federal poverty level (FPL), or $17,236 for a single adult in

FIGURE 1.
IF THE ACA IS REPEALED, WHAT COVERAGE WILL THE **MEDICAID EXPANSION POPULATION** HAVE? (THOUSANDS OF PEOPLE)

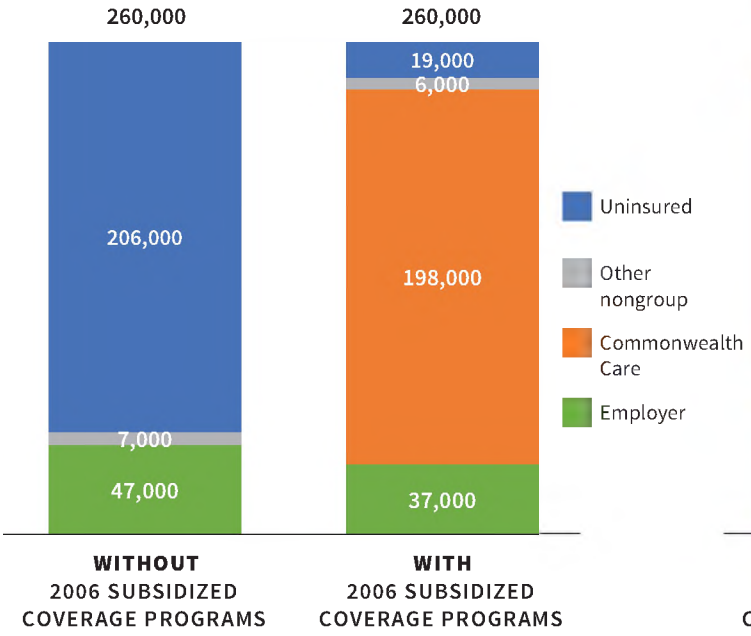
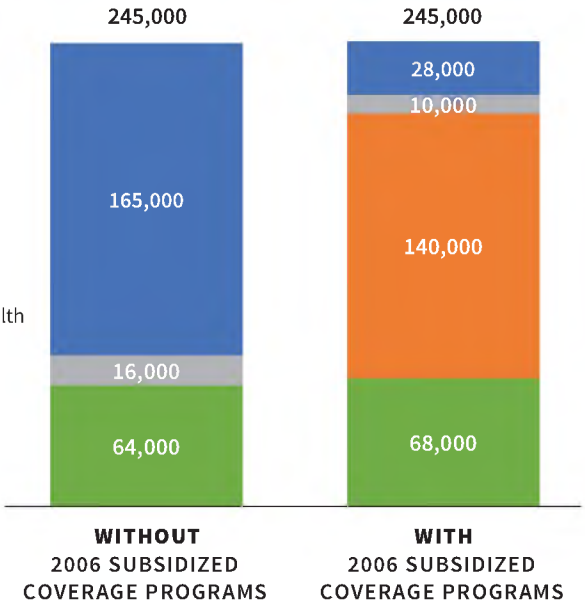


FIGURE 2.
IF THE ACA IS REPEALED, WHAT COVERAGE WILL THE **SUBSIDIZED PRIVATE NONGROUP POPULATION** HAVE? (THOUSANDS OF PEOPLE)



Source: The Urban Institute. Health Insurance Policy Simulation Model (HIPSM), 2019.

2019. In the absence of the ACA and the absence of the coverage programs that were in place in 2006, these people would no longer be eligible for Medicaid. About three-quarters of these people (over 200,000) would become uninsured, while the remainder would enroll in other types of coverage; see Figure 1. People in this income group generally have few alternative sour es of insurance coverage since many are unemployed, self-employed, work part-time, or work for employers who do not offer coverage. Those who do have ac ess to employer-sponsored coverage may find it difficult to afford the premium contributions and deductibles. Under a repeal of the ACA, less than one-fifth (47,000) of this group would enroll in employer-sponsored coverage. Financial assistance to purchase coverage in the nongroup market would no longer be available. Only 7,000 would purchase private coverage in the nongroup market without a subsidy.

Other people who would lose coverage are among the roughly 245,000 people currently enrolled in Connector-Care or in Marketplace plans with a tax subsidy to help them afford their premiums.[6] Under the ACA, someone with an affordable offer of health insurance coverage from their employer is not eligible for these subsidies. This means employer-sponsored coverage is not available to most ConnectorCare and subsidized Marketplace enrollees, either because they work part-time or because they work for employers that do not offer insurance to any worker, or their employer's offer of insurance is unaffordable, or they are self-employed. In the absence of the ACA or the reestablishment of the state s 2006 coverage programs, ConnectorCare and subsidized Market-place plans would be eliminated, and more than two-thirds of their enrollees (about 165,000 people) would become uninsured; see Figure 2. A little more than one-quarter (64,000 people) would find coverage through an employer-sponsored plan; it is likely they would be paying a very high premium relative to their income. Less than one-tenth (16,000 people) would purchase coverage in the nongroup market without a subsidy.

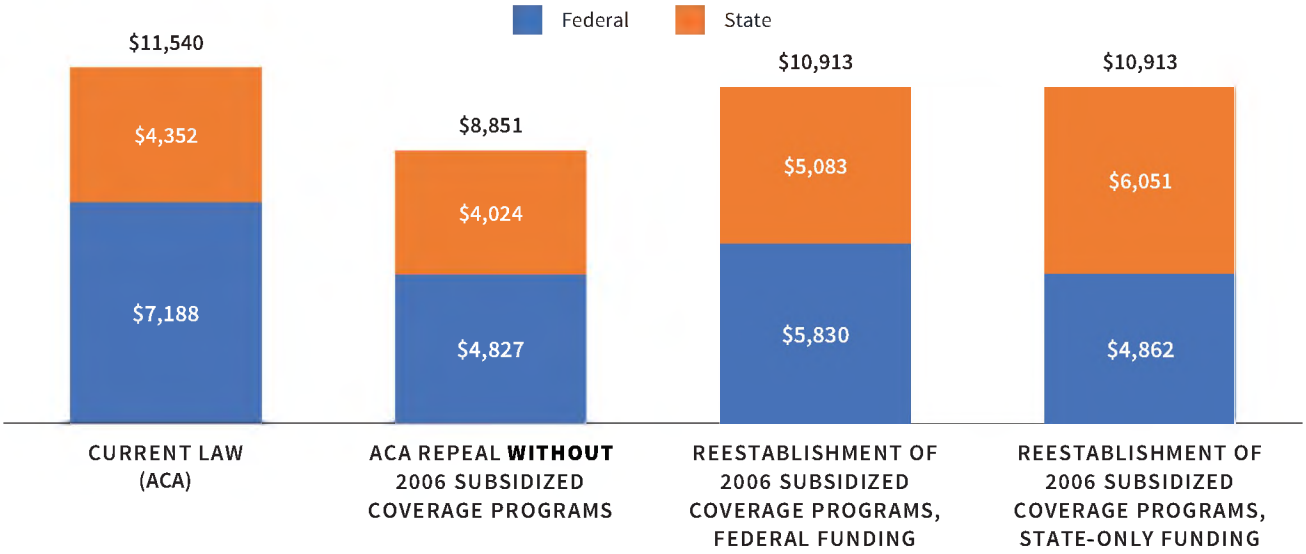
ederal spending on health care in Massachusetts would drop substantially in the wake of the ACA being overturned and the state not reestablishing its 2006 coverage programs. Federal funding for the state s Medicaid

program would decline as eligibility is rolled back. Simultaneously, federal funding for premium tax credits (which help individuals afford their coverage in the Health Connector, Massachusetts' Marketplace) would ease. Total federal spending on health care in Massachusetts would fall from $7.2 billion to $4.8 billion per year in 2019 dollars, a decline of $2.4 billion; see Figure 3. At the same time, state spending would decrease by $328 million if no other changes were made. Thus total government health spending in Massachusetts would decrease by $2.7 billion, from $11.5 billion to $8.9 billion. These changes would have large consequences for families, the Commonwealth, and health care providers in the state.

These dramatic declines in federal spending would directly affect health care providers, as some of their patients would transition from insured to uninsured. Hospitals and other providers who serve the uninsured would experience more unpaid bills, or "bad debt." If the ACA were overturned in its entirety, we estimate that people losing health coverage would seek at least $400 million in additional uncompensated care, including care sought from hospitals, physician offices, prescription drug manufacturers, and other providers.[7] This increase in the demand for free or reduced-price care would occur in the wake of the coverage losses detailed above, as uninsured residents without the ability to pay for their care presented themselves at hospitals, community health centers, and other health care providers. However, it is unlikely that providers would meet all of this increase in demand for uncompensated care, and patients could experience higher levels of unmet need.

In an unrelated study, an analysis based on cost reports filed by hospitals in Massachusetts found that the 2006 health reforms reduced hospital bad debt by 26 per ent.[8] This evidence suggests that if the ACA is overturned, the resulting decrease in coverage could increase the level of bad debt experienced by hospitals to pre-2006 levels. Several other studies have found that hospital finances improved in states that expanded Medicaid eligibility under the ACA relative to states that did not expand eligibility.[9] The studies found that hospital spending on uncompensated care fell and Medicaid revenues rose, resulting in improved margins. Thus the evidence strongly suggests that overturning the ACA and substantially increasing the number of uninsured residents could be expected to cause significant financial strain on hospitals in Massachusetts. Moreover, the state s Uncompensated Care Pool that existed prior to the 2006 reforms to compensate providers with bad debt is no longer available at the same levels, having been used to partly fund the expansion of coverage under the 2006 waiver.

FIGURE 3. CHANGES IN FEDERAL AND STATE FUNDING FOR MASSACHUSETTS UNDER ACA REPEAL (MILLIONS OF DOLLARS)



Source: The Urban Institute. Health Insurance Policy Simulation Model (HIPSM), 2019.

POTENTIAL IMPACT OF FULL REPEAL **WITH** REESTABLISHMENT OF 2006 SUBSIDIZED COVERAGE PROGRAMS

The results presented in the previous section assume that Massachusetts would revert to its pre-2006 programs and levels of eligibility, before the passage of the Commonwealth Care program (which was the predecessor to the ConnectorCare program). In 2006, Massachusetts passed legislation to establish Commonwealth Care, providing subsidized health insurance coverage for adults with income up to 300 per ent of the FPL who were ineligible for other public programs and who were not eligible for employer-sponsored insurance or student health insurance.[10] Given this leadership and dedication to health coverage by all stakeholders, we have also estimated the implications of full repeal of the ACA if the coverage programs established under the 2006 reform are reestablished, under two funding options: one in which the federal government contributes to the costs of the programs consistent with funding arrangements in place in the 2006 reforms, and the other in which the state covers the full cost of the 2006 programs.

When we assume that if the ACA were overturned, and that Massachusetts would revert to its 2006 coverage program (known as Commonwealth Care), only 40,000 people would lose coverage. This stands in sharp contrast to the previous scenario, in which 375,000 more people would be uninsured; see Table 1. Federal health are spending in Massachusetts would decline substantially but by less so than under the previous scenario.

Of the 260,000 people enrolled in MassHealth under current law — as a result of the ACA expansion in Medicaid eligibility — nearly 200,000 would remain covered under Commonwealth Care if that program was reinstated; see Figure 1. Approximately 37,000 people would enroll in employer-sponsored coverage, and about 6,000 people would purchase coverage in the nongroup market without subsidies. However, about 19,000 people in this group would become uninsured.

Of the 245,000 people enrolled in ConnectorCare or in the Marketplace with a subsidy under current law, more than half, about 140,000 people, would maintain coverage through Commonwealth Care under a repeal of the ACA in a scenario where this 2006 coverage program was reinstated; see Figure 2. More than one-quarter, or 68,000 people, would enroll in employer-sponsored coverage, while 10,000 people would purchase coverage in the nongroup market without a subsidy. About 28,000 people in this group would become uninsured.

Federal funding for Medicaid would fall substantially, while federal funding for subsidies in the nongroup market would drop to zero. In a scenario where the state reestablishes its 2006 coverage programs with federal participation, federal health care funding for Massachusetts would shrink by $1.4 billion per year in 2019 dollars, a decline of 19 per ent; see Figure 3. State spending would have to increase by $731 million per year, or 17 per ent, over present-day spending, and total government health spending in Massachusetts would fall by $627 million. Should the federal government no longer participate in the financing of a reestablished Commonwealth Care program, Massachusetts could maintain the program at its own cost. However, doing so would require the state to raise its own spending on health care programs by $1.7 billion per year, or 39 per ent.

CONCLUSION

As we illustrate here, a court decision to overturn the ACA would have serious and widespread implications for Massachusetts. In the scenario where the ACA is overturned and Massachusetts is not able to reestablish its 2006 coverage programs, hundreds of thousands of people would lose their health insurance coverage, increasing the uninsured rate among the Massachusetts nonelderly population from 3.5 per ent today to 10.2 per ent. This would also be well above the pre-ACA uninsured rate of 4.8 per ent in 2013. The much larger number of uninsured would be ac ompanied by the loss of more than $2 billion per year in federal health care spending in the state. At the same time, the state and its health care providers would be hit with large increases in the demand for uncompensated care. If the ACA is repealed and Massachusetts is not able to reestablish the coverage programs and financing that supported the 2006 health reform initiative, the state and its residents would likely be worse off in terms of coverage and federal financing than they were prior to the ACA s enactment.

Given its historical commitment to health reform and expanding ac ess to coverage, it is reasonable to assume Massachusetts would continue its efforts to maintain near-universal coverage. However, this brief also demonstrates that reestablishment of the state s 2006 reform programs would still result in 40,000 people losing coverage, substantial declines in federal funding for Medicaid, and the loss of all federal subsidies in the nongroup market. State spending would have to increase by $731 million per year to reestablish those 2006 subsidized coverage programs, assuming federal financial support. In the absence of federal financial support for those programs, the state would need to increase its own spending on health care programs by $1.7 billion per year. These results clearly demonstrate the significant impact that repeal of the ACA will have on coverage and financing for health care in Massachusetts under a variety of scenarios.

APPENDIX: METHODOLOGY

We simulated health care coverage and costs under current law and alternative ACA repeal scenarios using the Urban Institute s Health Insurance Policy Simulation Model (HIPSM). HIPSM is a detailed microsimulation model of the health care system designed to estimate the ost and coverage effects of proposed health care policy options. In HIPSM, individuals and families are assumed to choose, among the coverage options available to them, the option that is most desirable or provides the greatest utility. Decisions are based on premiums, expected out-of-pocket costs, health care risk, family disposable income, and whether the Massachusetts individual mandate penalty would apply. Affordability of coverage is built into the decision-making, as is the Massachusetts individual mandate requirement for those who are not exempt. HIPSM is designed for quick-turnaround analysis of policy proposals. It can be rapidly adapted to analyze a wide variety of scenarios — from novel health insurance offerings to strategies for increasing affordability to state-specific proposals — and can estimate the effects of a policy option over several years.

HIPSM calculates who is eligible for subsidized coverage under the public programs available in each scenario, including Medicaid, Commonwealth Care, ConnectorCare, and the Marketplace, so that these options are included in each individual's or family's set of options. The model also includes information on people s ac ess to employer-sponsored insurance, either through their own or a family member's job. In a policy simulation, the model analyzes how changes in eligibility and costs of coverage affect individual, family, and employer decisions. Changes in one insurance market can result in changes in other markets. or example, if a group of people lose Medicaid eligibility, some of them will become uninsured, but others may decide to enroll in employer-sponsored insurance and pay the employee premium. If another group of people lose ac ess to subsidized coverage in the nongroup market, some of them may decide to purchase another plan in the nongroup market without a premium subsidy, and others may decide to enroll in employer-sponsored insurance and pay the employee premium. HIPSM assumes that Massachusetts state insurance market regulations (consistent with the 2006 reforms), including guaranteed issue, modified community rating, merged small group and nongroup insurance markets, and the state-based individual mandate, would remain in place under ACA repeal.

HIPSM is based on two years of data from the American Community Survey, which provide a representative sample of families that is large enough to allow estimates for individual states and smaller regions such as cities. The model is designed to incorporate timely real-world data to the extent that they are available. For the estimates in this brief, we customized the model to incorporate detailed information on 2019 enrollment and health care costs provided by MassHealth, the Massachusetts Health Connector, and the Center for Health Information and Analysis.

Results from HIPSM simulations have been favorably compared to actual policy outcomes and compared to other respected microsimulation models, as assessed by outside experts.[11] Findings from the model were cited in the majority opinion in the Supreme Court case *King v. Burwell*, in many amicus briefs submitted to the court in that case, and in a number of briefs submitted in the *Texas v. United States* case. Findings from HIPSM have been broadly cited in top-tier media, including the *New York Times*, *Washington Post*, *Wall Street Journal*, *Vox*, *CNN*, and *Los Angeles Times*. Results from HIPSM have been displayed on the floor of the U.S. Senate during debate and are widely distributed among legislative staff.

Limitations: HIPSM does not model student health insurance as a potential sour e of coverage, nor does it explicitly model the exclusion of students from the Massachusetts 2006 health reform program Commonwealth Care. This is a potential issue in the second scenario presented in this brief: the estimates of changes in coverage and cost if the ACA was repealed and Massachusetts was able to reinstate its 2006 programs. Under this scenario, students who are enrolled in MassHealth or ConnectorCare would lose their overage and would also be excluded from enrolling in Commonwealth Care. Although we are not able to specifically model this aspect of the state program, the underlying data in HIPSM capture student coverage distributions from a period after the 2006 Massachusetts reform and before the ACA was implemented in 2014, a period when students were excluded from Commonwealth Care. This suggests that our estimates of repeal of the ACA are roughly consistent with a reinstatement of that policy regarding students.

For more information on HIPSM and related research, see http://www.urban.org/hipsm.

ENDNOTES

1 Brief of the American Hospital Association et al. as Amici Curiae in Support of Intervenor Defendants-Appellants, Texas v. United States of America, No. 4:18-cv-00167-O, Ca. Att'y Gen. 2557 Tx. Dist. Ct. (2018) (No. 19-10011).

2 The seven states were Arizona, Delaware, Hawaii, Massachusetts, New York, Vermont, and Wisconsin.

3 States may request approval from the Secretary of Health and Human Services to waive certain provisions of Medicaid and Children's Health Insurance Program (CHIP), under Section 1115 of the Social Security Act. A waiver permits a state to use Medicaid and CHIP funds in ways that are not otherwise allowed under federal rules as long as the initiative is likely to promote the objectives of the program. Prior to the ACA, states required waivers to extend Medicaid coverage to populations not traditionally covered in Medicaid, such as low-income childless adults without disabilities.

4 John Holahan, Caroline Elmendorf, Linda Blumberg, and Laura Skopec. "A Typology for Analyzing Coverage Gains by State: 2013–2017," Urban Institute, September 2019. www.urban.org/sites/default/files/publication/101035/a_typology_for_analyzing_coverage_gains_by_state_2013-2017_0.pdf.

5 Robin Cohen and Michael Martinez, "Health Insurance Coverage: Early Release of Estimates from the National Health Interview Survey, 2006," June 2007. www.cdc.gov/nchs/data/nhis/earlyrelease/insur200706.pdf. The Health Insurance Policy Simulation Model (HIPSM) estimates are most consistent with the American Community Survey. Different household surveys measure uninsured rates somewhat differently, and the published 2006 National Health Interview Survey estimate is not precisely comparable to the estimates presented here.

6 ConnectorCare is a program that provides enhanced premium and cost sharing subsidies to individuals with income up to 300% FPL who are also receiving premium tax credits.

7 This estimate is based on national historical data demonstrating how much uncompensated care is used by people who are uninsured. This estimate does not capture any conditions specific to Massachusetts, like the existence of the Health Safety Net, which likely results in more uncompensated care. These costs are the estimated costs for providers caring for the uninsured who seek health care services and are not able to pay for them. It should be noted that some of the newly uninsured will go without needed health care services, pay out of pocket, or finan e services on a credit card.

8 Arrieta, Alejandro. "The Impact of the Massachusetts Health Care Reform on Unpaid Medical Bills," *Inquiry: The Journal of Health Care Organization, Provision, and Financing* 2013, Vol. 50(3) 165–176.

9 Blavin, Fredric. "Association between the 2014 Medicaid expansion and US hospital finances." *JAMA*. 2016;316(14):1475–1483. April 3, 2017. "How Has the ACA Changed Finances for Different Types of Hospitals? Updated Insights from 2015 Cost Report Data." Washington, DC: Urban Institute; Lindrooth, Richard C., Marcelo C. Perraillon, Rose Y. Hardy, and Gregory J. Tung. 2018. "Understanding the Relationship Between Medicaid Expansions and Hospital Closures," *Health Affairs* 37:1, pp 111-120, January 2018; Rhodes, Jordan H., Thomas C. Buchmueller, Helen G. Levy, and Sayeh S. Nikpay. 2019. "Heterogeneous Effects of the ACA Medicaid Expansion on Hospital Financial Outcomes" *Contemporary Economic Policy*.

10 Those income thresholds would translate into $63,990 for a family of three and $37,470 for an individual in 2019.

11 Sherry A. Glied, Anupama Arora, Claudia Solís-Román (2015). The CBO's Crystal Ball: How Well Did It Forecast the Effects of the Affordable Care Act? The Commonwealth Fund. http://www.commonwealthfund.org/publications/issue-briefs/2015/dec/cbo-crystal-ball-forecast-aca.

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Newsroom

New policy brief shows gender differences in health insurance and access among Californians

December 11, 2019

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In California, both men and women benefitted from insurance expansions under the Patient Protection and Affordable Care Act (ACA), according to a new study by the UCLA Center for Health Policy Research. Using data from the 2012 to 2016 waves of the California Health Interview Survey, the policy brief outlines gender differences in health insurance and health care access in the state.

Read The Policy Brief

View: Persistent Gap: Gender Disparities in Health Insurance and Access to Care in California
(/publications/search/pages/detail.aspx?PubID=1916)

The study's authors note that among men and women, uninsured rates declined primarily due to expansions of Medi-Cal under the ACA in 2014, which reduced enrollment barriers for millions of low-income adults who were previously ineligible for the program. Despite coverage gains for both men and women, gender gaps persisted in accessing care. Men have fewer ties to the health care system — 26% of men compared to about 15% of women reported that they did not have a usual source of care. Despite this, women were more likely than men to experience delays in care — about 15% and 10%, respectively.

Researchers also highlight that the socioeconomic status (SES) changed among those who were uninsured, enrolled in Medi-Cal, or received insurance through their employer. In 2016, both men and women enrolled in Medi-Cal had higher SES than in 2012, seeing increases in education, employment, and income.

"Although both women and men gained when the ACA introduced new health insurance options, men remained more likely to be uninsured and women more likely to be enrolled in public programs such as Medi-Cal," said Susan Babey, Center senior research scientist and co-author of the study. "Also, men and women seem to view health and health care use differently, making elimination of the health care 'gender gap' especially challenging."

The UCLA Center for Health Policy Research is one of the nation's leading health policy research centers and the premier source of health policy information for California. The Center improves the public's health through high-quality, objective, and evidence-based research and data that informs effective policymaking. The Center is the home of the California Health Interview Survey (CHIS) and is part of the UCLA Fielding School of Public Health. For more information, visit www.healthpolicy.ucla.edu (http://www.healthpolicy.ucla.edu/) .

How Many of the Uninsured Can Purchase a Marketplace Plan for Free in 2020?

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Cynthia Cox (https://www.kff.org/person/cynthia-cox/) (https://twitter.com/cynthiaccox), and

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Published: Dec 10, 2019

While the percent of the population without health coverage has decreased since the major coverage expansion in the ACA, at least 10% of the non-elderly population (https://www.kff.org/uninsured/fact-sheet/key-facts-about-the-uninsured-population/) is still uninsured. This analysis looks at how many of the remaining uninsured are eligible for premium subsidies large enough to cover the entire cost of a bronze plan, which is the minimum level of coverage available on the Marketplaces.

The premium tax credits that subsidize Marketplace coverage are calculated using the second-lowest cost silver plan in each rating area as a benchmark. As was the case in 2019, many unsubsidized silver plans continue to be priced relatively high because insurers generally loaded the cost (https://www.kff.org/health-reform/issue-brief/how-the-loss-of-cost-sharing-subsidy-payments-is-affecting-2018-premiums/) from the termination of federal cost-sharing reduction payments entirely onto the silver tier (a practice sometimes called "silver loading"). The relatively higher price for silver plans means subsidy-eligible Marketplace enrollees will continue to receive large premium tax credits in 2020. These subsidies – which can be used towards the premium of any Marketplace plan – also continue to make lower premium bronze plans (https://www.kff.org/health-costs/issue-brief/how-aca-marketplace-premiums-are-changing-by-county-in-2020/) more likely to be available for $0 than before cost-sharing reduction payments were terminated.

In this analysis, we focus specifically on the approximately 16.7 million uninsured people who could be shopping on the Marketplace, regardless of whether or not they are eligible for a subsidy.[1] We therefore exclude people who are eligible for Medicaid, those over the age of 65, and those who are undocumented immigrants (who are not permitted to buy Marketplace coverage).

We estimate that 28% of uninsured individuals who could shop on the Marketplace, or 4.7 million people nationwide, are eligible to purchase a bronze plan with $0 premiums after subsidies in 2020. This figure is similar to 2019, when 27% of uninsured individuals, or 4.2 million people, could purchase a no-premium bronze plan.

As shown on the map and table below, the availability of free bronze plans varies widely between states. More than half of the uninsured who could get a free bronze plan live in Texas, Florida, North Carolina, or Georgia. Other states with large shares of uninsured residents who could sign up for a no-premium bronze plan include Iowa (59%), Alaska (45%), Wyoming (44%), Idaho (41%), and South Dakota (41%).

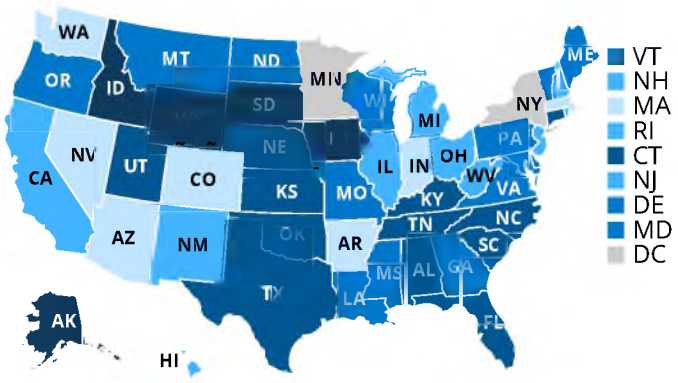
Rather than continuing to go without insurance, the 4.7 million uninsured people eligible for no-premium bronze plans would benefit from the financial protection health insurance offers. While bronze plans have high deductibles, they all cover preventive care with no out-of-pocket costs, and a number of bronze plans cover additional services, such as a few physician visits, before the deductible. If a low-income enrollee in a bronze plan needs a hospitalization, they will likely have difficulty affording the deductible, but the deductible will also likely be much less than the cost of a hospitalization without insurance.

Bronze plans have an average deductible (https://www.kff.org/health-reform/fact-sheet/cost-sharing-for-plans-offered-in-the-federal-marketplace-for-2019/) of $6,506, and many people eligible for a $0 bronze premium would also be eligible for significant cost-sharing assistance by instead purchasing a silver plan. Single individuals with incomes below 250% of the poverty level can purchase benchmark (https://www.kff.org/interactive/subsidy-calculator/) silver plans with cost-sharing reductions (CSR) for $20 to $215 per month after subsidies in 2020, on average, depending on an enrollees' income. Silver CSR plans have average annual deductibles (https://www.kff.org/health-reform/fact-sheet/cost-sharing-for-plans-offered-in-the-federal-marketplace-for-2019/) ranging from $209 to $3,268 in 2020, also depending on income, and have reduced copays and coinsurance. It is therefore important for potential enrollees, particularly those with significant health needs, to not only consider the premium, but also the significant cost-sharing assistance that is only available if they enroll in a silver plan.

Percent of Uninsured with Access to Free Bronze Marketplace Plan

(https://www.kff.org/wp-

1% - 10% 11% - 20% 21% - 30% 31% - 40%



Roll
over a state to show
information

Table 1: Uninsured who have Access to a Free Bronze Plan After Tax Credits in 2020

State	Percent	Count
US Total	28%	4,655,900
Alaska	45%	20,000
Alabama	36%	147,100
Arkansas	5%	5,200
Arizona	10%	35,700
California*	16%	178,800
Colorado	8%	19,500
Connecticut	35%	29,200
District of Columbia	N/A	N/A
Delaware	30%	7,600
Florida	33%	694,800
Georgia	29%	303,600
Hawaii	18%	4,300
Iowa	59%	47,700
Idaho	41%	44,500
Illinois*	13%	50,200
Indiana	10%	26,400
Kansas	36%	65,500
Kentucky	31%	41,100
Louisiana	22%	37,800
Massachusetts	10%	9,600
Maryland	21%	30,700
Maine*	26%	15,600
Michigan	19%	54,500
Minnesota	N/A	N/A
Missouri	27%	126,400
Mississippi	22%	67,600
Montana	30%	15,100
North Carolina	40%	338,200
North Dakota	22%	7,700
Nebraska	38%	24,600

New Hampshire	17%	8,000
New Jersey	14%	37,300
New Mexico	18%	15,600
Nevada	7%	9,400
New York*	N/A	N/A
Ohio	18%	67,800
Oklahoma	40%	166,600
Oregon*	24%	38,400
Pennsylvania	22%	74,800
Rhode Island	13%	3,000
South Carolina	40%	166,000
South Dakota	41%	25,800
Tennessee	36%	186,100
Texas	32%	1,151,300
Utah	37%	47,800
Virginia	29%	92,100
Vermont	30%	4,900
Washington*	10%	24,800
Wisconsin	30%	57,500
West Virginia	12%	7,000
Wyoming	44%	22,400

*** CA, IL, NY, ME, OR, and WA require that most ACA plans include abortion coverage, which typically costs $1 per month and cannot be covered by subsidies.**

SOURCES: 2020 Premiums come from KFF analysis of premium data from Healthcare.gov and review of state rating filings. Data on population and eligibility for subsidies come from KFF analysis of the American Community Survey (ACS) for 2018.

NOTES: Counts are rounded to the nearest 100. This analysis does not include individuals who are over the age of 65, or who are eligible for Medicaid in 2020 or are undocumented immigrants. DC is not included in this analysis due to an insufficient sample size in the ACS. New York and Minnesota are not included in this analysis because they offer Basic Health Plans to enrollees with incomes less than 200% of poverty.

Methods

2020 Premiums come from Kaiser Family Foundation (KFF) analysis of premium data from Healthcare.gov and review of state rating filings. Data on population, income, and eligibility for subsidies come from KFF analysis of the Census Bureau's 2018 American Community Survey (ACS). The ACS includes a 1% sample of the US population and allows for precise state-level estimates. The ACS asks respondents about their health insurance coverage at the time of the survey. Respondents may report having more than one type of coverage; however, individuals are sorted into only one category of insurance coverage.

Premiums in this analysis are the full price of plans, rather than specifically the portion that covers essential health benefits (EHB). Since premium tax credits can only be used to cover the EHB portion of premiums, some of the individuals denoted as having access to a "free" bronze plan would actually have to pay a premium for non-essential health benefits if they enrolled in a bronze plan. The ACA does not permit federal subsidies to pay for abortion coverage and requires plans to collect (https://www.kff.org/womens-health-policy/issue-brief/coverage-for-abortion-services-in-medicaid-marketplace-plans-and-private-plans/) no less than $1.00 per month for this coverage. In CA, IL, NY, ME, OR, and WA, state law requires that that all state regulated plans include abortion coverage. Policyholders who live in these states must pay the abortion surcharge even though they may qualify for subsidies that provide the full cost of premiums if they select a bronze plan. Providence Health Plans in OR and WA have a religious exemption allowing them to exclude abortion coverage.

This analysis does not include individuals who are over the age of 65, or who are eligible for Medicaid in 2020 or are undocumented immigrants. DC is not included in this analysis due to an insufficient sample size in the ACS. New York and Minnesota are not included in this analysis because they offer Basic Health Plans to enrollees with incomes less than 200% of poverty.

Endnotes

1. The total number of uninsured for 2018 does not include DC, New York, or Minnesota. This figure does not include individuals who are over the age of 65, or who are eligible for Medicaid in 2020 or are undocumented immigrants. The Census Bureau estimates (https://www.census.gov/library/publications/2019/demo/p60-267.html) a total of 27.5 million people in the U.S. were uninsured in 2018.

← Return to text (https://www.kff.org/private-insurance/issue-brief/how-many-of-the-uninsured-can-purchase-a-marketplace-plan-for-free-in-2020/#endnote_link_442285-1)

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Centers for Medicare & Medicaid Services
U.S. Department of Health and Human Services

Center for Consumer Information and Insurance Oversight

HHS Risk Adjustment Data Validation (HHS-RADV) White Paper

December 6, 2019

TABLE OF CONTENTS

GLOSSARY OF TERMS, ACRONYMS, AND DEFINITIONS

Term	Acronym (if applicable)	Definition
Accuracy		The property of being close to a target or true value. It measures how well the sample measurements match the true population value, but does not measure how close sample measurements are to each other (refer to definition of 'precision' below).
Bootstrap Resampling Technique		A method of testing precision, wherein one large sample is taken from the parent distribution and then multiple samples with replacement from that initial sample are drawn. It is used to determine standard errors and confidence intervals when the underlying distribution is unknown, when sample sizes may be too small, and/or when no formula may exist for a complex calculation.
Center for Consumer Information and Insurance Oversight	CCIIO	The component within CMS charged with helping implement many reforms of the Patient Protection and Affordable Care Act (PPACA). CCIIO oversees the implementation of the provisions related to private health insurance. In particular, CCIIO works with states on the operation of the Health Insurance Exchanges. CCIIO works closely with state regulators, consumers, and other stakeholders to ensure the PPACA best serves the American people.
Centers for Medicare & Medicaid Services	CMS	A federal agency within the United States Department of Health and Human Services that administers the Medicare program and works in partnership with state governments to administer Medicaid, the State Children's Health Insurance Program, and the PPACA private market reforms.
Confidence Level		In terms of HHS-RADV error estimation, the theoretical probability that an issuer whose population-level failure rate for an HCC group is very similar to the national mean will *not* be found to be an outlier, given that all statistical assumptions about the underlying distribution are upheld.
Default Data Validation Charge	DDVC	Charge imposed under 45 CFR § 153.630(b)(10) if an issuer fails to engage an initial validation auditor or submit initial validation audit (IVA) results. The DDVC is calculated similarly to the Risk Adjustment Default Charge (RADC), but is an independently calculated and assessed penalty.
Demographic and Enrollment	D&E	Describes an enrollee's demographics and enrollment status.
External Data Gathering Environment	EDGE	Issuer-distributed data collection services (also known as an EDGE server) that issuers in states where HHS operates a risk adjustment program are required to establish and to compile enrollment, pharmaceutical claims and medical claims information on enrollees in risk adjustment covered plans from issuers' proprietary systems. An EDGE server runs HHS-developed software designed to verify submitted data, execute risk adjustment processes, and generate summary reports for submission to HHS.

Term	Acronym (if applicable)	Definition
Error Rate		The rate at which an outlier issuer's risk score is adjusted based on HHS-RADV results. If an issuer is identified as a group failure rate outlier in one or more hierarchical condition categories (HCC) groups, its individual enrollee risk scores are adjusted based on the differences between the issuer's group failure rate and the national mean HCC group failure rate in every HCC group in which the issuer is identified as an outlier. The issuer's error rate equals $1 - \frac{stratum\ weighted\ sum\ of\ adjusted\ enrollee\ risk\ scores}{sum\ of\ original\ EDGE\ enrollee\ risk\ scores}$
Failure Rate		The rate at which the frequency of HCCs identified through the IVA or second validation audit (SVA) differ from the frequency of the HCCs identified on EDGE. Failure rate equals $1 - \frac{HCC\ frequency\ in\ IVA\ or\ SVA}{HCC\ frequency\ on\ EDGE}$ During HHS-RADV error estimation, the HCC failure rate is calculated for each HCC to determine the low, medium and high HCC groups that determine the national mean and confidence intervals for each HCC group. Then, each issuer's failure rate is calculated for each HCC group to determine whether the issuer is a group failure rate outlier, which would lead to a non-zero error rate and an adjustment to the issuer's enrollee risk scores.
Failure Rate Z Score		An issuer's HCC group failure rate compared to the weighted mean of that HCC grouping measured in weighted standard deviations from the mean. It is a measure of how many standard deviations below or above the failure rate mean an issuer's failure rate is within an HCC group.
Finite Population Correction	FPC	A formula that assists in determining a modified sample size for issuers with fewer than 4,000 enrollees. It is used to define both the standard error of the mean and the standard error of the proportion.
Group Adjustment Factor		The adjustment factor calculated for each HCC group, assigned when the issuer's HCC group failure rate is outside of the upper or lower boundary of an HCC group in HHS-RADV. This factor is weighted and used to compute the issuer's error rate and the enrollee-level adjusted risk score(s).
Health and Human Services	HHS	The federal government department whose mission is to enhance and protect the health and well-being of all Americans. HHS fulfills its mission by providing for effective health and human services and fostering advances in medicine, public health, and social services.
Health and Human Services' Risk Adjustment Data Validation	HHS-RADV	The data validation process that is part of the HHS-operated risk adjustment program (HHS-RA) under section 1343 of PPACA. The process involves validating a statistically valid sample of enrollment and health status data submitted by issuers of risk adjustment covered plans to their respective EDGE servers.
Health Insurance Oversight System	HIOS	A system created to facilitate several types of data collections from the Departments of Insurance for states/territories as well as health insurance issuers that sell health insurance coverage. HIOS collects insurance company and product information, such as the issuer names, addresses, contact information, and product level data. Each issuer entity is assigned a unique HIOS ID by state.

Term	Acronym (if applicable)	Definition
Hierarchical Condition Categories	HCC	A payment model that uses coding to identify health conditions documented by health professionals and assigns a risk score factor. HHS-operated risk adjustment uses HCCs to estimate a risk score for each enrollee in an issuer's risk adjustment population and uses those risk scores to calculate the issuer's plan liability risk score (PLRS). The PLRS is used in the HHS risk adjustment state payment transfer formula. Similar HCCs are placed in a hierarchy and are grouped together in the HHS-operated risk adjustment model (See Appendix D for more information).
HCC Groupings or HCC Groups		In HHS-RADV, all HHS-RA HCCs are grouped into high, medium, and low groups based on individual HCC failure rates across all issuers. A confidence interval is calculated for each HCC grouping at the national level. If an individual issuer's failure rate for at least one HCC grouping is outside the confidence interval for that HCC grouping, the issuer is determined to be an outlier in HHS-RADV.
Initial Validation Audit	IVA	The initial validation audit of enrollment data, claims data and health status data submitted by the issuer to HHS for risk adjustment covered plans. This audit is conducted by an independent audit entity (IVA Entity) hired by the issuer. Findings from the IVA must be submitted to HHS for review during the SVA.
Initial Validation Audit Entity	IVA Entity	The independent audit entity contracted by the issuer to conduct the IVA.
Issuer		A licensed entity offering health insurance coverage within a state. Each issuer entity is assigned a unique HIOS ID by state.
Lower Bound		The lower limit of a confidence interval, used in HHS-RADV outlier identification and in measuring precision.
Medicare Advantage Risk Adjustment Data Validation	MA-RADV	The risk adjustment data validation program that applies to Medicare Advantage plans participating in Medicare Part C under the Social Security Act.
Neyman Allocation		The statistical method that calculates the optimal number to be sampled from each stratum, proportional to each stratum's contribution to the total standard deviation of the population (i.e., more variable strata should be sampled more intensely).
Outlier		A value that falls outside of an established threshold. In HHS-RADV, a HIOS ID with a failure rate that falls outside of the HCC Group upper or lower boundary is an outlier. A HIOS ID may be identified as an outlier in one, two, or all three HCC Groups.
Pairwise Means Test		A hypothesis-testing procedure to determine if two population means are different when there is a one-to-one correspondence between the values in the two samples.
Patient Protection and Affordable Care Act	PPACA	Reforms certain aspects of the private health insurance industry and public health insurance programs, including increasing insurance coverage of pre-existing conditions and expanding access to insurance to Americans. The PPACA (Pub. L. 111–148) was enacted on March 23, 2010. The Health Care and Education Reconciliation Act of 2010 (Pub. L. 111–152), which amended and revised several provisions of the PPACA, was enacted on March 30, 2010. In this white paper, we refer to the two statutes collectively as the "Patient Protection and Affordable Care Act" or "PPACA".
Payment Notice		HHS's annual rulemaking that establishes the parameters and policies governing health insurance coverage for the upcoming benefit year, formally called the HHS Notice of Benefit and Payment Parameters.

Term	Acronym (if applicable)	Definition
Payment Error Rate Measurement	PERM	The Payment Error Rate Measurement program measures and reports a national improper payment rate for Medicaid and the Children's Health Insurance Program.
Plan Liability Risk Score	PLRS	The enrollment-weighted average risk score of all enrollees in a particular risk adjustment-covered plan for an issuer.
Practical Confidence Level		The simulated, empirical probability that an issuer whose population-level failure rate for an HCC group is very similar to the national mean will *not* be found to be an outlier given possible violations to statistical assumptions about the underlying distribution that may be present in actual HHS-RADV data (refer to the definition of "Confidence Level" above).
Precision		A measurement of how close in value sampled observations are likely to be to one another. It refers to the dispersion of a set of observations, and does not measure how closely sample observations match the true population (refer to the definition of "accuracy" above).
Risk Adjustment	RA or HHS-RA	A premium stabilization program established by the PPACA. The overall goal of risk adjustment is to eliminate premium differences among plans based solely on favorable or unfavorable risk selection in the individual and small group markets both inside and outside of the Exchanges. Risk adjustment accomplishes this by transferring funds from issuers with lower risk enrollees to issuers with higher risk enrollees.
Risk Adjustment Default Charge	RADC	Charge imposed under 45 CFR § 153.740(b) if an issuer of a risk adjustment covered plan fails to establish an EDGE server or fails to provide HHS with access to the required data on the EDGE server, such that HHS cannot apply the federally certified risk adjustment methodology.
Risk Adjustment Prescription Drug Category	RXC	The use of a drug to impute a diagnosis (or indicate the severity of the diagnosis) otherwise indicated through medical coding in a hybrid diagnoses-and-drugs risk adjustment model. Beginning with the 2018 benefit year, RXCs are utilized in the HHS-RA program to calculate an adult enrollee's risk score. As a result, IVA Entities are required to validate the RXCs of sampled enrollees beginning with the 2018 benefit year of HHS-RADV.
Second Validation Audit	SVA	The independent, third-party audit of the IVA Entity's Audit results performed by the SVA Entity.
Second Validation Audit Entity	SVA Entity	The entity retained by HHS to validate the IVA findings.
Standard Deviation	SD	The measurement of the amount of variability, or dispersion, for a set of selected data values. The standard deviation is equal to the square root of the variance.
Standard Error	SE	An estimate of the standard deviation of a sampling distribution. A measure of the variability of a statistic.
Strata		The subsets of a population being sampled. In HHS-RA, these are mutually exclusive groups within the population and are constructed based on recorded risk score, age, and presence of HCCs (or RXCs).
Upper Bound		The upper limit of a confidence interval, used in HHS-RADV outlier identification and in measuring precision.

EXECUTIVE SUMMARY

Section 1343 of the Patient Protection and Affordable Care Act (PPACA) established a risk adjustment program to provide payments to health insurance issuers that attract high-risk enrollees, such as those with chronic conditions, to reduce the incentives for issuers to avoid those enrollees, and to lessen the potential influence of risk selection on the premiums that issuers charge.[1] Risk adjustment (RA) is an essential component for markets that require guaranteed issue and community rating to protect issuers from adverse risk selection and create incentives for issuers to offer a wide range of plan designs that are particularly valuable to sicker individuals. The risk adjustment program authorized under Section 1343 of PPACA is the only permanent premium stabilization program under PPACA and it applies to non-grandfathered plans in the individual and small group (or merged) markets both inside and outside of the Exchanges. Consistent with section 1321(c)(1) of PPACA[2], the Department of Health and Human Services (HHS) is responsible for operating the program on behalf of any states that do not elect to do so. Prior to the 2017 benefit year, all states and the District of Columbia, except Massachusetts, participated in the HHS-operated risk adjustment program (HHS-RA) and since the 2017 benefit year, all states and the District of Columbia have participated in the HHS-operated risk adjustment program. The HHS-operated risk adjustment program results in the transfer of billions of dollars among health insurance issuers in individual, small group, catastrophic, and merged market risk pools annually.

To ensure the integrity of the risk adjustment program, the Centers for Medicare & Medicaid Services (CMS), on behalf of HHS, performs risk adjustment data validation, also known as HHS risk adjustment data validation (HHS-RADV). One of the primary purposes of HHS-RADV is to validate the accuracy of data submitted by issuers for the purposes of risk adjustment transfer calculations. HHS-RADV serves as an audit of the information used in establishing an enrollee's risk score for purposes of calculating the issuer's plan liability risk score (PLRS) under the risk adjustment program. The findings from HHS-RADV are used to adjust issuers' enrollee risk scores and risk adjustment transfers. Error estimation is the multi-step process of using the HHS-RADV findings to calculate the adjustment to issuers' risk scores and risk adjustment transfers. Due to the budget-neutral nature of the HHS-operated risk adjustment program, adjustments to one issuer's enrollee risk scores and risk adjustment transfers based on HHS-RADV findings will affect all other issuers in the state market risk pool.

The purpose of this white paper is to outline and seek feedback on certain HHS-RADV issues that we may use to inform future HHS-RADV policy. Since we began developing HHS-RADV in 2013, we have sought feedback from stakeholders in its design and operation. We conducted two pilot years of HHS-RADV for the 2015 and 2016 benefit years[3] before applying

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[1] 42 USC 18063.
[2] 42 USC 18041(c)(1).
[3] HHS-RADV was not conducted on 2014 benefit year data. See FAQ ID 11290a (March 7, 2016) available at: https://www.regtap.info/faq_viewu.php?id=11290.

2017 benefit year HHS-RADV findings to adjust risk scores used in risk adjustment transfers for the 2018 benefit year.[4,5] Based on our experience from these initial years of conducting HHS-RADV and analysis of currently available information, HHS is considering potential modifications to certain aspects of the HHS-RADV program for future benefit years.

Specifically, HHS is considering potential modifications to four specific aspects of the HHS-RADV program: 1) enrollee sampling; 2) outlier detection; 3) the error rate calculation and 4) the application of HHS-RADV results, as defined below.

- Enrollee sampling: is the method by which a statistically valid sample of enrollees for each issuer is selected for validation of their risk scores in HHS-RADV.[6] This white paper considers whether the current enrollee sampling methodology, which is based on Medicare Advantage Risk Adjustment Data Validation (MA-RADV) error rates and results in a sample size of 200 enrollees for most issuers, should be adjusted.
- Outlier detection: is the process by which HHS uses all issuers' HHS-RADV results to establish national metrics (e.g. means and confidence intervals) to determine whether an issuer's rate of failure to validate its enrollees' risk scores at the hierarchical condition category (HCC) level is outside of an acceptable range of variation (an outlier). Based on our experiences in the initial years of HHS-RADV, this white paper assesses the sensitivity of the current outlier detection methodology and considers options to modify the outlier detection process to more precisely identify true outliers. This white paper also discusses the influence of HCC hierarchies in outlier detection.
- Error rate calculation: is the calculation of the percentage by which an outlier issuer's risk score is adjusted based on the issuer's failure to validate the HCCs associated with enrollees selected for audit. This white paper examines alternatives to the current methodology that determines an outlier issuer's risk score adjustment by calculating the difference between the issuer's HCC group failure rate and the weighted mean group failure rates from the national metrics. Specifically, this white paper focuses on alternative options to address cases where the outlier issuer may have a failure rate that is only slightly outside of the acceptable range of variation, as well as cases where an outlier issuer has a negative failure rate.
- Application of HHS-RADV results: are done using a prospective approach. Currently, HHS uses an issuer's HHS-RADV error rate to adjust the issuer's average risk score and risk adjustment transfer amount in the transfer year following the HHS-RADV

[4] The one exception is for issuers who exited all markets in the state for the 2018 benefit year. For these issuers, their 2017 benefit year HHS-RADV results applied to their respective 2017 benefit year PLRS and were used to adjust 2017 benefit year risk adjustment transfer amounts in the applicable state market risk pool.

[5] HHS does not calculate risk adjustment transfers for state market risk pools in which there is only one issuer (sole market risk pool issuers) and those issuers are not required to conduct HHS-RADV for that state market risk pool for the applicable benefit year. See the 2020 Payment Notice, 84 FR at 17504. Also see the 2019 Payment Notice; Final Rule; 83 FR 16930 at 16967.

[6] The validation rate of these enrollees' risk scores is also used in error estimation to calculate an outlier issuer's error rate. This error rate is applied to adjust its risk scores and the issuers' risk adjustment transfers in the applicable state market risk pool.

result (e.g., 2018 benefit year HHS-RADV error rates are generally applied to 2019 risk scores and risk adjustment transfers).[7] This white paper considers a change to the application of HHS-RADV results to better reflect actuarial risk by applying HHS-RADV results to the benefit year being audited (e.g., 2021 benefit year HHS-RADV error rates could be applied to 2021 benefit year risk scores and risk adjustment transfers).

The options in this white paper were developed based on HHS's ongoing internal analysis of potential refinements to the HHS-RADV program for future benefit years, as well as comments received on HHS-RADV through notice-and-comment rulemaking and through listening sessions with stakeholders. We are seeking comments on the options outlined in this white paper to help inform potential future rulemaking in these areas. Commenters should submit comments by Monday, January 6, 2020 to CCIIOACARADataValidation@cms.hhs.gov with the subject line of "December 2019 HHS-RADV White Paper."

[7] The exception to this general rule is for exiting issuers. See supra note 4.

1. HHS Risk Adjustment Data Validation (HHS-RADV) Overview

1.1 Purpose and Structure of this White Paper

Based on our experience from the two pilot years and the first payment year of HHS-RADV, HHS is examining modifications to certain aspects of the HHS-RADV program. In particular, the purpose of this white paper is to outline potential options to modify the methodology for enrollee sampling, amend the current process that determines whether an issuer is an outlier, alter the error rate calculation that determines outlier issuers' risk score adjustments, and change the benefit year application of HHS-RADV results.

Chapter 1: The first chapter of this white paper provides an overview of HHS-RADV.

Chapter 2: The second chapter of this white paper discusses potential options to modify the current enrollee sampling methodology.

Chapter 3: The third chapter of this white paper outlines potential modifications to the current process for determining whether an issuer is an outlier.

Chapter 4: The fourth chapter of this white paper discusses potential options to revise the current calculation of an outlier issuer's error rate.

Chapter 5: The fifth chapter of this white paper considers changing the application of HHS-RADV results from a prospective approach to align with the benefit year being audited.

We developed this white paper for comment based on our internal analysis of HHS-RADV results and comments received regarding stakeholders' experiences with the initial years of HHS-RADV. Over the course of July and August of 2019, CMS also conducted a series of stakeholder engagement sessions about the initial years of HHS-RADV to hear what modifications may be needed for future benefit years. Those stakeholder discussions helped inform the policy issues considered in this white paper.

This white paper does not address operational issues that may occur during HHS-RADV, such as medical record retrieval issues or national provider coding standards. Those issues are addressed annually at the "Lessons-Learned Meeting" with Initial Validation Audit Entities (IVA Entities) that is hosted by CMS and through operational user group calls. Guidance on these operational issues is largely provided through the HHS-RADV Protocols that are published annually.

1.2 Statutory and Regulatory Background of HHS-RADV

Section 1343 of the PPACA provides for a permanent risk adjustment program for non-grandfathered plans in the individual and small group markets, both inside and outside of the Exchanges. The PPACA directs the Secretary, in consultation with the states, to establish criteria and methods to be used in carrying out risk adjustment activities, such as determining the

actuarial risk of plans within a state market risk pool.[8] The statute also provides that the Secretary may utilize criteria and methods similar to the ones utilized under Medicare Parts C or D.[9] States electing to operate a risk adjustment program, or HHS on behalf of states not electing to operate a risk adjustment program, assess charges to issuers with plans that experience lower than average actuarial risk and use the collected charges to pay issuers with plans that have higher-than-average actuarial risk. For the 2014-2016 benefit years, all states and the District of Columbia, except Massachusetts, participated in the HHS-operated risk adjustment program. Since the 2017 benefit year, all states and the District of Columbia have participated in the HHS-operated risk adjustment program.

The risk adjustment program is designed to facilitate a plan enrolling a higher proportion of high-risk enrollees charging the same average premium (other factors being equal) as a plan enrolling a higher proportion of low-risk enrollees, shifting the focus of plan competition to quality, efficiency, and value. Risk adjustment accomplishes this goal by transferring funds from issuers with lower risk enrollees to issuers with higher risk enrollees. The HHS-operated program calculates a plan average risk score for each covered plan based upon the relative risk of the plan's enrollees, and applies a state payment transfer formula in order to determine risk adjustment payments and charges between plans within a state market risk pool. Beginning with the 2018 benefit year, the program includes a high-cost risk pool, which helps ensure that risk adjustment transfers better reflect the average actuarial risk in a state market risk pool.[10] The HHS-operated risk adjustment program results in billions of dollars being transferred among health insurance issuers in individual, small group, catastrophic, and merged market risk pools annually. To ensure these funds are transferred appropriately, program integrity is an integral part of the risk adjustment program.[11]

To ensure the integrity of the risk adjustment program, CMS, on behalf of HHS, performs risk adjustment data validation, also known as HHS-RADV, to validate the accuracy of data submitted by issuers for the purposes of risk adjustment transfer calculations. HHS-RADV ensures that transfers reflect issuers' actual actuarial risk and that risk adjustment assesses charges to issuers with plans with lower-than-average actuarial risk while making payments to issuers with plans with higher-than-average actuarial risk. Thus, the purpose of HHS-RADV is to promote confidence and stability in the budget-neutral transfer methodology used by the HHS-operated risk adjustment program by ensuring the integrity and quality of data provided from issuers. The priorities in implementing HHS-RADV are to promote consistency and a level playing field by establishing uniform audit requirements, and to protect private information by limiting data transfers during the data validation process. HHS believes that a robust HHS-

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[8] 42 USC 18063(b).
[9] Ibid.
[10] High-cost risk pool transfers are not subject to HHS-RADV.
[11] HHS also has general audit authority over issuers of risk adjustment covered plans pursuant to 45 C.F.R. § 153.620(c).

RADV process is critical to ensuring issuer confidence and to meeting the goals of the risk adjustment program.

To initially develop the HHS-RADV process, we sought the input of issuers, consumer advocates, providers, and other stakeholders. We issued the "Affordable Care Act HHS-Operated Risk Adjustment Data Validation Process White Paper" on June 22, 2013 (the 2013 white paper).[12] The 2013 white paper discussed and sought comments on a number of potential considerations for the development and operation of the HHS-RADV program. Based on feedback that we received on the 2013 white paper, we promulgated regulations to implement HHS-RADV that we have modified over the years.[13]

45 C.F.R § 153.350(a) requires the state, or HHS on behalf of the State, to ensure proper validation of a statistically valid sample of risk adjustment data from each issuer that offers at least one risk adjustment covered plan in that State. Specifically, for the HHS-operated risk adjustment program, 45 C.F.R. § 153.630 requires an issuer of a risk adjustment covered plan[14] in a state where HHS is operating risk adjustment to have an initial and second validation audit performed on its risk adjustment data for the applicable benefit year. Each issuer must engage an independent validation auditor to perform the initial validation audit (IVA) of a sample of risk adjustment data selected by HHS. After the IVA Entity has validated the HHS-selected sample, a subsample of that sample is also validated in a second validation audit (SVA). The SVA is conducted by an entity HHS retains to verify the accuracy of the findings of the IVAs. 45 C.F.R. § 153.350 also allows the state, or HHS on behalf of the State, to adjust the plan average actuarial risk for a risk adjustment covered plan based on errors discovered as a result of data validation and to use those errors discovered in data validation to adjust charges and payments to all risk adjustment covered plans based on the adjustment to the plan average actuarial risk from errors. Lastly, 45 C.F.R. § 153.350(d) requires the State, or HHS on behalf of the State, to establish the processes for an issuer to dispute and appeal its HHS-RADV results.[15]

To operationalize HHS-RA, each issuer is required to have an External Data Gathering Environment (EDGE) server on which the issuer must submit masked enrollee demographics, claims, and encounter diagnosis-level data in a format specified by HHS. HHS queries these EDGE servers, directing issuers to execute software on their respective EDGE servers to generate summary reports that HHS uses to calculate the enrollee-level risk score for the purpose of determining the average PLRS for each state market risk pool, as well as individual issuers' PLRSs. The difference between issuers' PLRSs and the average PLRS is used to calculate the transfers for issuers of risk adjustment covered plans within a state market risk pool. To ensure the integrity of this process, HHS-RADV serves as an audit of the information derived from the

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[12] A copy of the Affordable Care Act HHS-Operated Risk Adjustment Data Validation Process White Paper (June 22, 2013) is available at: https://www.regtap.info/uploads/library/ACA_HHS_OperatedRADVWhitePaper_062213_5CR_050718.pdf.

[13] See, e.g., 45 C.F.R. §§ 153.350 and 153.630. An overview of the specific modifications made to the HHS-RADV regulations over the years appears in Appendix A.

[14] See 45 C.F.R. § 153.20 for a definition of "risk adjustment covered plan."

[15] See 45 C.F.R. § 153.630(d).

demographic, claims and diagnosis data submitted to the issuers' EDGE servers for use in establishing an enrollee's risk score for purposes of calculating the issuer's PLRS. Therefore, the statistically valid enrollee sample is derived from the information on the issuer's EDGE server.

To operationalize HHS-RADV, HHS modeled many aspects of HHS-RADV processes after the Medicare Advantage risk adjustment data validation (MA-RADV) program. For example, HHS elected to adopt medical records as the authoritative source to verify diagnoses from the EDGE server, and requires that certified medical coders perform medical record reviews. Because HHS's risk adjustment methodology uses a more comprehensive set of data elements than Medicare Advantage, the HHS-RADV data collection approach is more robust, and HHS's data validation approach is broader for HHS-RADV.

HHS conducted two pilot years of HHS-RADV for the 2015 and 2016 benefit years to give HHS and issuers experience with how the audits would be conducted prior to applying HHS-RADV results to adjust issuers' risk scores and risk adjustment transfers in the applicable state market risk pool. The 2017 benefit year HHS-RADV was the first non-pilot year, and resulted in adjustments to issuers' risk scores and risk adjustment transfers as a result of HHS-RADV findings.[16]

1.2.1 HHS-RADV Process Overview

HHS-RADV is a six step process. The first step in the HHS-RADV process is the selection of a sample of an issuer's enrollees whose risk adjustment data from the EDGE server will be validated by the IVA Entity. For the audit, HHS applies a sampling methodology to choose a statistically valid sample of enrollees based on the enrollee-level risk score distributions for each issuer. HHS designed the sampling methodology to ensure that the sample covers critical subpopulations of enrollees for each issuer by dividing each issuer's population into 10 strata, representing different age and risk score bands, and sampling from each stratum. Based on sample size precision analyses and calculations using proxy error rate data from the MA-RADV program, issuers of sufficient size currently have a sample size of 200 enrollees across all state market risk pools and risk adjustment covered plans. The second step of the HHS-RADV process is the IVA. The issuer must ensure that its selected IVA Entity is reasonably capable of performing this task, and is reasonably free of conflicts of interest, and is therefore able to conduct the IVA in an impartial manner. HHS expects issuers to ensure that the IVA is conducted in the following manner:

- The issuer provides the IVA Entity with enrollment, claims, and medical record documentation to validate issuer-submitted risk adjustment data for each enrollee in the sample;
- The issuer and IVA Entity determine a timeline and information transfer methodology that satisfies data security and privacy requirements and enables the IVA Entity to meet HHS-established timelines; and

[16] The Summary Report of 2017 Benefit Year HHS-RADV Adjustments to Risk Adjustment Transfers released on August 1, 2019 is available at: https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/BY2017-HHSRADV-Adjustments-to-RA-Transfers-Summary-Report.pdf.

- The IVA Entity validates the data of each enrollee in the sample in accordance with the standards established by HHS.

Once these steps are completed, the IVA Entity provides HHS with the final results from the IVA and all requested information for HHS to complete the SVA.

Under the third step of HHS-RADV, HHS retains an SVA Entity to conduct the SVA to verify the accuracy of the findings of the IVA. HHS selects a subsample of the IVA sample of enrollees for review. When the SVA Entity performs the data validation audit of the enrollee subsample, the SVA Entity adheres to the same audit standards applicable to the IVA, but only reviews enrollee information that was submitted to HHS at the conclusion of the IVA by the issuer and the IVA Entity.

HHS selects a small subsample of enrollees for the SVA Entity review using a sampling methodology that allows for pairwise means testing to detect any statistical difference between the initial and second validation audit results. If the pairwise means test results suggest that the difference in enrollee results between the IVA and SVA is not statistically significant, HHS uses the IVA results for error estimation and calculation of adjustments to the issuer's PLRS, if the issuer is determined to be an outlier. If the pairwise means test results suggest a statistical difference based on the initial SVA sample, the SVA Entity would perform another validation audit on a larger subsample of the enrollees previously subject to the IVA. HHS then repeats pairwise means testing. If a statistical difference is still found between the IVA and the SVA of the larger subsample, the SVA sample is expanded to larger subsample sizes with pairwise means testing repeated for each such expansion until the full SVA subsample of 100 enrollees is reviewed. If a statistical difference is still found between the IVA and the expanded SVA sample(s) (up to 100 enrollees), HHS will use the SVA results for error estimation and calculation of adjustments to the issuer's PLRS, rather than the IVA results, if the issuer is determined to be an outlier.

The fourth step in the HHS-RADV process is error estimation. Using the relevant validation audit data determined in the prior step (i.e., either the IVA or SVA findings, as applicable), HHS derives issuer-level failure rates for each HCC. The HCC failure rate represents the rate at which the EDGE HCC cannot be validated during the HHS-RADV process. Then, HHS aggregates all issuers' failure rates and creates HCC groupings, national means, and 95 percent confidence intervals at 1.96 standard deviations for that benefit year of HHS-RADV. Under this process, each HCC used in the risk adjustment program for that benefit year is organized into three HCC groupings, high, medium and low, based on the individual HCC's failure rate across all participating issuers' HHS-RADV results. The aggregated failure rates from each of these HCC groupings are then used to create the national means and confidence intervals for each HCC group. These national means and confidence intervals determine whether an issuer is an outlier for an HCC grouping. If an issuer's HCC group failure rate is outside the national confidence intervals in any of three HCC groupings (low, medium, or high groupings), the issuer is determined to be an outlier. If the issuer is an outlier, its failure rates are used to calculate its error rate, which adjusts its risk score to reflect the inaccuracy of the risk score calculated during risk adjustment. If the issuer is not an outlier, the issuer is determined to have a zero error rate

result for HHS-RADV for that benefit year and its risk score remains unadjusted. Later in this paper, we describe the error estimation process in more detail.

The fifth step of HHS-RADV is the annual discrepancy and administrative appeals processes. An issuer is required to confirm the information provided by HHS or file a discrepancy within a certain number of days of notification by HHS of certain HHS-RADV results. The discrepancy and appeal processes apply to the IVA sample, the findings of the SVA, and the calculation of the risk score error rate.[17]

The sixth and final step of HHS-RADV is adjusting risk adjustment transfer amounts to reflect the level of inaccuracy determined in the fourth step of error estimation. Except for exiting issuers,[18] when an issuer is identified as an outlier, the issuer's error rate is used to amend the issuer's subsequent benefit year risk score that is used to calculate their risk adjustment transfer on a prospective basis, e.g. 2017 benefit year HHS-RADV results amended 2018 benefit year risk adjustment risk scores and 2018 benefit year risk adjustment transfers. Because risk adjustment is budget neutral, a change in risk score for one issuer in a state market risk pool affects the statewide average risk score for that state market risk pool, impacting all other issuers in the state market risk pool. These changes in risk scores are then applied to adjust risk adjustment transfers for the applicable state market risk pool, and the adjustments are collected and distributed two years later.

1.2.2 Original HHS-RADV Error Estimation Methodology

The original HHS-RADV error estimation methodology was finalized in the 2015 Payment Notice.[19] Under the original methodology, HHS would use the results of the IVA or SVA, as applicable, as the basis for calculating a corrected risk score for each risk score for each enrollee in the issuer's sample population. Under this methodology, the majority of issuers would have a HHS-RADV adjustment since any failure to validate an HCC has the potential to result in an adjustment (see Appendix B for more detail). As a result, almost all issuers for a given benefit year would have seen a change in risk adjustment transfers due to HHS-RADV findings.

1.2.3 Current HHS-RADV Error Estimation Methodology

In the 2019 Payment Notice, HHS explained that we believe that some variation and error should be expected in the compilation of data for risk scores because providers' documentation of enrollee health status varies across provider types and groups.[20] Our experiences with the MA-RADV program and the HHS-RADV pilot for the 2015 benefit year reinforced this belief. Thus, to avoid adjusting all issuers' risk adjustment transfers for expected variation and error in EDGE

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[17] Issuers cannot appeal the results of the IVA as the IVA Entity is under contract with the issuer and HHS does not produce the IVA results. See, e.g., the HHS Notice of Benefit and Payment Parameters for 2018; Final Rule; 81 FR 94056 at 94106 (December 22, 2016).

[18] For exiting issuers, their amended risk scores are applied to the prior year's risk adjustment transfer amounts for the applicable state market risk pool, e.g., exiting issuer 2017 benefit year HHS-RADV results amended 2017 benefit year risk scores, which were applied to 2017 benefit year risk adjustment transfers for the applicable state market risk pools.

[19] 79 FR 13743 at 13755-13770.

[20] See 83 FR 16930 at 16961-16965.

HCCs, we adopted the current methodology that evaluates material statistical deviation in failure rates.

Under the current methodology, HHS amends an issuer's risk score only when the issuer's failure rate materially deviates from a statistically meaningful national value. HHS determines the national statistically meaningful value as the weighted mean failure rate calculated based on all issuers' HHS-RADV results. As previously described, to apply this methodology, HHS uses the failure rates for each HCC to group each HCC into three HCC groupings. These HCC groupings are determined by first ranking all HCC failure rates and then dividing the rankings into three groupings weighted by total observations of that HCC across all issuers' IVA samples, assigning each HCC into a high, medium, or low HCC grouping. We calculate an issuer's HCC group failure rate as:

$$GFR_i^G = 1 - \frac{Freq\_IVA_i^G}{Freq\_EDGE_i^G}$$

Where:

$Freq\_EDGE_i^G$ is the number of HCCs in group G in the EDGE sample of issuer *i*.

$Freq\_IVA_i^G$ is the number of HCCs in group G in the IVA sample of issuer *i*.

GFR_i^G is *i*'s group failure rate for the HCC group G.

We will also calculate the weighted mean failure rate and the standard deviation of each HCC group as:

$$\mu^*(GFR^G) = 1 - \frac{\sum Freq\_IVA_i^G}{\sum Freq\_EDGE_i^G}$$

$$Sd(GFR^G) = \sqrt{\frac{\sum_i Freq\_EDGE_i^G * \left(GFR_i^G - \mu(GFR^G)\right)^2}{\sum_i Freq\_EDGE_i^G}}$$

Where:

$\mu(GFR^G)$ is the weighted mean of GFR_i^G of all issuers for the HCC group G weighted by all issuers' sample observations in each group.

$Sd(GFR^G)$ is the weighted standard deviation of GFR_i^G of all issuers for the HCC group G.

The issuer's HCC group failure rates are than compared against the national metrics for each HCC grouping. If an issuer's failure rate for an HCC group falls outside of the 95 percent confidence interval with a 1.96 standard deviation cutoff calculated based on the weighted mean

failure rate for the HCC group, the failure rate for the issuer's HCCs in that group is considered an outlier. If all issuers' HCC group failure rates in a state market risk pool do not materially deviate from the national mean of failure rates (that is, no issuers in a state market risk pool are outliers), we do not apply any adjustments to issuers' risk scores for that benefit year in the respective state market risk pool.

Under the current methodology, when an issuer is determined to be an outlier, the adjustment to an enrollee's total risk score is calculated as the ratio of the total amended risk score for individual HCCs to the total risk score components for individual HCCs submitted to the EDGE server for the enrollee. For example, if an issuer has one enrollee with the HIV/AIDS HCC and the issuer's HCC group adjustment rate is 10 percent (the difference between the issuer's group failure rate and the weighted mean group failure rate) for the HCC group that contains the HIV/AIDS HCC, the enrollee's HIV/AIDS HCC risk score coefficient would be reduced by 10 percent. For each enrollee, we calculate the total amended risk score across all outlier HCCs as:

$$AdjRS_{i,e} = EdgeRS_{i,e} * (1 - Adjustment_{i,e})$$

Where:

$EdgeRS_{i,e}$ is the risk score for EDGE HCCs of enrollee *e* of issuer *i*.

$AdjRS_{i,e}$ is the amended risk score for sampled enrollee *e* of issuer *i*.

$Adjustment_{i,e}$ is the adjustment factor by which we estimate the EDGE risk score exceeds or falls short of the initial or second validation audit projected risk score across all HCCs and HCC groups for sampled enrollee *e* of issuer *i*.

We then calculate an issuer's risk score error rate using the EDGE risk score and amended risk score for all enrollees in the sample. The current methodology for extrapolating amended risk scores from the sample to the population and determining the issuer's risk score error rate is consistent with the approach under the original methodology. CMS obtains the weight in the error rate calculation formula by multiplying the ratio of an enrollee's stratum size and the issuer's population size to the total number of sample enrollees that are in the same stratum as the enrollee. The formula to compute the risk score error rate using the stratum-weighted risk score for issuer *i* before and after the adjustment is shown as:

$$ErrorRate_i = 1 - \frac{\sum_e (w_e * AdjRS_{i,e})}{\sum_e (w_e * EdgeRS_{i,e})}$$

Where:

$$w_e = \frac{stratum\ size\ in\ population}{number\ of sample\ enrollees\ of\ the\ stratum}$$

We then apply the risk score error rate to the prospective benefit year's calculated PLRS and risk adjustment transfers.[21] The current methodology results in fewer state market risk pools and issuers receiving amendments to their risk scores and risk adjustment transfers as a result of HHS-RADV findings than the original methodology.[22] The current methodology applied beginning with the 2017 benefit year HHS-RADV.[23]

1.3 HHS-RADV EXPERIENCE

As previously mentioned, the 2015 and 2016 benefit years were pilot years for HHS-RADV. The 2017 benefit year was the first year in which risk adjustment transfers were adjusted based on the results of HHS-RADV.

1.3.1 Overview of HHS-RADV Pilot Years Results (2015 and 2016 benefit year HHS-RADV)

During the 2015 benefit year HHS-RADV, issuers and IVA Entities experienced widespread challenges obtaining medical records. As such, HHS did not provide HHS-RADV results for the 2015 benefit year. However, based on feedback from stakeholders, HHS identified a number of process improvements and policy refinements that were incorporated in the 2016 benefit year HHS-RADV. For example, in the 2015 benefit year HHS-RADV pilot year, HHS required validation of demographic and enrollment (D&E) data for the full sample of 200 enrollees. Beginning with the 2016 benefit year HHS-RADV, HHS selected a subsample of 50 enrollees from the 200 enrollee sample for the IVA Entity to conduct D&E validation. This change was in response to IVA Entities encountering challenges validating D&E data on issuers' source systems and was intended to reduce the burden of this validation, as D&E errors identified in a subsample could still indicate a more systemic data submission issue for an issuer. HHS also provided the IVA sample to issuers six weeks earlier to allow more time for issuers to retrieve medical records.

For the 2016 benefit year HHS-RADV, 416 issuers participated[24] and were provided with illustrative HHS-RADV error rate results based on the current methodology. In our examination of the 2016 benefit year HHS-RADV results, HHS found that many issuers made significant improvements from the 2015 benefit year HHS-RADV results, but HHS's review of IVA submissions identified a number of serious concerns for some issuers with exceptionally high HCC group failure rates. Even though a large proportion of issuers passed the pairwise means tests, many issuers did not submit sufficient inpatient medical records, or submitted multiple

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[21] The exception to the prospective application of HHS-RADV results is for exiting issuers, whose risk score error rates are applied to the calculated PLRS and risk adjustment transfer amounts for the benefit year being audited.

[22] See the Summary Report of 2017 Benefit Year HHS-RADV Adjustments to Risk Adjustment Transfers released on August 1, 2019 is available at: https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/BY2017-HHSRADV-Adjustments-to-RA-Transfers-Summary-Report.pdf.

[23] While the 2016 benefit year was a pilot year, issuers were provided illustrative 2016 benefit year HHS-RADV final results based on the application of the current methodology. The 2016 benefit year HHS-RADV results memo was made available to issuers in the HHS-RADV Audit Tool.

[24] HHS exempted from the 2016 benefit year HHS-RADV pilot small issuers with total premiums of $15 million or less and did not enforce participation in 2016 benefit year HHS-RADV for issuers that were not offering coverage in risk adjustment covered plans in the 2017 benefit year.

irrelevant medical records for each enrollee without providing a medical record that could substantiate the sampled enrollees' HCCs.

These findings resulted in very high HCC group failure rates for 77 issuers. Many of these issuers had HCC group failure rates that were outside of the modified confidence intervals for the 2016 benefit year HHS-RADV HCC groups and would have had adjustments to their respective risk scores had 2016 benefit year HHS-RADV been a non-pilot year. Because these issuers were contributing to the national metrics that created the confidence intervals, their results inappropriately inflated and skewed the national failure rate distributions, and would have impacted results for other issuers. For these reasons, issuers with exceptionally high HCC group failure rates (i.e., HCC group failure rates over 60 percent for the high HCC group, 50 percent for the medium HCC group, and 40 percent for low HCC group) were excluded from the national metrics for the 2016 benefit year HHS-RADV illustrative final results.[25] A summary of the modified 2016 benefit year HHS-RADV results with the exclusion of 77 issuers with exceptionally high failure rates is in Tables 1.1 and 1.2 below. By dropping these issuers from the national metrics for the 2016 benefit year, HHS increased the number of issuers that received non-zero error rates. The majority of the 77 dropped issuers were outliers and received positive error rates even though they were not counted as outliers in Table 1.2 (which do not include the 77 dropped issuers), and the majority of the 31 unique outlier issuers seen in Table 1.2 were outliers that received negative error rates. Due to the modifications to the final 2016 benefit year HHS-RADV results, the analyses documented in this paper primarily use the 2017 benefit year to test the policy considerations in this paper.

Table 1.1: 2016 Benefit Year HHS-RADV National Failure Rate Statistics

Number of Included HHS-RADV Issuers	Number of Issuers Dropped	Group	Mean	Standard Deviation	Lower Threshold	Upper Threshold
339	77	Low	0.142	0.109	-0.072	0.356
		Medium	0.251	0.114	0.028	0.475
		High	0.346	0.140	0.073	0.620

[25] While these issuers were dropped for purposes of calculating the national metrics for the 2016 benefit year HHS-RADV, CMS shared with these issuers their respective calculated error rates.

Table 1.2: 2016 Benefit Year HHS-RADV Number of HCC Groups Outliers at Issuer Level

Number of Included HHS-RADV Issuers	Number of Issuers Dropped	Group	Outliers Counts			
			Lower Bound	Upper Bound	Total	Unique Outliers[26]
339	77	Low	8	3	11	31
		Medium	6	4	10	
		High	14	0	14	
		Total	28	7	35	

1.3.2 Overview of First Non-Pilot Year of HHS-RADV Results (2017 Benefit Year HHS-RADV)

The 2017 benefit year was the first year that HHS operated the risk adjustment program in all 50 states and the District of Columbia. It also was the first non-pilot year of HHS-RADV such that HHS-RADV results were used to adjust risk scores and risk adjustment transfers.[27] All issuers of risk adjustment covered plans that did not have 500 or fewer billable member months or were not in liquidation were required to participate in 2017 benefit year HHS-RADV. A total of 595 out of 628 issuers of risk adjustment covered plans participated in 2017 benefit year HHS-RADV, an issuer participation rate of approximately 95 percent.[28] For the 2017 benefit year HHS-RADV, issuers substantially improved the retrieval and submission of adequate medical record documentation for validating HCCs compared to the 2016 benefit year HHS-RADV. However, in comparison to the 2016 benefit year HHS-RADV results, the rate of issuers who were identified as outliers increased for the 2017 benefit year HHS-RADV due to the changes in the distribution for each HCC grouping (see Table 1.4 below) and was described in the May 31, 2019 report.[29]

For 2017 benefit year HHS-RADV, the standard deviations from the mean failure rate for all three HCC failure rate groups were lower than the standard deviations for these failure rate groups in the 2016 benefit year HHS-RADV results, and fewer issuers were consistent outliers in multiple HCC groups in 2017 benefit year HHS-RADV. The 2017 benefit year HHS-RADV results showed shorter distances between HCC group failure rates and the mean group failure rate, and the magnitude of the adjustment factor in each HCC group and error rate also generally

[26] Since issuers can fail more than one HCC group, unique outliers refers to the number of issuers with at least one HCC group outlier.

[27] The one exception was for Massachusetts issuers, who were not able to participate in prior HHS-RADV pilot years because the state operated risk adjustment for those benefit years. Therefore, HHS made the 2017 benefit year HHS-RADV a pilot year for Massachusetts issuers. See the 2020 Payment Notice, 84 FR at 17508. While CMS provided illustrative 2017 benefit year HHS-RADV results to Massachusetts issuers, these results were not included in the national metrics and were not used to adjust risk scores or risk adjustment transfers.

[28] A total of 33 issuers of risk adjustment covered plans did not participate in 2017 benefit year HHS-RADV because they: (1) were exempt for having 500 or fewer billable member months statewide; (2) elected to receive a default data validation charge (DDVC); or (3) qualified for the liquidation exemption.

[29] https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/2017-Benefit-Year-HHS-Risk-Adjustment-Data-Validation-Results.pdf.

decreased in 2017 benefit year HHS-RADV compared to the 2016 benefit year HHS-RADV pilot. Thus, although there were more outliers in the 2017 benefit year HHS-RADV results, the error rates were lower in magnitude than those calculated during the 2016 benefit year HHS-RADV pilot, as expected.

The 2017 benefit year HHS-RADV results also included a number of issuers who exited all of the market risk pools in a state for the 2018 benefit year (exiting issuers). Eighty-one out of the 580 issuers[30] that participated and were used to calculate the national metrics for the 2017 benefit year HHS-RADV were exiting issuers. HHS-RADV results for the 81 exiting issuers were used to modify these issuers' 2017 benefit year risk scores and risk adjustment transfers for the applicable state market risk pools, rather than the 2018 benefit year risk scores and risk adjustment transfers.[31]

Table 1.3: 2017 Benefit Year National Failure Rate Statistics

Number of Included HHS-RADV Issuers	Number of MA Issuers Dropped	Group	Mean	Standard Deviation	Lower Threshold	Upper Threshold
580	15	Low	0.048	0.097	-0.143	0.238
		Medium	0.155	0.099	-0.040	0.349
		High	0.262	0.106	0.054	0.471

Table 1.4: 2017 Benefit Years HHS-RADV Number of HCC Groups Outliers at Issuer Level

Number of Included HHS-RADV Issuers	Number of MA Issuers Dropped	Group	Outliers Counts			
			Lower Bound	Upper Bound	Total	Unique Outliers
580	15	Low	15	34	49	110
		Medium	14	34	48	
		High	19	33	52	
		Total	48	101	149	

1.4 Consideration of HHS-RADV Changes

In the following chapters of this white paper, we consider potential modifications to HHS-RADV based on our analysis of the above results, and comments received by stakeholders. Options described in these chapters were assessed independently of other potential policy changes being considered in this paper. For example, if we were to make the modifications to the

[30] Since the 2017 benefit year HHS-RADV was a pilot year for Massachusetts issuers, 15 Massachusetts issuers participated in 2017 benefit year HHS-RADV, but their HHS-RADV results were not used to set the national metrics.

[31] For the 2017 benefit year HHS-RADV, exiting issuers found to have a non-zero risk score error rate (i.e., that are identified as an outlier) will result in adjustments to 2017 benefit year risk scores and risk adjustment transfers. For the 2018 benefit year HHS-RADV and beyond, only those exiting issuers who are identified as having a positive risk score error rate outlier will result in adjustments to risk scores and risk adjustment transfers. See the 2020 Payment Notice, 84 FR at 17503.

outlier determination process contemplated in Chapter 3 of this paper, the determination of which issuers are outliers and the issuers' associated failure rates could be impacted. That determination may impact our policy approach with respect to the error rate adjustment options in Chapter 4 that are calculated on issuers' failure rates. Therefore, if we were to propose any of the options described in this paper in future rulemaking, we would reassess and re-evaluate the impact and trade-offs of the different options presented in this paper.

Because the analyses in this paper were primarily tested on one year of data (the 2017 benefit year HHS-RADV data), we note that further testing of future years of HHS-RADV data may change our perspective on some of the analysis in this paper. For example, many smaller issuers that were below the materiality threshold of less than $15 million in premiums for the benefit year were not required to participate in the 2016 benefit year HHS-RADV, but were all generally required to participate in 2017 benefit year HHS-RADV. These issuers' participation changed the population of issuers in the 2017 benefit year HHS-RADV results as compared to 2016 benefit year HHS-RADV results. For 2018 benefit year HHS-RADV and beyond, issuers within the materiality threshold will only be required to participate in HHS-RADV approximately every three years (barring any targeted audits). Therefore, in future benefit years, there could be fewer small issuers in the HHS-RADV results than in the 2017 benefit year HHS-RADV results. Likewise, in future benefit years of HHS-RADV results, changes to the risk adjustment models, changes to the population enrolled in risk adjustment covered plans, and changes in market participation may result in the identification of new trends or observations in future benefit years of HHS-RADV data that were not seen in the 2017 benefit year HHS-RADV data.[32] As future years of HHS-RADV data become available, we generally intend to continue to test the policy options described in this paper and identify areas for potential refinement and improvement in the HHS-RADV program.

[32] We also note that the benefit years used in the examples to illustrate the options being described in this white paper are only exemplary purposes.

2. HHS-RADV INITIAL VALIDATION AUDIT (IVA) SAMPLING

In this chapter, we review the background and purpose of HHS-RADV IVA sampling, our current sampling methodology, and feedback we have received on our current sampling methodology. We also discuss how we evaluate the HHS-RADV IVA sampling methodology by looking at precision and accuracy, and we outline several options for HHS-RADV IVA sample size refinement.

2.1 BACKGROUND AND PURPOSE OF HHS-RADV IVA SAMPLING

45 C.F.R. § 153.350(a) requires states, or HHS on behalf of states, to validate a statistically valid sample of risk adjustment data each year. Issuers' enrollee samples are the foundation of the HHS-RADV audit. These enrollee samples are also used to calculate an outlier issuer's error rate, which is applied to its risk scores and used to adjust risk adjustment transfers in the applicable state market risk pool. HHS sets the current enrollee sample sizes such that estimated risk score error rates will be statistically sound, enrollee-level risk score distributions will reflect enrollee characteristics for each issuer, and samples represent critical subpopulations of enrollees for each risk adjustment covered plan, such as enrollees with and without HCCs.

The 2015 Payment Notice stated that, after the initial years of HHS-RADV, HHS would evaluate our sampling assumptions using actual enrollee data to determine issuer-specific sample sizes.[33] In the 2020 Payment Notice, we proposed to vary the IVA sample size beginning with 2019 benefit year HHS-RADV based on each issuer's size, the prior year's HCC group failure rates, and sample precision.[34] However, at the time that we conducted analysis for the 2020 Payment Notice, we only had data from one pilot year of HHS-RADV and no data from small issuers because they were exempt from participating in the pilot years of HHS-RADV. In light of the limited available data and in response to stakeholder comments, we did not finalize any changes to our sampling methodology.[35]

2.2 FUTURE OF HHS-RADV IVA SAMPLING

HHS is contemplating several options to amend the methodology for enrollee sampling in future benefit years based on feedback and comments we have received from issuers and other HHS-RADV stakeholders. We have heard from some issuers that they want a larger sample size to improve precision, sample accuracy, and potentially decrease the impact of a single enrollee's results on their HCC group failure rates. Precision measures how close sample values are likely to be to each other. Accuracy measures how well the sample measurements match the true population value, without consideration of how close they are to each other.

At the same time, other issuers have asked for smaller sample sizes to reduce the administrative and financial burden associated with retrieving medical records and participating

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[33] 75 FR at 13756-13759.
[34] 80 FR at 17492-17495.
[35] While we did not make changes to the sample size in the 2020 Payment Notice, we did finalize a change to our sampling approach to extend the application of the Neyman allocation to the 10th stratum. See 80 FR at 17492-17495.

in HHS-RADV. The next subsection in this chapter reviews the current HHS-RADV IVA sampling methodology and analyzes the precision and accuracy of 2017 benefit year HHS-RADV sample sizes. The following subsection describes the potential options being considered to adjust the current HHS-RADV sampling methodology.

2.3 CURRENT HHS-RADV IVA SAMPLING METHODOLOGY

2.3.1 Proxy Issuer Populations

HHS used two main data sources to design a sampling methodology and to estimate sample sizes for the 2015, 2016, 2017, and 2018 benefit years of HHS-RADV: MA-RADV net error rates and variance of net error; and Truven Health Analytics 2010 MarketScan® Commercial Claims and Encounters database-predicted expenditure data. HHS identified these sources as the most applicable empirical data that was available for the first years of the HHS-RADV program, because we did not have sufficient data from the HHS-operated risk adjustment program (i.e., enrollee-level EDGE data) at that time. HHS chose MA-RADV error rates because the MA-RADV program utilizes a similar HCC-based methodology to estimate risk of enrollees, and determines payment error rates based on evaluation of enrollee risk profiles and medical record validation. HHS determined that MarketScan® data was the best primary source that was available to approximate enrollee risk profiles in risk adjustment covered plans at the time, and used the MarketScan® data to calibrate the HHS-RA models.[36]

2.3.2 Stratification

In the individual market, the percent of enrollees with at least one HCC is approximately 22 percent – that is, approximately 78 percent of enrollees do not have an HCC.[37] Therefore, HHS determined that taking a simple random sample for HHS-RADV would not achieve the goal of evaluating higher risk enrollees within the population because a random sample would be composed primarily of enrollees with no HCCs or RXCs. Instead, using a simple age and risk score stratification, HHS divides each issuer's enrollee population into mutually exclusive groups or "strata" based on recorded risk scores, age, and presence of HCCs and RXCs, which are prescription drug categories that were added to HHS-RA adult models beginning with the 2018 benefit year. Statistical theory indicates that stratification of a population prior to sampling and the selection of more cases from strata with greater variance can increase the likelihood that the sample achieves targeted levels of confidence and precision relative to a simple random sample for which no stratification is performed. Based on the available data, HHS divides the relevant population into 10 strata, representing different age and risk score bands. This method of stratification is similar to that used in the MA-RADV program, which divides enrollees into three strata, representing low, medium, and high risk expenditures.

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[36] HHS began incorporating enrollee-level HHS-RA data in its recalibration of the HHS-RA model beginning in the 2019 HHS-RA benefit year, as finalized in the 2019 Payment Notice. See 83 FR 16939-16941.

[37] See Figure 3 of https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/Summary-Report-Risk-Adjustment-2018.pdf.

Table 2.1 provides a listing of assigned strata by risk level for each age group. Strata 1-3 represent low, medium, and high-risk adults with the presence of at least one HCC or RXC. HHS updated the stratification logic for the three adult strata starting with the 2018 benefit year by adding the HCC or RXC condition.[38] RXCs are only used in the adult risk adjustment models and are not present or applicable for the remaining seven strata. Strata 4-6 represent low, medium, and high-risk children with the presence of at least one HCC. Strata 7-9 represent low, medium, and high-risk infants with the presence of at least one HCC. Stratum 10 consists of the No-HCC and No-RXC population and is not further stratified by age or risk level. Prior to 2019 benefit year HHS-RADV, strata 1-9 (enrollees with HCCs or RXCs) comprised two-thirds of issuers' 200 enrollee samples, with stratum 10 (enrollees without HCCs) comprising one-third of the sample. Beginning with the 2019 benefit HHS-RADV, the 10th stratum will no longer be constrained.[39]

Table 2.1: Stratification Mapping

HCC Stratum	Age	Risk Level	Stratum
1 or More HCC(s)	Adult	Low	1
		Medium	2
		High	3
	Child	Low	4
		Medium	5
		High	6
	Infant	Low	7
		Medium	8
		High	9
No HCCs	All	N/A	10

2.3.3 Target Precision and Confidence Interval

HHS targets a 10 percent relative sampling precision (or margin of error) for a two-sided 95 percent confidence interval. We established a 10 percent precision target based on a survey of

[38] HHS currently samples adults with RXCs or HCCs for strata 1 through 3. Because RXCs are not included in the calculation of HCC failures rates or error estimation, HHS is considering adjusting this sampling stratification methodology in future years.

[39] See 84 FR at 17494-17495.

guidance from the Office of Management and Budget (OMB), the Internal Revenue Service (IRS), and the HHS-developed Payment Error Rate Measurement (PERM) program.[40]

To meet the sampling precision target, each issuer needs to obtain a sample size such that 1.96[41] multiplied by the standard error, divided by their estimated adjusted risk score, equals 10 percent or less.

$$Precision = (1.96 * SE)/RS_{Adj}$$

In the formula above, *SE* is the standard error, which is the square root of the population variance, and RS_{Adj} is the estimated adjusted risk score. As sample size increases, standard error decreases, and precision improves (lower values of the precision measurement indicate a better precision) for a given estimated adjusted risk score.

2.3.4 Sample Size Calculation

HHS calculated the overall IVA sample size (n) using the following stratified mean estimator formula[42]:

$$n = \frac{(\sum_{h=1}^{H} N_h S_h)^2}{\sum_{h=1}^{H} N_h S_h^2 + \left(\frac{Prec \times Y}{CI}\right)^2}$$

- H is the number of strata;
- N_h is the population size of the h^{th} stratum;
- Y is the adjusted total risk score estimate, derived from MA-RADV data;
- S_h represents the standard deviation of risk score error amount for the h^{th} stratum, derived from MA-RADV data;
- *Prec* represents the desired precision level; and
- *CI* is the critical value for the confidence interval associated with the desired level, which is 1.96 for a two-sided 95 percent confidence interval.

Sample size precision analyses conducted using the formula above and proxy data from the MA-RADV program (Section 2.3.1) calculated a range of sample sizes to target 10 percent precision for a two-sided 95 percent confidence interval. Because there was no meaningful improvement in the estimated level of precision between a sample of 200 and larger sample sizes, HHS finalized a sample size of 200 enrollees for the IVA for issuers with enrollment equal to or greater than 4,000 enrollees.

To reduce financial and administrative burden for small issuers, HHS uses a Finite Population Correction (FPC) to calculate a smaller sample size for issuers with enrollment

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[40] See https://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/Medicaid-and-CHIP-Compliance/PERM/index.html.

[41] Critical value for the two-sided 95 percent confidence level.

[42] The sample size formula can be found in Section 5.9: Cochran, William G., Sampling Techniques, third edition, John Wiley & Sons, 1977.

between 50 and 3,999. If an issuer has an enrollment of fewer than 50 enrollees, its sample size is equal to its enrollment. Issuers with 500 or fewer billable member months are exempt from HHS-RADV.[43] Additionally, beginning with the 2018 benefit year HHS-RADV, issuers that fall below the materiality threshold of $15 million in premiums will only have an IVA audit approximately once in three years (barring any risk-based triggers that warrant more frequent audits).[44]

The current enrollee sample size selected for the IVA is represented in the following Table 2.2.

Table 2.2: Current IVA Sample Sizes

Issuer Population Size (N)	IVA Sample Size (n)
$N \geq 4{,}000$	$n = 200$
$50 \leq N < 4{,}000$	$n = 200 \times Finite\ Population\ Correction\ (FPC)$ $FPC = (N - 200)/N$ If $(200 \times FPC) < 50, n = 50$
$N < 50$	$n = N$

2.3.5 Neyman Allocation

HHS calculates the individual sample size per stratum (n_h) using the Neyman optimal allocation method.[45] The Neyman method is designed to maximize precision, given a fixed sample size, using the Neyman formula:

$$n_h = n \times \frac{N_h S_h}{\sum_{h=1}^{H} N_h S_h}$$

- H is the number of strata,
- n is the total sample size (e.g., 200 for most issuers);
- N_h is the population size of the h^{th} stratum, and
- S_h represents the standard deviation of risk score error amount for the h^{th} stratum, derived from MA-RADV data.

The goal of sampling by strata is to pull samples that are not simply proportional to stratum size, as this may under-represent or over-represent the true drivers of risk score error. Instead, the Neyman formula determines the optimal number to be sampled from each stratum, proportional to each stratum's contribution to the total standard deviation of the population (i.e., larger samples are drawn from more variable strata). For the 2015, 2016, 2017, and 2018 benefit years of HHS-RADV, HHS only used the Neyman formula to calculate the sample size for strata 1-9, and set one-third of the sample size to be from the 10th stratum representing enrollees without

[43] 45 C.F.R. § 153.630(g)(1).
[44] 45 C.F.R. § 153.630(g)(2).
[45] See https://methods.sagepub.com/reference/encyclopedia-of-survey-research-methods/n324.xml.

HCCs.[46] Starting with the 2019 benefit year HHS-RADV, HHS will use the Neyman formula to determine the number of enrollees sampled in all 10 strata.[47]

2.3.6 Precision of Current Sample Sizes

HHS's goal is to achieve good precision and high accuracy of group failure rates because group failure rates determine whether an issuer is an outlier that will have its risk score adjusted to reflect its HHS-RADV error rate. HHS applies the risk score error rate to risk scores, which are used to adjust risk adjustment transfers.

Precision of the IVA sample is influenced by sample size, issuer population size, and risk score distribution. In the 2017 benefit year of HHS-RADV, most issuers reached the 10 percent group failure rate precision target. However, we found that issuers with sample sizes of fewer than 200 enrollees tended to have poorer precision than issuers with a sample size of 200 enrollees.

To forecast group failure rate precision for different sample sizes, we calculated the mean, standard deviation, and standard error of group failure rates from samples taken from the combined enrollee population of all 2017 benefit year HHS-RADV issuers (except for Massachusetts issuers). In this analysis, we define group failure rate precision as the half-width of the 95th percent confidence interval:

$$Precision = \frac{\left|CI_{Upper_{Bound}} - CI_{Lower_{Bound}}\right|}{2}$$

Figure 2.3 below shows the precision by HCC failure rate group for various sample sizes using two different methods: bootstrapping and independent sampling. Independent sampling requires drawing multiple samples without replacement from the issuer population, whereas bootstrapping involves taking one independent sample from the parent distribution and then drawing multiple, equal-sized samples with replacement from that initial sample. For each sample size, we calculated average group failure rates for the three HCC groups under both methods.

[46] See, e.g., 84 FR at 252.
[47] 80 FR at 17492-17495.

Figure 2.3: Precision Comparison: Bootstrap v. Independent Sampling Method

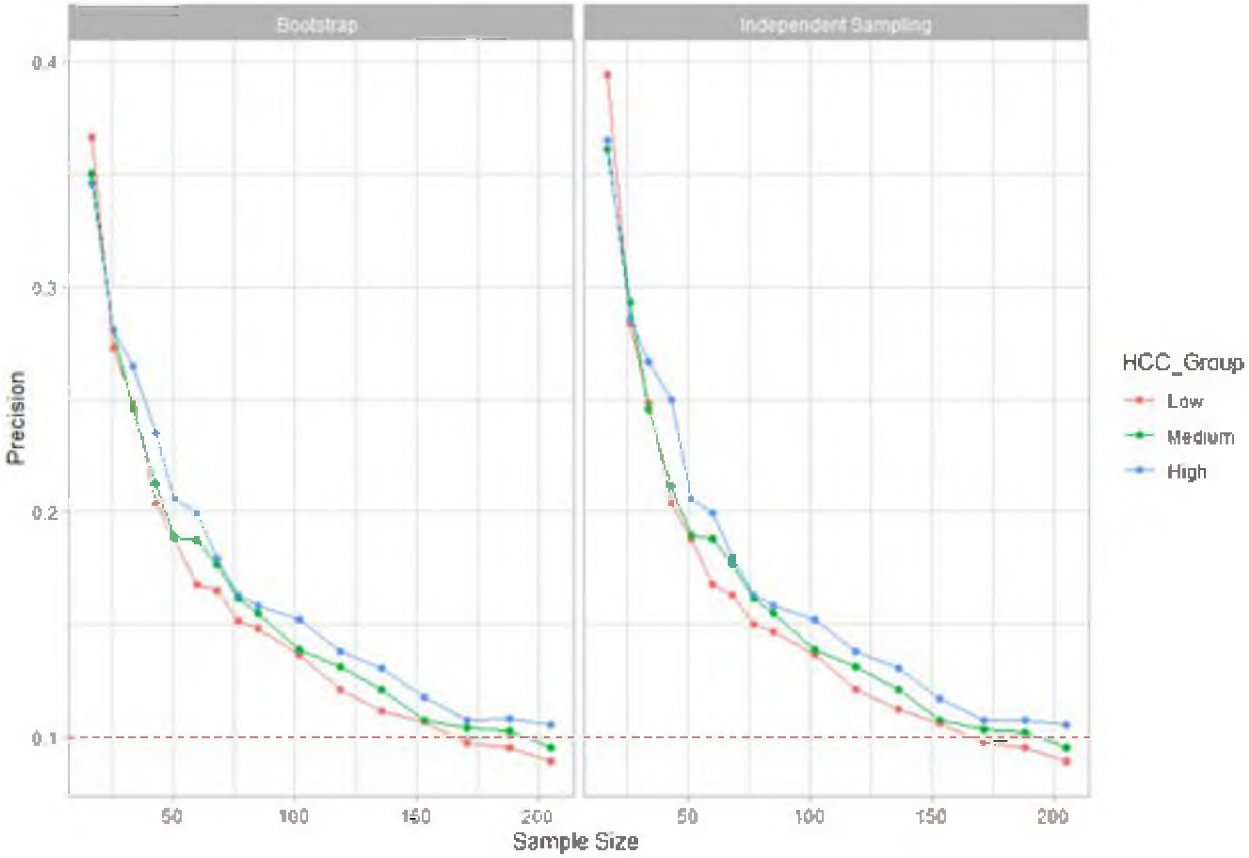
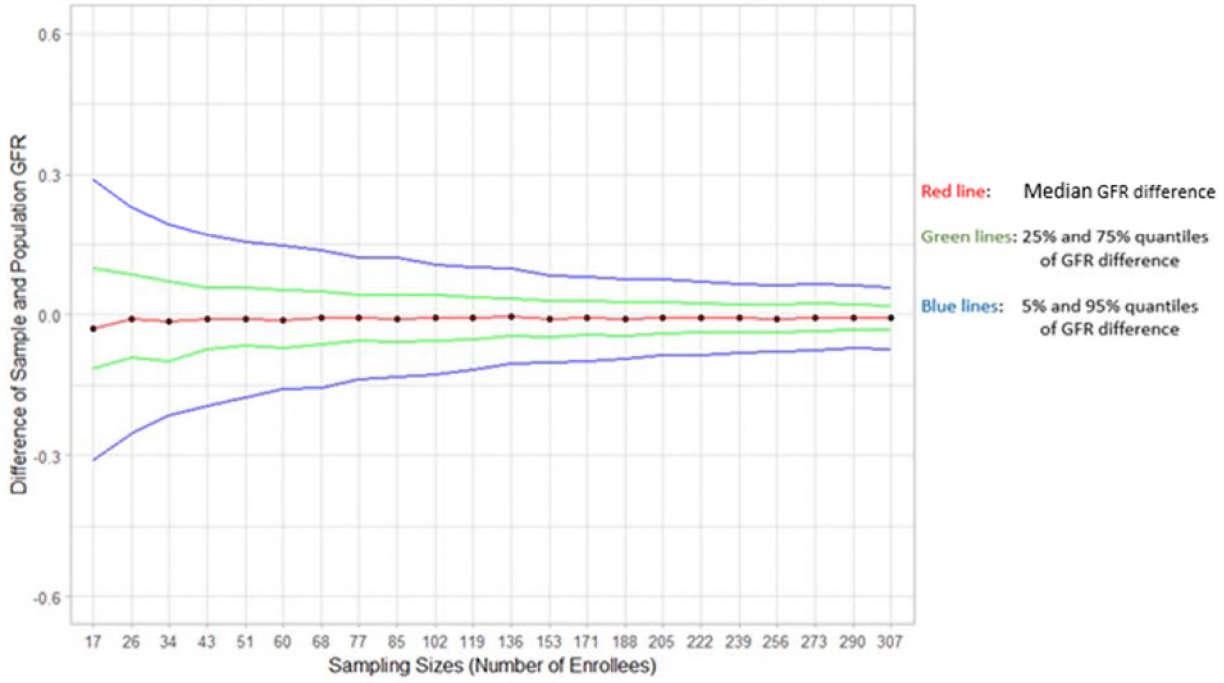


Figure 2.3 shows that precision improves (decreases in value) as sample size increases, and that on average, across all HCC groups, the current HHS-RADV sample size of 200 enrollees achieves the 10 percent precision target. We estimate that approximately 94 percent of issuers with a sample size of 200 enrollees meet the 10 percent precision target in at least one HCC group, and 60 percent of issuers with a sample size of 200 enrollees meet the target in all three HCC groups. For sample sizes greater than approximately 170 enrollees, the marginal improvement in precision is small.

2.3.7 Accuracy/Representativeness of Current Sample Sizes

In selecting HHS-RADV sample sizes, we also consider how well an issuer's IVA sample reflects their enrollee population, specifically, in the number and types of HCCs. Initial analysis using the combined enrollee population of all 2017 benefit year HHS-RADV issuers (except for Massachusetts issuers) indicates that the sample group failure rates accurately represent the group failure rates of the simulated issuer population. In Figure 2.4, we measure sample accuracy by the difference between the sample group failure rate and the issuer population group failure rate, across all three HCC failure rate groups. The range of differences between average sample and population group failure rates narrows and levels off around a sample size of 170 enrollees, and the gains in accuracy are small for larger sample sizes. There is more variability in accuracy for sample sizes below 170 enrollees, with standard errors increasing significantly for sample sizes below 50 enrollees.

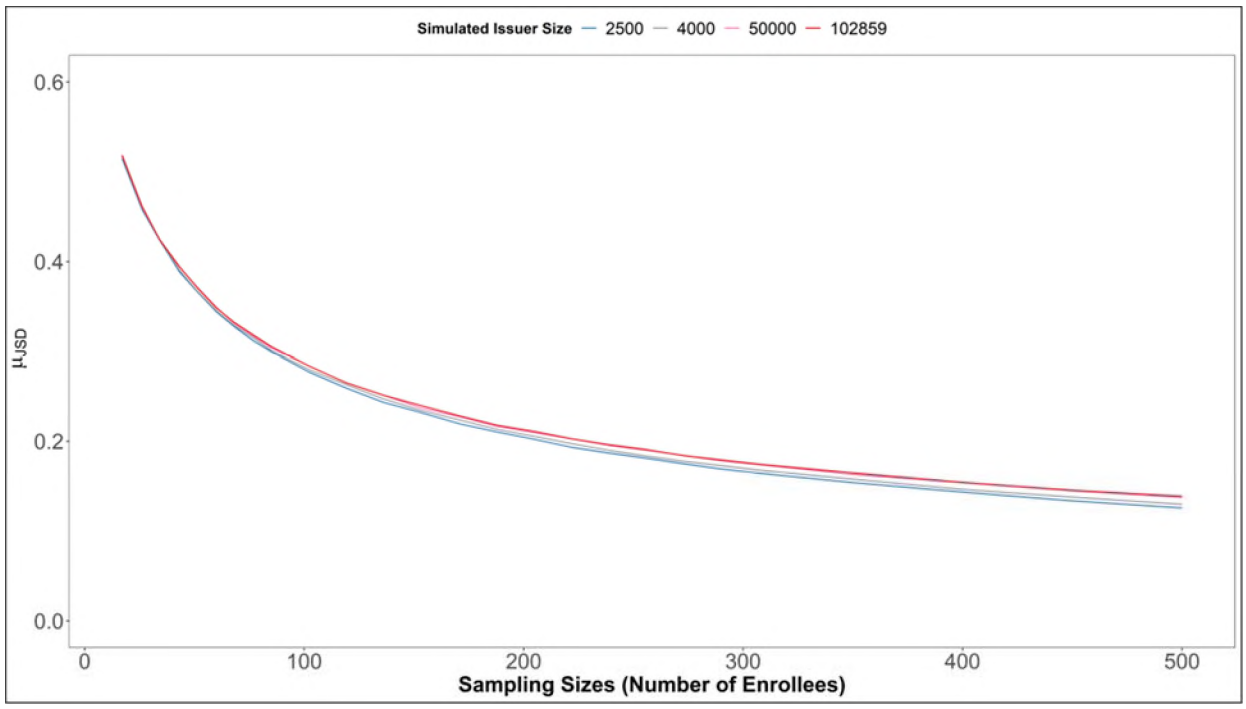
Figure 2.4: Sample Accuracy: Difference between Sample and Population Group Failure Rates (GFRs)



In Figure 2.5 below, we compared the probability of finding specific HCCs at different sample sizes to four different population sizes (2,500; 4,000; 50,000; and 105,577) simulated from the same combined population of 2017 benefit year HHS-RADV issuer enrollees (except for Massachusetts issuers). We used the Jensen-Shannon divergence (JSD)[48] metric to compare the probability distributions of the samples and the populations. As the value of the JSD decreases, the likelihood of finding the same HCCs in the simulated population and the sample taken from that population increases.

[48] Jianhua Lin. Divergence measures based on the Shannon entropy. IEEE Transactions on Information theory, 37(1):145–151, 1991.

Figure 2.5: Sample Accuracy: Difference between Sample and Population HCC Frequency Distribution



The discrepancies in the frequency at which specific HCCs occurred in the samples and simulated populations are inversely proportional to population size. However, for all simulated issuer sizes, we observe a substantial improvement in the degree to which the sample accurately represents the simulated population as sample size increases from roughly 25 to 100 enrollees. For samples larger than the current IVA sample size of 200 enrollees, there were only small marginal gains in the alignment of the sample and simulated population HCC frequency distributions. As such, our analysis shows that the current sample size of 200 enrollees achieves meaningful precision and accuracy, after which point there are diminishing improvements in these metrics and increased burden for issuers.

2.4 HHS-RADV IVA Sample Size Refinement

2.4.1 Goals for HHS-RADV IVA Sample Size Refinement

To refine our sampling methodology for future benefit years of HHS-RADV, we have the following goals:

- Ensure samples accurately represent issuer enrollee populations
- Increase the number of samples that meet the 10 percent precision target
- Minimize the administrative and financial burden on issuers, recognizing that any increase in sample size would increase the burden associated with retrieving and submitting relevant medical records, particularly for small issuers

Taking into consideration these competing goals, we recognize that any modification to sample sizes is unlikely to achieve all of them, and that some changes in sample sizes made to achieve some goals may counter others. For example, if issuer burden were not a concern,

increasing sample sizes for small issuers subject to the FPC under the current methodology could be a reasonable means of meaningfully improving sample precision for these issuers. However, an increase in sample size for issuer populations with low counts of enrollees with HCCs may not result in marked improvements, as we anticipate these issuers would generally have difficulty improving representativeness and precision. When considering modifications to the current sampling methodology, we aim to balance these competing goals.

2.4.2 Options for Sample Size Refinement

HHS is contemplating several options to amend the methodology for enrollee sampling in response to comments from issuers and other stakeholders. In response to some large issuers' requests for larger IVA sample sizes, HHS is considering allowing issuers to elect larger sample sizes despite evidence presented above that the current HHS-RADV IVA sample size of 200 enrollees is representative of underlying issuer populations and generally meets the 10 percent precision target. HHS cannot guarantee that a larger sample size will meaningfully improve the precision or representativeness of any issuer's sample. We previously proposed this option in the 2020 Payment Notice, but did not finalize this or any other changes to the IVA sample size in that rulemaking.[49] If this option is available in future benefit years, and an issuer elects a larger IVA sample size, we anticipate it would be limited by a maximum sample size to be determined by HHS, and the issuer would need to notify HHS of their chosen sample size by a date determined by HHS in advance of sample selection for the HHS-RADV benefit year. The number of enrollees sampled from strata 1-10 would still be calculated using the Neyman allocation method (Section 2.3.5) and the second validation audit (SVA) sample size would not increase in proportion to the elected IVA sample size – that is, the maximum SVA subsample would remain at 200.[50] We would consider the option for issuers to request larger sample sizes independent of, or alongside, one or more of the options described in Sections 2.4.2.1 through 2.4.2.3.

We are considering sample size refinements, which are outlined in Sections 2.4.2.1 through 2.4.2.3 below, that may help reduce operational burden for smaller issuers who do not fall within an exemption from HHS-RADV, while improving precision and representativeness of their IVA samples. In response to concerns from issuers about the administrative and financial burden of HHS-RADV, HHS currently uses three criteria to help identify small issuers for which the burden of sampling may be greater and the sample count of enrollees with HCCs may be too low to result in a representative sample:

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[49] See 84 FR at 17492 to 17494. Also see 84 FR 227 at 252 to 256.

[50] The SVA sample sizes consist of an initial sample of 12 enrollees and expand, if necessary, to include 24, 50, and up to 100 in the event of failure of pairwise means testing. If an SVA sample size of 100 has poor precision, the sample may be expanded to the full IVA sample of 200. See Section 7.3.3 of the 2018 HHS-RADV Protocols at: https://www.regtap.info/reg_librarye.php?i=2904.

(1) Total annual premiums: Issuers at or below the $15 million premium materiality threshold only have an IVA approximately every three years (barring any risk-based triggers that warrant more frequent audits)[51]
(2) Enrollee population: Issuers with enrollee populations below 4,000 are subject to the FPC that reduces their sample size to between 200 and 50
(3) Billable member months: Issuers with 500 or fewer billable member months are exempt from HHS-RADV[52]

Most issuers that fall below the $15 million materiality threshold also have enrollee populations less than 4,000, but there are a few exceptions. Issuers with 500 or fewer billable member months typically have approximately 50 total enrollees.

We note that given application of the Neyman allocation to the 10th stratum beginning with the 2019 benefit year of HHS-RADV and the other potential policy changes presented in this paper, it is difficult to predict if sample size changes under these approaches will impact HHS-RADV failure rates, the determination of outlier status, and error rates.

2.4.2.1 Vary Sample Size Based on Issuers' Distance from the HCC Group Failure Rate Outlier Threshold and Precision

One option under consideration to adjust sampling would be to vary sample size based on issuers' distance from the HCC group failure rate outlier threshold and group failure rate precision using a prior year's HHS-RADV results. We previously proposed this method to adjust sampling in the 2020 Payment Notice, but did not finalize this or any other changes to sample size in that rulemaking.[53] Under this approach, HHS would increase the sample size for issuers that meet both of the following conditions:

(a) HCC group failure rates that fall outside 1.645 standard deviations of the mean in at least one HCC group;[54] and
(b) Group failure rate precision for the same HCC group above the 10 percent target.

Both conditions are evaluated using the HHS-RADV results for the benefit year two years prior to the benefit year for which the HHS-RADV sample is being drawn in at least one HCC group. Samples sizes for issuers who do not meet the above conditions would be determined using the current sampling methodology (described in 2.3.4).[55]

Issuers with HCC group failure rates that do not fall outside 1.645 standard deviations of the mean or that meet the 10 percent precision target in all HCC groups would still have a sample

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[51] 84 FR at 17503.
[52] Although issuers exempt via the materiality threshold random sampling and with 500 or fewer billable member months statewide are exempt from performing an HHS-RADV initial validation audit, they are not exempt from transfer adjustments as a result of the application of HHS-RADV error rates in their state market risk pool.
[53] See 84 FR at 17492 to 17494. Also see 84 FR 227 at 252 to 256.
[54] 1.645 is the critical value for the two-sided 90 percent confidence level and σ is the standard deviation of the issuer population.
[55] As noted below, sample sizes for issuers who did not participate in HHS-RADV in the applicable prior year would also be calculated using the current sampling methodology.

size of 200, or smaller for issuers with enrollment between 50 and 3,999 enrollees, as the FPC would still apply. In the current error estimation methodology, we use a 95 percent confidence interval, or 1.96 standard deviations from the mean, to determine whether issuers are outliers in each HCC group, and ultimately to calculate error rates.[56] Expanding the confidence interval to 90 percent, or 1.645 standard deviations from the mean, to determine sample sizes would ensure that issuers that had higher- or lower-than-average HCC group failure rates in a prior year of HHS-RADV, but were not identified as group failure rate outliers due to poor precision in their samples, have larger sample sizes in future years of HHS-RADV. Due to the HHS-RADV timeline and the timing of the availability of the previous year's HHS-RADV results, this option would use HCC group failure rates from HHS-RADV results from the benefit year two years prior to the benefit year being audited to adjust the sample (e.g., 2018 benefit year results would determine 2020 benefit year HHS-RADV sampling).

Sample sizes for issuers that meet these conditions in at least one HCC group would be adjusted based on the distance of their current precision to the 10 percent target precision using the formula below:

$$n_{new} = n_{initial} * \left(\frac{Precision_{current}}{Precision_{new\_target}} \right)^2$$

Where $n_{initial}$ equals 400 for issuers with populations larger than 50,000 enrollees and $n_{initial}$ equals 200 for all other issuers. Extra-large issuers with poor precision and HCC group failure rates that fall outside 1.645 standard deviations of the mean would have larger sample size increases compared to medium-sized issuers. An issuer's final sample size would be the maximum n_{new} calculated for each of the HCC groups in which the issuer meets the group failure rate and precision criteria.

Issuers with $15 million or less in premiums who are selected to participate in HHS-RADV in a given benefit year could have much larger sample sizes under this methodology if they had poor precision in prior years of HHS-RADV. To limit the additional burden imposed on these issuers, we would use the approach that results in the smallest sample size from the sample size calculation methods below:

(1) The calculated sample size using the precision formula above; or
(2) The current sample size of 200 enrollees for issuers with enrollee population sizes greater than or equal to 4,000; or
(3) If an issuer has fewer than 200 enrollees, we would set their sample size equal to their population size in order to maximize precision.

We used the 2017 benefit year HHS-RADV results to test the option to vary sample size based on issuers' distance from the HCC group failure rate threshold and precision. We estimate that, out of the approximately 514 issuers expected to participate in HHS-RADV for benefit year

[56] As detailed above, the current sampling methodology targets a 10 percent relative precision (or margin of error) for a two-sided 95 percent confidence interval.

2020, approximately 92 issuers (57 of which we estimate would be issuers with $15 million or less in premiums, representing 38 percent of such issuers) would have their target sample size increased under this approach. Sample sizes for issuers that would experience sample size increases would range from approximately 117 to 462 enrollees.

Figure 2.6: Issuers Affected by Adjustment Based on Issuers' Distance from the HCC Group Failure Rate Outlier Threshold and Precision[57]

Issuers with HCC group failure rates that fall outside 1.645 standard deviations of the mean and with precision far from the 10 percent precision target (highlighted in Figure 2.6) would have an opportunity to improve their precision with the larger sample sizes under this option. Additionally, larger sample sizes could give issuers the opportunity to retrieve more accurate and complete medical records for HHS-RADV by capturing enrollees with HCCs that may have been missed in smaller samples.

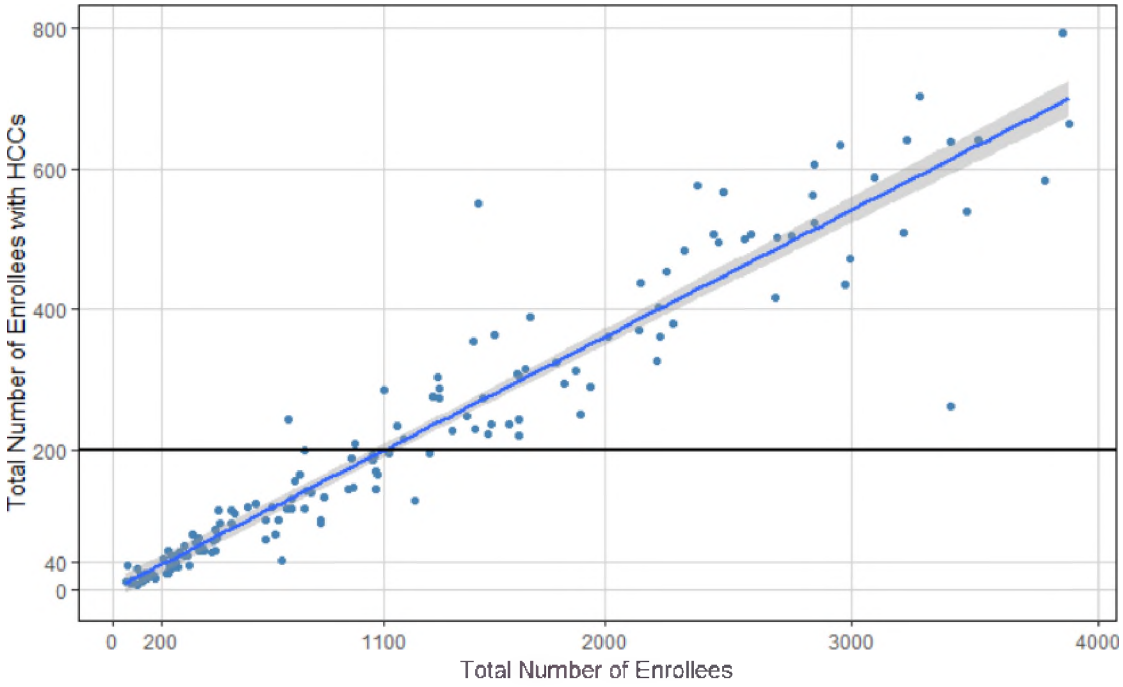
However, we have concerns about the potential burden associated with this option for small issuers with $15 million or less in premiums, poor precision, and HCC group failure rates that fall outside of the 90 percent confidence interval. These issuers would have larger sample sizes under this option for the benefit year(s) in which they are selected to participate in HHS-RADV. Financial and administrative burden could increase for those issuers when they may not have the

[57] Figure 2.6 shows failure rate precision results for 512 issuers offering risk adjustment covered plans in the 2018 benefit year with 2017 benefit year HHS-RADV results. Issuers "above materiality" have total annual premiums above $15 million. Issuers "below materiality" have total annual premiums at or below $15 million. Most issuers that fall below the $15 million materiality threshold also have enrollee populations less than 4,000, but there are a few exceptions. Beginning with 2018 benefit year HHS-RADV, issuers below the materiality threshold will be subject to random (or targeted) sampling. See 81 FR 94058 at 94104-94105.

capacity to retrieve more accurate medical records, and they may lack the additional enrollees needed to increase their sample size or meaningfully improve their precision.

Specifically, issuers with populations of fewer than 1,100 enrollees may not have enough enrollees with HCCs from which to sample. Based on an analysis of issuers in 2018 benefit year risk adjustment (Figure 2.7 below), approximately half of issuers with premiums at or below $15 million had fewer than 200 enrollees with HCCs. Since group failure rate precision is determined by the number of enrollees in the population with HCCs, a larger sample for these issuers would not necessarily improve their group failure rate precision. For example, increasing the sample size under this option from 150, as calculated under the FPC, to 200 for an issuer with a population between 50 and 3,999 enrollees may result in 50 more enrollees without HCCs being sampled, which would provide no meaningful improvement in group failure rate precision.

Figure 2.7: Total Number of Issuer Enrollees by Total number of Issuer Enrollees with HCCs



Moreover, this option requires using data from two years prior to adjust issuers' sample sizes, because sampling for each benefit year occurs before HCC group failure rates from the prior benefit year becomes available. For example, 2020 benefit year HHS-RADV sample sizes would need to be determined using 2018 benefit year HHS-RADV group failure rates because 2020 benefit year HHS-RADV sample sizes would need to be calculated before 2019 benefit year HCC group failure rate results are available. We recognize that another limitation of this approach is that using prior year HCC group failure rates may not be representative of an issuer's current population because population characteristics could change dramatically over two years, especially for small issuers. Additionally, this sample size adjustment would not be available for issuers that did not participate in HHS-RADV two years prior to when sample sizes are calculated because they would not have HCC group failure rate results available to calculate their

sample size. Sample sizes for these issuers would be calculated using the current sampling methodology (described in 2.3.4).

We are also considering whether we should evaluate combining HCC group failure rate data from multiple prior years of HHS-RADV once enough data becomes available, to potentially alleviate concerns that using one year of failure rate data may not be representative for determining sample sizes. However, this would not completely alleviate the concern of using prior year HCC group failure rates to represent issuers' current populations. Since we currently only have two years of HHS-RADV, only one of which is a non-pilot year, we believe more data and analysis of potential trends in failure rates across multiple years is needed. Additionally, because the HCCs in each HCC failure rate group, as well as the means and standard deviations of HCC group failure rates change year over year, the cutoff values for the 95 percent confidence interval in the current sampling methodology also vary year to year. This could make it difficult to combine issuers' historical failure rates across multiple years to determine which issuers to target for larger sample sizes under this option.

2.4.2.2 Re-evaluate the Standard Sample Size Using National Average HHS-RADV Error Rates Instead of Proxy Data from MA-RADV

To align our sampling methodology with risk adjustment program policy to use the most recently available program data as source data, under this approach, HHS would calculate sample size using national average HHS-RADV error rates instead of proxy data from MA-RADV (that we used to determine the current IVA sample size of 200). For issuers with population sizes of 4,000 enrollees or more, we would vary sample size based on issuer-specific population size, the distribution of enrollees between strata, and standard deviations of risk score errors among the 10 strata. The FPC would still be used to calculate a smaller sample size for issuers with enrollment between 50 and 3,999 enrollees. In addition, if an issuer has fewer than 50 enrollees, its sample size would remain equal to its enrollment.

Specifically, if an issuer's population size is 4,000 or more enrollees, then the same formula used to calculate the current IVA sample size from MA-RADV data would be used:

$$n = \frac{(\sum_{h=1}^{H} N_h S_h)^2}{\sum_{h=1}^{H} N_h S_h^2 + \left(\frac{Prec \times Y}{CI}\right)^2}$$

- N_h is the population size of the h^{th} stratum;
- Y is the adjusted total risk score estimate, that is, the adjusted total HHS-RADV risk score estimate using the average HHS-RADV error rate calculated by all issuers;
- S_h represents the standard deviation of risk score error amount for the h^{th} stratum.
- $Prec$ represents the desired precision level (still 10 percent); and
- CI is the confidence interval associated with the desired level, which is 1.96 for a two-sided 95 percent confidence level.

Under this option, an issuer's sample size would depend on its total population size and the distribution of enrollees and risk score errors between strata, so there would be no guarantee that its sample size would increase proportionally to its population size. Using the 2017 benefit year

HHS-RADV results, we estimate that approximately 330 issuers (all with populations of 4,000 or more enrollees) would have their sample sizes increased under this option out of the approximately 514 issuers expected to participate in HHS-RADV in benefit year 2020. We also estimate that approximately 31 issuers would have their sample size decreased, as this option would allow for customized sample sizes to achieve the targeted precision for each issuer. In total, we estimate this option would lead to an average sample size of 230 enrollees and an average sample size increase of 25 percent.

The data used to calculate the standard sample size under this option will better represent the population enrolled in risk adjustment covered plans than the MA-RADV data used to calculate the current standard sample size of 200. Further, though increasing sample sizes would increase operational burden for issuers, larger sample sizes could improve issuers' precision and help issuers obtain more accurate HHS-RADV results by capturing more enrollees with HCCs in the IVA sample.

Similar to the approach outlined in Section 2.4.2.1 that uses failure rates from two years prior, this option would also require using errors rates from two years prior, due to the timing of the calculation and release of HHS-RADV error rates and the timing of HHS-RADV sampling. However, this data is more recent and applicable to the enrollees in risk adjustment covered plans than the MA-RADV error rate data used in the current sampling approach. Additionally, unlike the option outlined in Section 2.4.2.1, this option uses the aggregated HHS-RADV results across all issuers, which may remediate some of the concerns introduced by using data from two years prior (e.g., use of prior year error rates may not be representative of an issuer's current population).

There are some other considerations for this option. If we were to determine the 2020 benefit year sample size based on results from the 2018 benefit year HHS-RADV data, the resulting sample size under this option could be smaller than what is forecast in this white paper using 2017 benefit year HHS-RADV data. For example, if the average error rate in 2018 benefit year HHS-RADV is significantly smaller than that of 2017 benefit year HHS-RADV, the resulting sample size(s) under this option would be smaller. Additionally, we currently have multiple benefit years of MA-RADV error rate data to use to predict sample sizes, but only have one non-pilot year of HHS-RADV data available to conduct this analysis and would only have two non-pilot years of HHS-RADV data if we implement this option for 2020 benefit year HHS-RADV sampling. In future years, once more HHS-RADV data becomes available, we would have more data to analyze potential trends in error rates across multiple years, and we could also further consider combining multiple benefit years of error rate data to calculate sample sizes. This paper does not outline options or offer an analysis related to the use of multiple benefit years of error rate data because there is currently only one non-pilot year of HHS-RADV data available. This option would also require the establishment of a different approach for determining samples sizes for issuers that did not participate in HHS-RADV two years prior to when sample sizes are calculated. Sample sizes for these issuers would be calculated using the current sampling methodology (described in Section 2.3.4).

2.4.2.3 Consider Other Sampling Options and Measures to Reduce Burden on Issuers with Small Populations

Another option to improve the precision and accuracy of samples for issuers with small populations is to maintain the current standard sample size of 200 enrollees for issuers who have sufficient enrollees in strata 1-10 to satisfy the Neyman allocation formula for that sample size. For issuers who do not have sufficient enrollees in strata 1-10 to satisfy the Neyman allocation formula, we would (a) determine an issuer-specific sample size that would reflect the sample size that satisfies the formula using their population total number of enrollees with HCCs or (b) consider adoption of additional criteria to exempt these issuers from HHS-RADV. Under this option, the FPC currently used to calculate the sample size for HIOS IDs with enrollment between 50 and 3,999 enrollees would no longer be used.

Figure 2.7 in Section 2.4.2.1 above (the first option for sample size refinement) indicates that issuers with populations of fewer than 1,100 enrollees may not have enough enrollees with HCCs from which to draw a sample to satisfy the Neyman allocation formula with a sample size of 200 enrollees. We chose a standard sample size of 200 enrollees based on our analysis described in Sections 2.3.6 and 2.3.7 above that increasing the sample size to more than 200 enrollees generally leads to minimal improvement in precision and accuracy. To determine which issuers would not be able to satisfy the Neyman allocation formula with a sample size of 200 enrollees under this option, for each issuer, we calculated sample sizes (n_h) for strata 1-9[58] (strata containing enrollees with HCCs) using the Neyman formula:

$$n_h = n \times \frac{N_h S_h}{\sum_{h=1}^{H} N_h S_h}$$

- H is the number of strata,
- n is the total sample size (set to 200 under this option),
- N_h is the population size of the h^{th} stratum, and
- S_h represents the standard deviation of risk score error amount for the h^{th} stratum.

Then, we determined which issuers had a total number of sampled enrollees in strata 1-9 greater than their total population of enrollees with HCCs (i.e., issuers that had a deficit of enrollees with HCCs from which to sample). Based on two analyses, one using MA-RADV error rate data (used to determine 2017 benefit year HHS-RADV samples) and another using 2017 benefit year HHS-RADV error rate data, we found that issuers with 1,100 or more enrollees or approximately 8,500 billable member months would have a sufficient total number of sampled enrollees in strata 1-9 to have an IVA stratified sample of 200 enrollees.

Under this option, issuers required to participate in HHS-RADV (that is, excluding issuers that meet the 500 or fewer billable member months exemption criterion) that we determine do not have enough enrollees with HCCs to satisfy the Neyman allocation formula for strata 1-10 with a sample size of 200 enrollees would have an issuer-specific sample size equal to the sum of

[58] We did not include stratum 10 in our analysis to determine which issuers would not be able to satisfy the Neyman allocation formula under this option because we assume that all issuers have sufficient enrollees without HCCs in their populations.

all of their enrollees with HCCs in each stratum 1-9 and the stratum 10 sample size that satisfies the Neyman allocation formula. This would give issuers with small populations who are required to participate in HHS-RADV an opportunity to improve their sample precision and accuracy. We anticipate that sample sizes would increase for some of these issuers and decrease for others when compared to the current sampling methodology (described in Section 2.3.4). Using the 2017 benefit year HHS-RADV results, we estimate the average sample size for these issuers would be approximately 86 enrollees. Each issuer unable to meet the required strata would have all enrollees with HCCs in their population sampled. We further note that we predict that most issuers that do not have enough enrollees with HCCs to satisfy the Neyman formula will likely fall under the $15 million materiality threshold exemption from HHS-RADV at 45 C.F.R. § 153.630(g)(2) and thus, would be subject to HHS-RADV approximately every three years (barring any risk-based triggers that would warrant more frequent audits).

Alternatively, we could consider adopting additional criteria to exempt these issuers from HHS-RADV, thereby reducing burden for issuers required to participate in HHS-RADV in circumstances where there is little or no potential to meaningfully increase group failure rate precision or improve representativeness of issuers' samples. For example, we could expand our current 500 billable member month exemption cutoff to provide relief for issuers with 8,500 or fewer billable member months. Billable member months, the current metric used for the HHS-RADV exemption at 45 C.F.R. § 153.620(g)(1), may more accurately represent plan enrollment than the count of enrollees, the metric used to identify issuers with low counts of enrollees with HCCs (see Section 2.4.2.1), and would align with the billable member month premium that we use to calculate risk adjustment transfers. We are interested in comments on the appropriateness of using billable member months as a metric for this new exemption cutoff in comparison to other metrics and the exemption cutoff value of 8,500 billable member months. Similar to issuers with 500 billable member months or fewer that are currently exempt under § 153.620(g)(1), issuers who qualify for this new exemption would not be exempt from the effects of HHS-RADV on transfer adjustments that may occur in their state market risk pool as a result of the application of HHS-RADV results. In addition, if we were to pursue this option and increase the number of issuers exempt from HHS-RADV, we would conduct targeted audits of exempt issuers under 45 C.F.R. § 153.620(c)[59] in order to mitigate the potential for gaming.

Although this alternative option would address the goal of decreasing burden for issuers below the new potential billable member month cutoff value[60], we have significant concerns about expanding the exemptions from HHS-RADV in this manner. Our main concern is the potential for gaming. In certain state market risk pools, some issuers below the new potential exemption cutoff may have a high risk score in comparison to the state market average risk score and HHS-RADV would not ensure those risk scores were not over-reported if this option were

[59] 45 C.F.R. § 153.620(c) states that HHS or its designee may audit an issuer of a risk adjustment covered plan to assess its compliance with the requirements of the risk adjustment program.

[60] Issuers that fall below the new potential billable member month exemption cutoff would also likely fall below the $15 million materiality threshold. However, under the new potential billable member month exemption, these issuers would not be required to participate in HHS-RADV approximately every three years.

adopted. This policy could also remove the incentives for these issuers to be vigilant in their coding practices and accurate in their EDGE data submissions. Further, as noted above, the existing materiality exemption at 45 C.F.R. § 153.630(g)(2) currently provides for decreased burden on issuers that would fall below the new potential billable member month exemption because they are currently only required to participate in HHS-RADV approximately every three years (barring any risk-based triggers that would warrant more frequent audits).[61]

Rather than look to adjust the sample size methodology, HHS is also considering different approaches to improve precision for issuers with low HCC counts, such as modifications to the outlier detection methodology described in Chapter 3 of this paper.

2.5 HHS's Perspective

HHS is interested in transitioning toward using HHS-RADV error rate data to replace MA-RADV proxy data and a preference for determining sample sizes in future years as outlined in Section 2.4.2.2. This would be consistent with HHS' risk adjustment program policy to use most recently available program data as source data, such as the transition in recent years from MarketScan® data to the most recently-available enrollee-level EDGE data for the annual calibration of the HHS risk adjustment models. We forecast that the average sample size calculated using HHS-RADV error rate data consistent with the approach in Section 2.4.2.2 for most issuers with populations of 4,000 or more enrollees would be relatively close in size to their samples of 200 under the current methodology. However, we only had one year of non-pilot HHS-RADV results available to forecast sample sizes under this option; future years of HHS-RADV may have smaller or larger error rates that may result in smaller or larger sample sizes for these issuers.

We acknowledge that the HHS-RADV operational timeline precludes our ability to make changes to the sampling methodology for the next applicable HHS-RADV benefit year (i.e., 2019 benefit year HHS-RADV), and that our analysis of policy options could benefit from the examination of several more years of HHS-RADV data that will become available before the start of 2020 benefit year HHS-RADV. While we previously requested comment in the 2020 Payment Notice on the possibility of permitting issuers to voluntarily increase sample sizes, we note that the current HHS-RADV sample size of 200 enrollees is representative of underlying issuer populations and generally meets the 10 percent precision target, as described in Sections 2.3.6 and 2.3.7. However, we continue to solicit feedback from issuers on whether electing a larger sample size than required by HHS is a desired approach. Lastly, we are interested in feedback from stakeholders on all of the options outlined in Section 2.4.2 that include: 1) varying issuers' samples for issuers with poor precision and who have an HCC group failure rate that falls outside 1.645 standard deviations of the mean; 2) utilizing HHS-RADV error rates in the calculation of issuer-specific sample sizes for issuers with 4,000 or more enrollees, while continuing use of the FPC for small issuers; or 3) considering other sampling options and measures (including potential expansion of HHS-RADV exemptions) to reduce burden on

[61] Ibid.

issuers with small populations. Under the third option, HHS would conduct targeted audits under 45 C.F.R. § 153.620(c) of issuers who are exempt from HHS-RADV to mitigate the potential for gaming that could result from expanding the exemptions from HHS-RADV.

3. MODIFICATIONS TO OUTLIER DETERMINATION

In this chapter, we review the process by which we determine whether an issuer qualifies as a failure rate outlier in HHS-RADV. This outlier determination process may prompt an adjustment to the issuer's risk score as calculated based on data reported on its EDGE server. We discuss two factors that may impact this process—HCC count and the interaction between HCC hierarchies and HCC failure rate groups—and explore several methodological changes that may help more precisely identify true outliers.

3.1 OVERVIEW OF FAILURE RATE OUTLIER DETERMINATION

As discussed in Section 1.2.1, the fourth step in the HHS-RADV process is error estimation. As a part of this stage, HHS determines the rate at which audit-validated HCCs[62] differ from EDGE-recorded HCCs and groups these HCCs into three (3) HCC failure rate groups (low, medium, and high). These rates are used first to establish a national standard, and then to determine whether individual issuers fall outside of an acceptable range of variation from that standard. Those issuers who fall outside of the acceptable range are termed outliers and their risk scores are adjusted based on the errors discovered during HHS-RADV.[63] The risk adjustment transfers for the applicable state market risk pool are modified in accordance with these risk score adjustments.[64] The specifics of this process are discussed below.

3.1.1 The Current Methodology

Under the current methodology, if an issuer's failure rate for an HCC group falls outside the confidence interval for the weighted mean failure rate for the HCC group, the issuer is considered an outlier for that HCC group. We use a 1.96 standard deviation cutoff, corresponding to a 95 percent confidence interval, to identify outliers. To calculate the thresholds for classifying an issuer's group failure rate as an outlier or not, the lower and upper limits of the confidence interval are computed as:

$$LB^G = \mu(GFR^G) = sigma\_cutoff * Sd(GFR^G)$$

$$UB^G = \mu(GFR^G) + sigma\_cutoff * Sd(GFR^G)$$

Where:

$\mu(GFR^G)$ and $Sd(GFR^G)$ are calculated as described in Section 1.2.3 of this paper.

$sigma\_cutoff$ is the parameter used to set the threshold for the outlier detection as the number of standard deviations away from the mean; in this case, 1.96.

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[62] That is, HCCs validated by the IVA or SVA, as applicable.
[63] 45 C.F.R. § 153.350(b).
[64] 45 C.F.R. § 153.350(c).

LB^G, UB^G are the lower and upper thresholds to classify issuers as outliers or non-outliers for group *G*.

When an issuer's HCC group failure rate is an outlier, we reduce (or increase) the value of each of the applicable IVA sample enrollees' HCC coefficients by a proportion defined by the difference between the outlier issuer's failure rate for the HCC group and the national weighted mean failure rate for the HCC group. Formally, this adjustment amount is determined[65] by:

If $GFR_i^G > UB^G$ or $GFR_i^G < LB^G$:

Then $Flag_i^G = \text{"}outlier\text{"}$ and $Adjustment_i^G = GFR_i^G - \mu(GFR^G)$

If $GFR_i^G \leq UB^G$ and $GFR_i^G \geq LB^G$:

Then $Flag_i^G = \text{"}non\text{-}outlier\text{"}$ and $Adjustment_i^G = 0$

Where:

$Flag_i^G$ is the indicator if issuer *i*'s group failure rate for group *G* is located beyond a calculated threshold that we are using to classify issuers into "outliers" or "non-outliers" for group *G*.

$Adjustment_i^G$ is the calculated adjustment amount to adjust issuer *i*'s EDGE risk scores for all sampled HCCs in group *G*.

By this process, it is possible for an issuer to be flagged as an outlier and receive an adjustment in one of two ways. The issuer may be a positive outlier, meaning that the audit[66] was unable to validate a higher proportion of HCCs in a failure rate group than the national average; or the issuer may be a negative outlier.

The term "negative outliers" refers to issuers whose failure rate is demonstrated to be lower than the national average due to a failure rate lower than the lower threshold LB^G, indicating a statistically significant difference. Such outliers may occur if the audit resulted in a higher proportion of HCCs that are validated by the IVA in comparison to the national average, and if that difference is statistically significant. Negative outliers may also occur if the audit found a higher proportion of HCCs in the audit data that were not present in the EDGE data than the average issuer (i.e. "found HCCs"). If the number of found HCCs in a failure rate group exceeds the number of non-validated HCCs in that failure rate group for that issuer, it is possible for a negative failure rate to result.

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[65] See 83 FR 16930 at 16963

[66] That is, the medical record retrieval and coding process performed by the IVA or SVA Entity, as applicable.

Found HCCs in an HCC grouping can happen for a variety of reasons.[67] At a high level, during the course of the medical record review by the IVA (or SVA as applicable), the IVA (or SVA) may find an HCC that is not associated with an HCC for an enrollee that was recorded in an issuer's EDGE server data. For example, a chronic condition may not have been diagnosed in the benefit year being audited, and therefore, the issuer may not have recorded that HCC in its EDGE server data. However, upon medical record review, that HCC may be found by the IVA (or SVA) and incorporated into an issuer's failure rate results in accordance with the guidelines on chronic, lifelong conditions outlined in the applicable benefit year's HHS-RADV Protocols.[68]

If an issuer is flagged as either a negative or positive outlier in a group, the adjustment value is applied to applicable HCCs for each enrollee on that issuer's EDGE server and the resulting HCC-level adjusted risk scores are summed for each enrollee to arrive at the enrollee adjustment, $Adjustment_{i,e}$, as described in Section 1.2.3 above. The enrollee-level adjustment is then aggregated for all of the issuer's enrollees on its EDGE server to arrive at the risk score error rate, which reflects the degree to which the risk score values found during the audit exceed or fall short of the risk score values reported through the EDGE server, relative to the national average rate at which EDGE and audit risk scores differ. HHS applies this value to the issuer's PLRS and adjusts the applicable benefit year's risk adjustment transfers for the state market risk pool(s) in question.

3.2 Addressing the Influence of HCC Count on Outlier Determination

Under the current methodology, we use national failure rate benchmarks to define a single set of confidence intervals that we apply to each of the three (3) HCC groups—based on the normal distribution—against which we validate all issuers' individual failure rates. Standard statistical theorems[69] state that as sample sizes increase, the sampling distribution of the means of those samples (in this case, the distribution of mean HCC group failure rates) will more closely approximate a normal distribution. At sufficient sample sizes, these theorems allow for normality to be assumed for statistical testing, ensuring the stability and reliability of results.

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[67] Some stakeholders have suggested that including found HCCs in the calculation of failure rates may be counter to the goals of the HHS-RADV program. We disagree and believe that it is appropriate to include found HCCs to account to some extent for HCCs that were miscoded as another HCC within the same HCC hierarchy on EDGE. It is also necessary to ensure the HHS-operated risk adjustment program transfers funds from issuers with lower-than-average actuarial risk to issuers with higher-than-average actuarial risk. A further discussion of these types of miscoding scenarios is in Section 3.3 of this paper.

[68] See, e.g., Appendix E of the 2018 Benefit Year HHS-RADV Protocols, available at: https://www.regtap.info/reg_librarye.php?i=2904. As described in the 2018 Benefit Year HHS-RADV Protocols, CMS has implemented new HHS-RADV specific guidance related to chronic/lifelong conditions for 2018 HHS-RADV by updating the 2017 benefit year HHS-RADV 'Chronic Condition HCC' list with a simplified list of Lifelong Permanent Conditions, which is a subset of the conditions listed for 2017 HHS-RADV.

[69] In other words, the Central Limit Theorem (CLT). For background regarding the CLT, please see Ivo D. Dinov, Nicolas Christou, and Juana Sanchez. "Central limit theorem: New SOCR applet and demonstration activity." Journal of Statistics Education 16, no. 2 (2008). DOI: 10.1080/10691898.2008.11889560 .

As discussed in Chapter 2, we have already indirectly limited the inclusion of issuers below a certain number of enrollees through the exemption for issuers with 500 or fewer billable member months.[70] Although this exemption was primarily introduced to reduce disproportionate burden to issuers with fewer financial resources, it has the additional benefit of reducing the number of typical issuers who could be flagged as outliers due to low HCC counts in an HCC failure rate group. However, we believe that it is worthwhile to further mitigate the potential for typical issuers with low sample sizes to be flagged as outliers, on the basis that some samples may have too few HCCs to reliably determine whether their HCC failure rates in certain HCC groups are statistically different from the national means. As such, we are considering options to refine the outlier identification approach.

Although our sampling methodology is based on enrollee counts, the current error estimation methodology is based on HCC counts. For this reason, even though our analysis of sample size indicates that 200 enrollees provides sufficient precision on average as described in the previous chapter on sampling, the mismatch between the unit of analysis used for sampling and that used for error estimation may occasionally lead to fewer HCCs in an HCC group than may be necessary to reliably determine whether an issuer is statistically different from the national (average) HCC failure rate, as defined by static, national 95 percent confidence intervals. In effect, the national confidence interval may represent 95 percent confidence *in theory,* based on the assumptions that:

(1) all issuers come from a common population of issuers who are generally similar to each other regarding the obstacles they face in claim validation;

(2) the normal distribution is a fair approximation of the distribution of the failure rate; and

(3) issuers' samples are similar enough in HCC count that the precision of their failure rate estimates is about equal.

However, if any of these assumptions is substantially violated, the confidence level of the interval may diverge from 95 percent for some issuers in practice. For the purposes of this discussion, we will refer to the value that reflects the percentage confidence in practice as the *practical confidence level.*

To further examine this issue, we conducted an analysis in which we simulated the selection of samples from an average issuer using progressively smaller HCC counts (Figure 3.1). Through this process, we identified a threshold of 30 HCCs in an HCC group reported in EDGE data for a sample of enrollees as the threshold where the practical confidence level of the national confidence interval was lower than the theoretical 95 percent. This analysis indicates that the current methodology may be overly sensitive for issuers with fewer than 30 HCCs in an HCC group.

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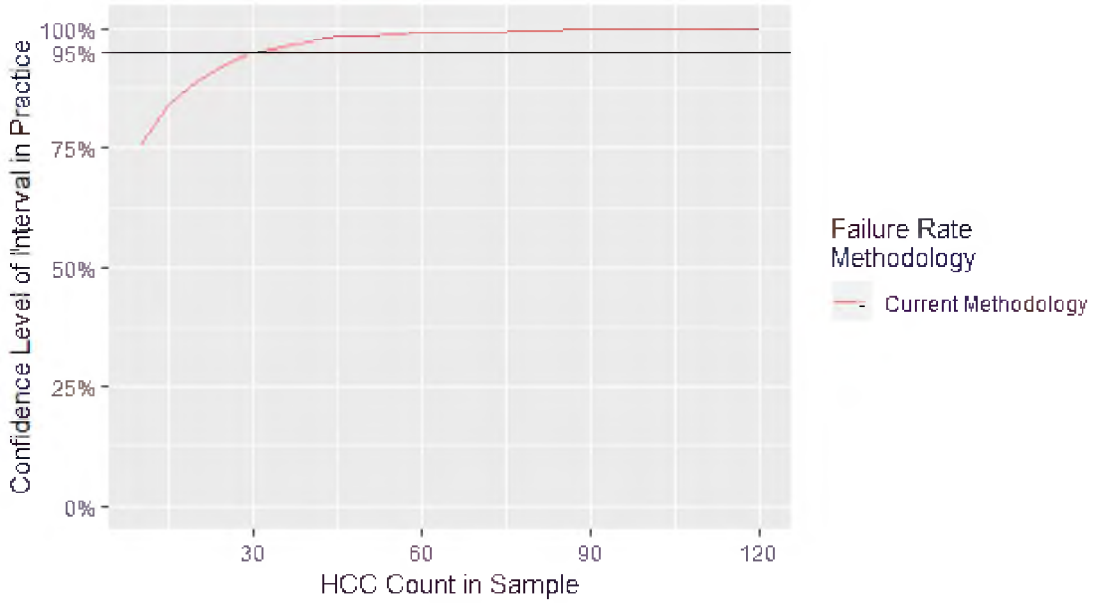
[70] 45 C.F.R. § 153.630(g)(1).

Figure 3.1. Resampling Simulation Comparing Theoretical and Practical Confidence Level of Current HHS-RADV Results by the Number of HCCs in a Sample



The result of this analysis suggests that issuer-specific HCC counts within an HCC group can help refine the methodology to more precisely identify true outliers. Using a single, static confidence interval across all issuers may have the impact that some issuers with low HCC counts within an HCC group could be identified as outliers, although at the population-level (rather than sample-level), they may be a typical issuer, that is, an issuer with a population-level failure rate indistinguishable from the national average. In effect, the static national 95 percent confidence interval may be too narrow to determine statistical significance at the desired confidence level when HCC count is below 30.

Furthermore, given that the national confidence intervals are static and do not vary based on individual issuer sample characteristics, there is the potential for atypical issuers with population-level failure rates that are very far from the national mean to have sample failure rates that fall within the confidence interval. In such cases, these issuers would not be identified as outliers in HHS-RADV.

Either of these situations will have an impact on other issuers in the state market risk pool. In the first case, some typical issuers, because of low HCC counts, may be identified as negative outliers under the current methodology, prompting an increase in their risk score, a higher payment or lower charge for the outlier issuer, and therefore lower payments or higher charges for other issuers in their state market risk pool. If these issuers are instead identified as positive outliers under the current methodology, their risk score will be decreased, resulting in lower payments or higher charges for the outlier issuer and increased payments or decreased charges to other issuers in their state market risk pool. Other issuers in the state market risk pool would also be impacted if atypical issuers whose population-level failure rates are above the national mean are not identified as positive outliers due to the static nature of the national confidence intervals, failing to prompt adjustments to transfers. Atypical issuers with failure rates well below the national mean could be harmed if they were not identified as negative outliers due to static

national confidence intervals that do not vary based on HCC count and other sample characteristics.

As the single set of static national confidence intervals appears to yield intervals that are too narrow for some issuers' HCC counts and too wide for other issuers' HCC counts, we believe that a methodology that would scale confidence intervals across the full range of HCC counts in our issuer population would permit more precise identification of true outliers. To this end, this chapter explores several alternatives to modify the current error estimation methodology.

3.2.1 Basic Modifications to Current Methodology Considered

The alternative methodologies described in this section reflect only minor changes to the current error estimation process. Although these methodologies vary in how well they improve the identification of true outliers, they share the benefit of maintaining a fair amount of the current error estimation methodology and potentially reducing any confusion and uncertainty generated by the adoption of a completely new methodology. The first method would establish multiple sets of national confidence intervals to account for issuers with varying numbers of HCCs in a grouping, and the second method would create issuer-specific bootstrapped confidence intervals.

3.2.1.1 Establish Multiple Sets of National Confidence Intervals

We explored creating multiple sets of national confidence intervals based on the number of HCCs present in an HCC failure rate group. Under this option, we would calculate two sets of national benchmarks for HHS-RADV by subdividing the population of issuers by the number of HCCs present in each issuer's failure rate groups: one for the category of issuers with high HCC counts, and one for the category of issuers with low HCC counts. We would then assess each category of issuer and HCC group based on the relevant confidence interval applicable to the category. Preliminary analysis suggests that, due to the natural increase in the size of the standard deviation of sample means when sample HCC counts are smaller, the low HCC count confidence intervals would be wider than the high HCC count confidence intervals, leading to fewer low HCC count issuers being identified as outliers compared to our current methodology. For example, simulations on the 2017 benefit year HHS-RADV data produced the following confidence interval limits for the high-failure rate HCC group:

Table 3.2. National Benchmarks for 2017 HHS-RADV Data under the Current Methodology and the Multiple Confidence Interval (MCI) Methodology

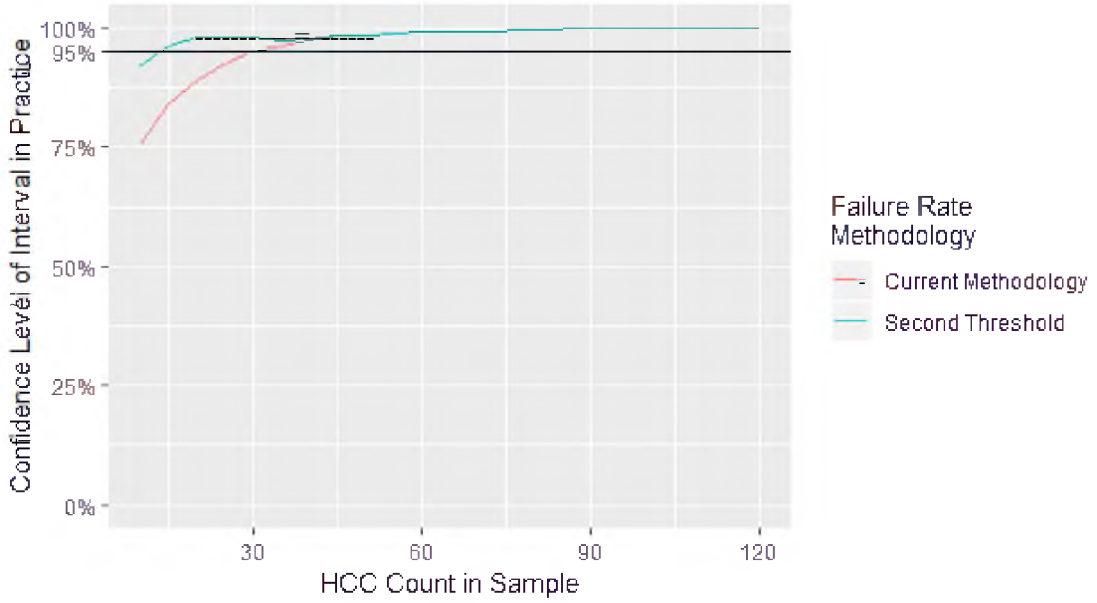
Issuer HCC Count Group	HCC Failure Rate Group	Group Mean Failure Rate	Standard Deviation	Confidence Interval Bounds	
				Lower	Upper
Current Method	Low	0.048	0.097	-0.143	0.238
	Medium	0.155	0.099	-0.040	0.349
	High	0.262	0.106	0.054	0.471
MCI Method for High HCC Counts (≥30)	Low	0.047	0.096	-0.142	0.235
	Medium	0.155	0.097	-0.036	0.345
	High	0.262	0.104	0.058	0.466
MCI Method for Low HCC Counts(<30)	Low	0.117	0.145	-0.167	0.401
	Medium	0.157	0.176	-0.188	0.503
	High	0.279	0.184	-0.083	0.640

In our simulated analysis of this method, the standard deviations were larger for the group of issuers with HCC counts that were less than 30 and, consequently, the confidence intervals were wider, with lower values for their lower bounds and higher values for their upper bounds. The confidence intervals and standard deviations for the group of issuers with 30 or more HCCs in an HCC group were about the same as the values under the current methodology.

The increased range for low HCC count issuers demonstrated in Table 3.2 reflects a national standard that allows for a greater degree of variability when HCC counts are low. As such, fewer issuers to whom these wider confidence intervals are applied will be flagged as outliers, and more of these issuers will have error rate values of zero, likely reducing the total absolute value of HHS-RADV transfer adjustments within state market risk pools, albeit only slightly.

As compared to the current methodology, the development of this second set of national benchmarks would allow the practical confidence level for samples with fewer than 30 HCCs to better approximate the theoretical 95 percent confidence level, as demonstrated by Figure 3.3.

Figure 3.3. Resampling Simulation Comparing Theoretical and Practical Confidence Levels of Current and Minimum HCC Count HHS-RADV Methodology by the Number of HCCs in a Sample



Establishing multiple sets of confidence intervals based on subsets of issuers appears to reduce the rate at which issuers with low HCC counts may be flagged as outliers. However, this option does not directly scale the width of the confidence interval according to the HCC count of the issuer, which we believe would be more likely to improve our ability to identify true outliers. Based on the analysis we have conducted thus far, we believe that is a significant shortcoming of this option.

3.2.1.2 Issuer-Specific Bootstrapped Confidence Intervals

In our search for a methodology that would directly scale the width of the confidence interval according to the HCC count of the issuer, we explored bootstrapping—a technique that avoids any assumptions regarding the underlying distribution of the failure rate metric. Bootstrapping is

a resampling simulation methodology that uses observed data—as opposed to formulas based on the central limit theorem—to provide information regarding the level of confidence we can have in an estimated value.[71]

Under this option, we would no longer calculate a single set of confidence intervals around the national mean and compare each issuer's failure rate to that confidence interval. Instead, HHS would calculate confidence intervals around each issuer's failure rate estimated for each HCC group, reflecting the stability of the estimate of that issuer's failure rate based on the issuer's data and HCC count. If, after bootstrapping, an issuer's confidence intervals do not include the national mean failure rate for any of the confidence intervals' respective HCC group, we would be able to conclude that the issuer's failure rate for that HCC group was significantly different from the national average, and the issuer's failure rate would be considered an outlier for that HCC group.

The process for bootstrapping individual issuer confidence intervals begins with the data for one issuer's HHS-RADV sample. For example, from the sample of 200 enrollees for that one issuer, we would draw a simulation sample with replacement equal in size to the original sample. Because this simulation sample is drawn with replacement, it will contain instances where, by random chance, a particular enrollee is included in the simulation sample more than once. For example, if an original HHS-RADV sample contained enrollees A, B, and C, the following samples would all be valid simulation samples: A-A-A; B-B-B; C-C-C; A-A-B; A-A-C; A-B-C; B-B-A; and so on.

Once we have taken a single simulation sample, the failure rates for that sample would be calculated and logged. We would then repeat the resampling and failure rate calculation process 1,000 times, resulting in a record of failure rates for 1,000 resamples of the original sample. Then, within each failure rate HCC group (high, medium, and low), we would put all of the failure rates in order by size and find cutoffs for the middle 95 percent of resampled failure rates. The cutoffs would serve as the upper and lower bounds of the confidence interval. This process would be repeated for every issuer's sample, arriving at issuer-specific confidence intervals for each HCC group. Due to the resampling procedure, the range of simulation sample means for issuers with lower HCC counts ought to be greater than the range of simulation sample means for issuers with higher HCC counts, because even a single randomly sampled validation failure for a low HCC count sample will have a greater impact on the estimate of the failure rate for that sample than a single validation failure for a high HCC count sample. For this reason, issuers with fewer HCCs in their samples ought to have wider confidence intervals than issuers with more HCCs in their samples, providing greater allowed variation for low HCC count issuers, while performing the same outlier determination process.

We explored two possible implementations of this process. In bootstrapping method *a,* we would apply this process to all issuers, regardless of HCC count. In bootstrapping method *b,* we would still apply this process to issuers regardless of HCC count, but only if the issuer were

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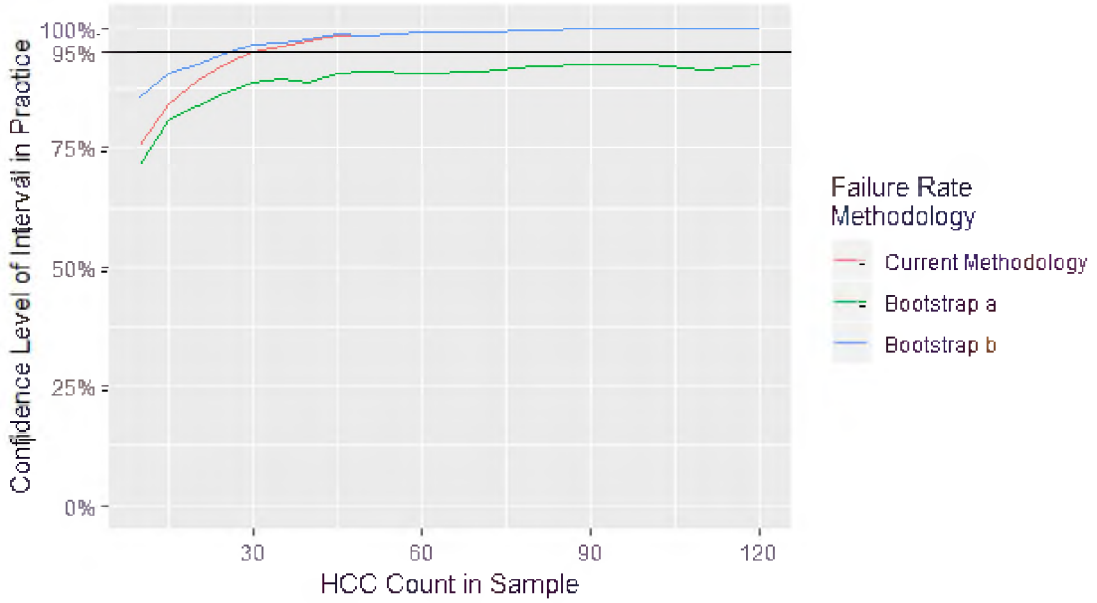
[71] Phillip Good, *Introduction to Statistics Through Resampling Methods and R/S-Plus* (Hoboken, NJ: John Wiley & Sons, 2005).

initially flagged as an outlier by the current methodology. This second approach would essentially amount to using the bootstrapping estimation methodology to double-check the current methodology and ensure that a particular outlier identification was robust. However, our simulation of these two bootstrapping methods found that bootstrapping method *a* resulted in more cases of typical issuers who are identified as outliers than the current method, while bootstrapping method *b* improved upon the current method by only a small amount (Figure 3.4).

Figure 3.4. Resampling Simulation Comparing Theoretical and Practical Confidence Levels of Current and Bootstrapping HHS-RADV Methodology by the Number of HCCs in a Sample



Therefore, HHS does not believe that a bootstrapped resampling approach is appropriate to address the low HCC count issue. Furthermore, the calculation and presentation of the confidence interval thresholds using the bootstrapping method would not be based on formulas, and that lack of transparency could make it difficult for issuers to predict and incorporate HHS-RADV outcomes into rate setting assumptions.

3.2.2 Alternative Methodologies Based on Classical Statistics Considered

In our effort to explore longer-term options that provide a holistic solution to the low HCC count issue (subjecting issuers to a common outlier identification process, reduce the rate at which typical issuers could be flagged as outliers, and increase our ability to detect *atypical* issuers as true outliers), we examined two statistical options that would allow us to adjust for the HCC count at each issuer formulaically.

To accomplish this, we first decomposed our current measure of failure rate into its constituent parts to examine other ways in which mismatches between EDGE and audit data might be tested. In this vein, all coding scenarios between EDGE and audit results for each HCC taken separately can be represented by the following contingency table (Table 3.5). In this table, we have two sets of codings of the same data where the coding is dichotomous, i.e. either "present" or "absent".

Table 3.5. Cross-Tabulation of Possible Coding Scenarios for HCCs in EDGE and Audit Data

		Audit Data		
		Absent	Present	Total
EDGE	Absent	$absentHCC$	$newFoundHCC_{IVA}$	$F - freq_{EDGE}$
	Present	$missingHCC_{IVA}$	$validatedHCC$	$freq_{EDGE}$
	Total	$F - freq_{IVA}$	$freq_{IVA}$	F

In this contingency table,

- $F \equiv n * k$, where
  - n is the number of enrollees in the IVA sample for the issuer;
  - k is the number of distinct HCCs under consideration, e.g. k is equal to 1 if each of the 127 HCCs evaluated in HHS-RADV is tested individually, or is equal to how ever many HCCs are in the low, medium, or high failure rate group, if HCCs are grouped before evaluation, as in the current methodology;
- $freq_{EDGE}$ and $freq_{IVA}$ follow the same definitions as in the current methodology: the number of occurrences of that HCC (or HCCs in an HCC group, if grouping is used) among sampled enrollees in EDGE and audit data, respectively;
- $absentHCC$ is k times the number of enrollees without that HCC (or HCCs in an HCC group) in *both* EDGE and audit data;
- $newFoundHCC_{IVA}$ is the number of occurrences of that HCC (or HCCs in an HCC group) that were identified during IVA or SVA, but were not present in the original EDGE data among sampled enrollees;
- $missingHCC_{IVA}$ is the number of occurrences of that HCC (or HCCs in an HCC group) that were present in the original EDGE data, but were not validated in audit data among sampled enrollees; and
- $validatedHCC$ is the number of occurrences of that HCC (or HCCs in an HCC group) that were present in the original EDGE data and were validated in audit data among sampled enrollees.

As discussed in the 2018 benefit year HHS-RADV protocols,[72] our current failure rate metric is calculated as:

[72] 2018 Benefit Year Protocols: PPACA HHS Risk Adjustment Data Validation, Version 7.0 (June 24, 2019), available at https://www.regtap.info/reg_librarye.php?i=2904.

$$FR = 1 - \frac{freq_{IVA}}{freq_{EDGE}}$$

Or, through algebraic operations:

$$FR = \frac{missingHCC_{IVA} = newFoundHCC_{IVA}}{freq_{EDGE}}$$

Our ability to separate *absentHCC*, *newFoundHCC*$_{IVA}$, *missingHCC*$_{IVA}$, and *validatedHCC* opens up the possibility of additional statistical techniques beyond our current methodology, and would allow us to make more substantial and targeted changes to refine the process of detecting outliers.

3.2.2.1 Binomial Distribution Methodology

Under this option, we would no longer assess issuers based on their failure rates. Instead, we would independently examine whether (1) HCCs in EDGE were validated in audit data, and (2) HCCs in the audit data were newly found HCCs. Because we would no longer use failure rates as a means of determining risk score error rates if we were to adopt the Binomial Distribution methodology, we would need to develop of a new methodology to adjust risk scores and risk adjustment transfers to reflect HHS-RADV results.

Because there are three HHS-RADV outcomes represented by the failure rate metric: $newFoundHCC_{IVA}$, $missingHCC_{IVA}$, and $validatedHCC$, determining *a priori* how three related outcomes impact the distribution of a metric is very difficult statistically. To address this challenge under the current methodology, we assume that the distribution of the failure rate approaches a normal distribution for large enough sample sizes, allowing us to apply confidence intervals based on this distribution across all issuers.

Although we must make assumptions regarding the shape of the current methodology's failure rate sampling distribution, it is easier to determine exactly how metrics will be distributed when only two—rather than three—outcomes are considered. In these cases, the metric describing the two outcomes would be distributed according to the binomial distribution. For example, we could calculate a binomially-distributed "non-validation rate" (*NVR*) as:

$$NVR = \frac{missingHCC_{IVA}}{missingHCC_{IVA} + validatedHCC} = \frac{missingHCC_{IVA}}{freq_{EDGE}}$$

We know that this *NVR* will be binomially distributed because the validation of any given HCC recorded in EDGE ought to be statistically independent from the validation of any other given HCC, and only two outcomes— $missingHCC_{IVA}$ and $validatedHCC$—influence this metric.

In the same way, we could calculate a binomially-distributed "new found rate" (*FndR*) as:

$$FndR = \frac{newFoundHCC_{IVA}}{newFoundHCC_{IVA} + validatedHCC} = \frac{newFoundHCC_{IVA}}{freq_{IVA}}$$

Both of these metrics could be assessed for outlier status based on confidence intervals around issuers' estimates using the binomial distribution, rather than the normal distribution.

Furthermore, because this distribution is defined by sample size and the magnitude of the metric (i.e., NVR and $FndR$), rather than the national standard deviation, the widths of these confidence intervals would vary for each issuer and HCC group based on how extreme the estimates of the non-validation and new-found rates are, and how large the HCC count is for an HCC group. As such, smaller HCC counts would receive wider confidence intervals and larger HCC counts would receive narrower confidence intervals.

The lower limit of the confidence interval for each issuer for each HCC group would be calculated as:

$$LL = \frac{2dp + z^2 - \left(z\sqrt{z^2 - \frac{1}{d} + 4dp(1=p) + (4p=2)} + 1\right)}{2(d + z^2)}$$

And the upper limit as:

$$UL = \frac{2dp + z^2 + \left(z\sqrt{z^2 = \frac{1}{d} + 4dp(1=p) = (4p=2)} + 1\right)}{2(d + z^2)}$$

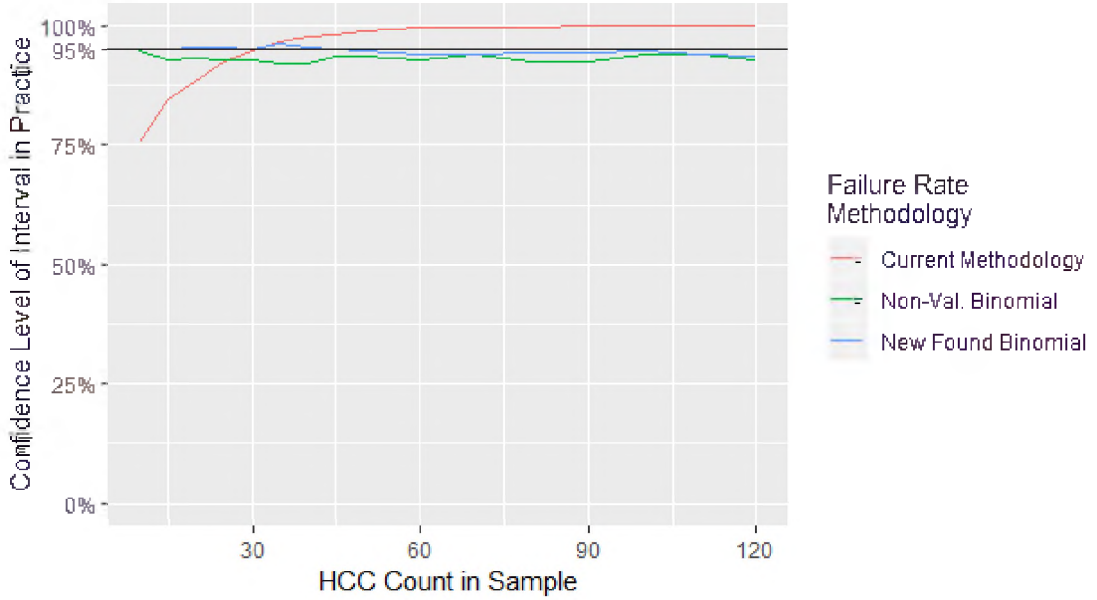
Where:

- d is the denominator of *NVR* or *FndR*, that is, $freq_{EDGE}$ and $freq_{IVA}$, respectively.
- p is the *NVR* or *FndR*, whichever is under consideration.
- z is the z-value cutoff for a 95 percent confidence interval: 1.96

As with the bootstrapping methodology, these confidence intervals are around the sample estimates, rather than around the national mean. If an issuer's confidence intervals around either metric do not include the national value for that metric, the issuer would be considered an outlier for that metric within that HCC group.

By the nature of the above formulas, confidence intervals would be wider for issuers with low HCC counts in an HCC group and narrower for issuers with large HCC counts in an HCC group, resolving the inability of the national confidence intervals under the current methodology to be scaled according to each issuer's HCC count in each HCC failure rate group. Simulation results using 2017 benefit year HHS-RADV data seem to suggest that this is the case, with the practical confidence levels for the non-validation rate and the new-found rate becoming nearly indistinguishable from the 95 percent theoretical value and displaying no major trends with regard to sample HCC count (Figure 3.6).

Figure 3.6. Resampling Simulation Comparing Theoretical and Practical Confidence Levels of Current and Binomial Distribution HHS-RADV Methodology by the Number of HCCs in a Sample



As noted above, because we would no longer be using failure rates under this methodology, a new formula for calculating adjustments to risk scores and risk adjustment transfers based on HHS-RADV results would be necessary. Below, Table 3.7 illustrates an example of an adjustment calculation method.

Table 3.7 Potential HHS-RADV HCC Count Adjustment Formulas under the Binomial Distribution Methodology

Non-Validation Group Adjustment	New Found HCCs Group Adjustment
$adj_{NVR} = NVR = NVR_{national}$	$adj_{FndR} = \frac{newFoundHCC_{IVA\_national}}{freq_{EDGE,national}} - \frac{newFoundHCC_{IVA}}{freq_{EDGE}}$

As with the group adjustment in the current error estimation methodology, these values may be aggregated first at the enrollee level, then at the issuer level to arrive at a total error rate for the issuer and thereby inform the adjustments to risk scores and risk adjustment transfers.[73] While additional testing will be needed, we believe that the error rates represented by this method will be similar conceptually and in magnitude to the error rates calculated under the current error estimation methodology. However, adoption of this approach would represent a significant change to outlier detection, and would be applicable to all issuers who participate in HHS-RADV for a given benefit year. We are therefore sensitive to the disruptive nature of this option for all issuers of risk adjustment covered plans as we search for alternative options for issuers with low HCC counts. Although we continue to analyze this option, we believe that this option may be the best long-term approach to improve the precision of the outlier detection

[73] See Section 11.3.3 of the 2018 HHS-RADV Protocols at: https://www.regtap.info/reg_librarye.php?i=2904

process and address the inability of the current methodology to scale confidence intervals to provide appropriate results across all HCC counts.

3.2.2.2 McNemar's Test Methodology

The context of the HHS-RADV IVA and SVA processes also prompted HHS to consider a second option based on the binomial distribution: McNemar's test. This test originated as a chi-square test that could be used to test whether bias is present in the disagreement between two measurements of the same dichotomous variable.[74] The below graphic (Table 3.8) may help illustrate this principle as applied to HHS-RADV.

Table 3.8. Simplified Cross-Tabulation of Possible Coding Scenarios for HCCs in EDGE and Audit Data

		Audit Data	
		Absent	Present
EDGE	Absent	$absentHCC$	$newFoundHCC_{IVA}$
	Present	$missingHCC_{IVA}$	$validatedHCC$

This test ignores cases where EDGE and audit data match ($absentHCC$ and $validatedHCC$). When there is a mismatch in coding ($missingHCC_{IVA}$ or $newFoundHCC_{IVA}$), McNemar's test determines whether there is evidence that, when a mismatch between EDGE and audit data has been identified, the mismatch is more likely to fall under $missingHCC_{IVA}$ or under $newFoundHCC_{IVA}$ (that is, EDGE says "present" while audit data says "absent," or EDGE says "absent" while audit data says "present").

The basic concept behind the test may be expressed as asking whether there is evidence that the equation $\frac{missingHCC_{IVA}}{newFoundHCC_{IVA}+missingHCC_{IVA}} = .5 = 50\ percent$ is *not* true. McNemar's test allows for a wide range of coding errors (mismatches) as long as these errors are unbiased.

As with the Binomial Distribution methodology option described in Section 3.2.2.1, under McNemar's test, we would no longer assess issuers based on their failure rates. Instead, we would consider mismatches between EDGE and audit data, ignoring situations in which audit and EDGE data are consistent with one another. We would then calculate a value that represents the rate at which an HCC appears in EDGE, but not in the audit data, given that we know a mismatch has occurred (the non-validated/mismatch ratio).

For any individual HCC, the proportion of mismatches between audit data and EDGE that would represent non-validated HCCs could be expressed as:

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[74] Levin, Joel R., and Ronald C. Serlin. "Changing students' perspectives of McNemar's test of change." Journal of Statistics Education 8, no. 2 (2000): 532-541.

$$NV_{mm} = \frac{missingHCC_{IVA}}{newFoundHCC_{IVA} + missingHCC_{IVA}}$$

Whereas the proportion of mismatches between audit data and EDGE that would represent newly found HCCs could be expressed as:

$$Fnd_{mm} = \frac{newFoundHCC_{IVA}}{newFoundHCC_{IVA} + missingHCC_{IVA}} = 1 - NV_{mm}$$

Because these two values are related to one another as described in these formulas, testing NV_{mm} is the same as testing Fnd_{mm}.

To provide an illustrative example of this methodology, an issuer may have the following values for the low failure rate HCC group (Table 3.9). The current measure of failure rate (*GFR*), NV_{mm}, and Fnd_{mm} may all be calculated from this table.

Table 3.9. Example Cross-Tabulation of the Low Failure Rate HCC Group at One Issuer

		Audit Data		
		Absent	Present	Total
EDGE	Absent	6468	20	6488
	Present	25	87	112
	Total	6493	107	6600

$$GFR_i^G = 1 - \frac{Freq_{IVA_i}^{\ G}}{Freq_{EDGE_i}^{\ G}} = 1 - \frac{107}{112} = 0.045$$

$$NV_{mm} = \frac{missingHCC_{IVA}}{newFoundHCC_{IVA} + missingHCC_{IVA}} = \frac{25}{20 + 25} = 0.556$$

$$Fnd_{mm} = \frac{newFoundHCC_{IVA}}{newFoundHCC_{IVA} + missingHCC_{IVA}} = \frac{20}{20 + 25} = .444$$

In the current methodology, the *GFR* value would be compared against the lower and upper bounds of the national confidence intervals for the low failure rate HCC group: -0.143 to 0.238. The fact that this value (0.045) is in between these two values signifies that HHS would not consider the value for this issuer to be different from the national mean of the low failure rate HCC group (0.048). Therefore, the issuer in this example would not be considered an outlier. However, under the McNemar's Test methodology, the confidence interval would be approached differently.

As with the *NVR* and *FndR* under the Binomial Distribution methodology, the NV_{mm} (and Fnd_{mm}) would be theoretically distributed according to the binomial distribution and could be assessed for outlier status based on the confidence intervals around issuers' estimates, as determined based on this distribution. However, to obtain a two-sided confidence interval, we would calculate the limits for the McNemar's Test confidence interval as:

$$LL = \frac{2dp + z^2 - \left(z\sqrt{z^2 = \frac{1}{d} + 4dp(1-p) + (4p-2)} + 1\right)}{2(d + z^2)}$$

And the upper limit as:

$$UL = \frac{2dp + z^2 + \left(z\sqrt{z^2 - \frac{1}{d} + 4dp(1-p) - (4p-2)} + 1\right)}{2(d + z^2)}$$

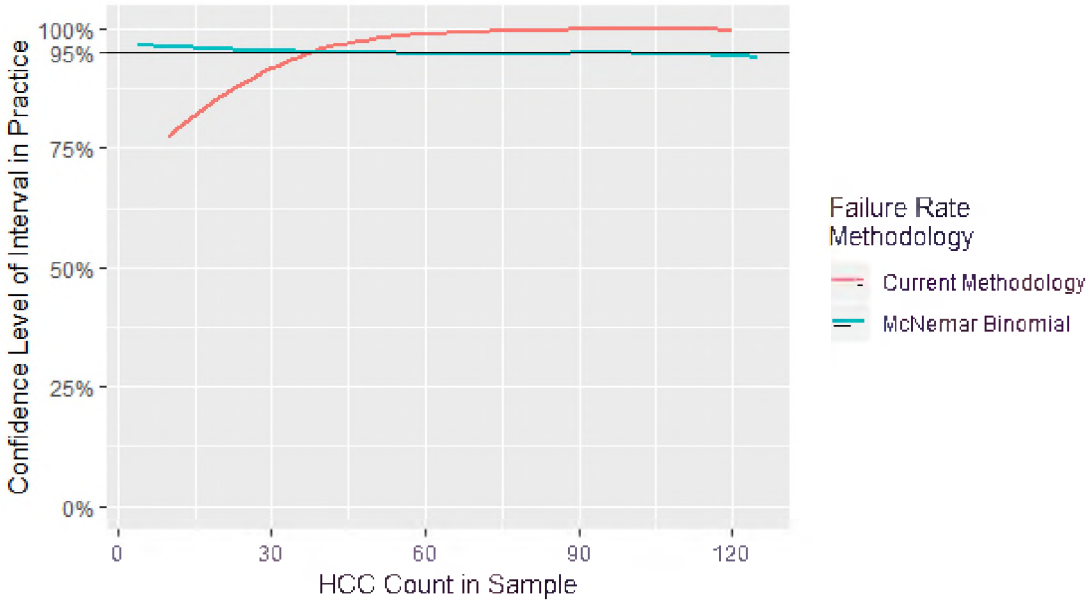
Where:

- d is the denominator of NV_{mm};
- p is the NV_{mm};
- z is the z-value cutoff for a 95 percent two-sided confidence interval: 1.96.

If the issuers' confidence intervals around the NV_{mm} do not include 0.50, the issuer's NV_{mm} rate would be considered an outlier for that HCC group. In the case of the above example, the confidence interval bounds around the NV_{mm}value (0.556) spanned from 0.412 to 0.691. As this value contains the expected value of 0.50, the issuer in this example would not be considered to be an outlier under the McNemar's Test methodology.

The inclusion of the *d* and *p* terms in the above formulas will lead to wider confidence intervals for issuers with lower HCC counts. This reduces the chance that a low-HCC count, typical issuer will be flagged as an outlier. As seen in Figure 3.10, our simulation results using modified national averages based on the 2017 benefit year HHS-RADV data indicate that this method could support scaling confidence intervals to provide appropriate results across all HCC counts.

Figure 3.10. Monte Carlo Simulation Comparing Theoretical and Practical Confidence Level of Current and McNemar HHS-RADV Methodology by the Number of HCCs in a Sample



Like the Binomial Distribution methodology option described in Section 3.2.2.1, the McNemar's test approach would represent a drastic change relative to the current methodology that would apply to all issuers. However, unlike the Binomial Distribution methodology option, which retains conceptual similarity to the current error estimation methodology, the McNemar's Test approach represents a different baseline for comparison and for HHS-RADV adjustments to risk scores and risk adjustment transfers. Issuers' outlier status would no longer be based on their performance relative to one another, but would be based upon the degree by which the frequency of the occurrence of found HCCs in their HHS-RADV sample differs from the frequency of non-validated HCCs in their HHS-RADV sample (i.e. the degree by which these frequencies are not equal). An issuer that fails McNemar's test would have their risk score adjusted to a risk score that represented equal frequencies of found and non-validated HCCs for that issuer, rather than to a risk score that reflected a ratio of found and non-validated HCCs that corresponds to the national mean ratio. The group adjustment for an issuer who fails the test for outlier status could be calculated as:

$$adj_{McNemar} = \frac{missingHCC_{IVA}}{freq_{EDGE}} - \frac{0.5 * (newFoundHCC_{IVA} + missingHCC_{IVA})}{\bar{freq}_{EDGE}}$$

HHS believes that it is important to note that because issuers would no longer be judged against their peers under this option, and would instead be judged based on a common, universal criterion, it is likely that many more issuers would be flagged as outliers under the McNemar's Test methodology than under the current methodology, which would lead to greater total absolute adjustments to transfers for all issuers (including non-outlier issuers) based on HHS-RADV results.

3.2.3 Alternative Methodologies Using Advanced Techniques Considered

HHS also considered two advanced methodologies that we believed may offer potential improvements on the current error estimation methodology. Although neither of these options appears workable at the present time, we believe that it is beneficial to share them here as they are approaches we considered as part of the development of this white paper.

3.2.3.1 Bayesian Method

In general, Bayesian methods are treated as a separate school of statistical methodology from the classical methods described above. One major advantage of Bayesian methods over classical methods is their ability to update earlier estimates with new data as it comes in. In the HHS-RADV process, these data could be applied in such a way as to gain a narrower interval estimate of an issuer's failure rate with each subsequent year of HHS-RADV. In essence, if an issuer is atypical in their failure rate, and does not take action to improve it, we can narrow-in on an estimate of exactly how atypical that issuer is with each subsequent year of HHS-RADV. New issuers can be incorporated into this process, but the estimates of their failure rates in their initial years participating in the program will be less precise than for issuers who have been participating in HHS-RADV for longer.

Using the precision of their individual failure rate estimates, issuers would be classified as outliers based on our certainty regarding whether their failure rate estimates can be determined to be different from the national mean for a given HHS-RADV year. As a general matter, issuers with smaller HCC counts tend to have less precise estimates than issuers with larger HCC counts. This method would allow us to increase the precision of the low HCC count issuers over time, allowing HHS to better justify adjustments to risk scores and transfer amounts for these issuers with each subsequent year of HHS-RADV data.

We note two major areas in which HHS sees this methodology as impractical. First, Bayesian statistics are less widely understood than the classical statistical methods we are exploring. As such, the HHS-RADV adjustments resulting from a Bayesian method may be less transparent to issuers and other stakeholders. Second, because of the use of prior years' data in the estimate of the current year's failure rate, it may be difficult for atypical issuers to avoid HHS-RADV adjustments to risk scores in the short-term by improving their EDGE coding processes. In other words, if an issuer with a history of poor performance improves, it may take multiple years of HHS-RADV participation after their performance improves for the methodology to reflect that improvement with certainty, possibly leading to the issuer continuing to be flagged as an outlier for several years after that issuer reached a failure rate more typical of its peers.

3.2.3.2 Machine-Learning Method

Based on previous stakeholder comments, we also explored machine-learning as a potential alternative approach for HHS-RADV error estimation. This methodology would largely avoid the limitations of the current methodology by allowing a computer algorithm to decide which issuers were typical or atypical without dictating a particular grouping of HCCs.

In this process, we would apply two unsupervised machine learning algorithms—Isolation Forest and Local Outlier Factor—which we determined to be applicable to the great

variety of HCCs underlying issuers' HCC failure rates. As a result, we would have identified a set of issuers within a single HHS-RADV benefit year dataset that appear as atypical, without the need for any *a priori* constraints imposed by HHS. As such, this technique would allow us to identify issuers whose pattern of failure rates is different from the rest, rather than identify issuers whose overall failure rates are different from the rest.

We could then use a dimension reduction technique to visualize the results of the machine learning algorithms, displaying the variation in issuers' HCC failure rates along two- or three-dimensions. We tested multiple dimension reduction techniques during our exploration, including:

1. Multi-dimensional scaling;
2. T-distributed stochastic neighborhood embedding;
3. Locally linear embedding; and
4. Principal components analysis.

We found that the first and second of these methods were the best for HHS-RADV data, providing a clear delineation between issuers whom the machine learning algorithms identified as typical, and those they identified as atypical.

This machine-learning process has the benefit that we would not be required to define a specific metric and to know how that metric is distributed. Furthermore, it would allow precise control over the proportion of issuers to flag as outliers, as opposed to the current methodology, in which more or fewer than 5 percent of issuers may be flagged per an HCC grouping due to the extremity of their failure rate values or random variation.

However, this option poses several obstacles to a full implementation. First, the method does not intrinsically imply a process by which HHS-RADV results could inform adjustments to risk scores and risk adjustment transfers. Furthermore, we would have difficulty providing a clear explanation as to why a particular issuer was flagged as an outlier. The dimension reduction technique may compute different dimensions year-to-year, and these dimensions may not be readily interpretable by humans, making it very difficult for stakeholders to understand the HHS-RADV results and, more importantly, for issuers to plan or price for expected outcomes of HHS-RADV. Finally, although the algorithms we have explored so far could offer precise control over the proportion of issuers flagged, if we were to utilize this level of control, we would likely need to require that the same proportion of issuers always be flagged as outliers to ensure regulatory consistency and the predictability of issuers' HHS-RADV outcomes year-to-year, even if major improvements were seen in EDGE data quality in subsequent HHS-RADV years.[75] As such, at this stage of our analysis, we do not consider this method viable as a replacement to the current error estimation methodology.

[75] We note, however, that there may be other machine learning algorithms that would allow for the proportion of issuers flagged to vary as EDGE data quality improves nationally. We continue to explore these possibilities.

3.3 Addressing the Influence of HCC Hierarchies on Failure Rate Outlier Determinations

HHS utilizes two sets of medical condition groupings in the HHS-RADV process. The first set—HCCs—originates in the risk adjustment models and is used to aggregate the tens of thousands of standard disease codes used to capture diagnoses into a set of medically meaningful but statistically manageable categories. HCCs in the current HHS risk adjustment models are derived from ICD-9-CM codes that are aggregated into diagnostic groups (DXGs), which are in turn aggregated into broader condition categories (CCs).[76] Then, we apply clinical hierarchies to the CCs, creating subgroupings that contain a set of related or similar medical conditions ranked in order of severity. In the risk adjustment models, if an individual enrollee has more than one CC recorded in EDGE for a given hierarchy, only the most severe of those CCs will be applied for the purposes of risk adjustment. Once hierarchies are imposed, we refer to the codes as HCCs. For example, diabetes diagnosis codes are organized in a Diabetes hierarchy, consisting of three CCs arranged in descending order of clinical severity and cost, from CC 19 *Diabetes with Acute Complications* to CC 20 *Diabetes with Chronic Complications* to CC 21 *Diabetes without Complication*. A person may have diagnosis codes in CC 20 and CC 21, but once hierarchies are imposed, that enrollee would only be assigned the single highest HCC in the hierarchy—HCC 20 *Diabetes with Chronic Complications*. In a typical model recalibration, estimated coefficients of the various HCCs within a hierarchy will ensure that more severe and expensive HCCs within that hierarchy receive a higher risk score than less severe and expensive HCCs. However, in some hierarchies, for various reasons we may constrain coefficients of two or more HCCs to be equal. These reasons may include a "hierarchy violation"—in which the estimated coefficient for an HCC is larger than the coefficient for an HCC above it in the hierarchy—or evidence that it is relatively easy to miscode an HCC as a more severe condition without being detected by medical record review. The Diabetes hierarchy is one such hierarchy where we found it necessary to apply constraints during model recalibration. As such, the three HCCs within the Diabetes hierarchy have been constrained to have the same coefficient in risk adjustment.

Under the current risk adjustment models,[77] there are 127 HCCs, of which 97 HCCs are included among 25 distinct hierarchies. Diagrams and tables of the current hierarchy structure are available in Appendix D.

The other set of medical condition groupings in HHS-RADV is imposed during the error estimation stage of the HHS-RADV process. This set of groupings, the HCC failure rate groupings, is designed to provide a balance between the need to assess the impact of medical coding errors of individual HCCs on risk scores and risk adjustment transfers and the need to assess failure rates on enough HCCs to provide statistically meaningful HHS-RADV results. Furthermore, these groupings are intended to reflect our belief that some HCCs are more difficult

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[76] On June 17, 2019, CMS released a paper describing potential HCC updates at: https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/Potential-Updates-to-HHS-HCCs-HHS-operated-Risk-Adjustment-Program.pdf.

[77] Ibid.

to code accurately than other HCCs, and therefore to provide different national standards based on the level of coding difficulty for a given HCC.

In this HHS-RADV HCC failure rate grouping process, we first calculate the national average failure rate for each HCC individually. HCCs are then ranked in order of their failure rates and split into three groups—a low, medium, and high failure rate group—such that the total occurrence of HCCs in each group nationally is about equal (Table 3.11).

Table 3.11: Number of Unique HCCs in Each HCC Grouping in the 2017 and 2016 BY HHS-RADV Results

	2017 BY: Number of Unique HCCs	2016 BY: Number of Unique HCCs
Low HCC Failure Rate Group	33	33
Medium HCC Failure Rate Group	35	39
High HCC Failure Rate Group	59	55

These HCC failure rate groupings form the basis of the failure rate outlier determination process, with each grouping receiving an individual assessment of outlier status for each issuer. A table of the HCC failure rate groupings for 2017 benefit year HHS-RADV is available in Appendix E.

Based on our experience with the initial years of HHS-RADV, HHS has noticed that in certain situations, these two sets of groupings, the HHS-RADV HCC failure rate groupings and HHS-RA HCC hierarchies, can interact in varying ways that may sometimes lead to misalignments between the HCC failure rate grouping in HHS-RADV and the HCC's hierarchy placement in risk adjustment. The following are examples (which we refer to as "HCC-swapping") of how the hierarchies can interact with HCC failure rate groupings in HHS-RADV:

1. HCCs in the same HHS-RA HCC hierarchy with different coefficients are sorted into different HHS-RADV HCC failure rate groupings: If one HCC is commonly miscoded as another HCC in the same hierarchy in risk adjustment, but the two HCCs are sorted into different HCC failure rate groupings in HHS-RADV, an issuer may be flagged as an outlier in either of the HCC failure rate groupings where one HCC is missing or the other HCC is found.

   For example, HCC 8 *Metastatic Cancer* and HCC 11 *Colorectal, Breast (Age < 50), Kidney, and Other Cancers* are in the same hierarchy in risk adjustment, but for the 2017 benefit year of HHS-RADV, HCC 8 was in the medium HCC failure rate grouping and HCC 11 was in the high HCC failure rate grouping. In validating an enrollee with HCC 8 in HHS-RADV, the IVA or SVA Entity may find that an enrollee with HCC 8 reported in EDGE is not validated as having HCC 8, which is at the top of the HCC hierarchy in risk adjustment, but the enrollee may have been found to have HCC 11 in the issuer's HHS-RADV audit data.

   In this case, HCC 8 would be considered missing in the medium HCC failure rate grouping, and HCC 11 would be considered found in the high HCC failure rate grouping. Other HCCs in the HCC failure rate groupings may then influence the failure rate for that issuer, potentially leading to the issuer being determined to be an outlier in the medium or high HCC failure rate grouping. If the issuer were found to be an outlier in one of the two

failure rate groupings, but not the other, the issuer's HCC failure rate would not represent the difference in risk and costs between these two coefficients in the issuer's HHS-RADV results.

2. HCCs in the same HHS-RA HCC hierarchy with different coefficients are sorted into the same HHS-RADV HCC failure rate grouping: If one HCC is commonly miscoded as another HCC in the same hierarchy in risk adjustment, and the two HCCs are sorted into the same HCC failure rate grouping in HHS-RADV, an issuer may not be flagged as an outlier in that HCC grouping. This may happen because the failure to validate an HCC in HHS-RADV and the discovery of a new HCC in that same HCC failure rate grouping have a net impact of zero on the total final value of an issuer's failure rate in HHS-RADV.

   For example, HCC 35 *End-Stage Liver Disease* and HCC 34 *Liver Transplant Status/Complications* are in the same hierarchy in risk adjustment and were both sorted into the medium HCC failure rate grouping in the 2017 benefit year HHS-RADV results. In validating an enrollee with HCC 35 in HHS-RADV, the IVA or SVA Entity may find that an enrollee with HCC 35 reported in EDGE is not validated as having HCC 35, but the enrollee may have been found to have HCC 34 in audit data.

   In this case, not validating HCC 35 and finding HCC 34 in the same HCC grouping in HHS-RADV would, when taken together, have no net impact on the issuer's HCC group failure rate. In essence, for the purposes of the calculation of the failure rate, it appears that there is no difference between HCC 34 and HCC 35, even though these two HCCs have different coefficients in risk adjustment. Because these HCCs have different risk and costs, the inability for the issuer's HCC failure rate to identify that an individual has HCC 34 rather than HCC 35 results in an inability to represent the difference in risk and costs between these two coefficients in the issuer's HHS-RADV results.

3. HCCs in the same HHS-RA HCC hierarchy with constrained coefficients are sorted into different HHS-RADV HCC failure rate groupings: Another way in which HCC failure rate groupings and hierarchies may interact is a compounding of the first example—the sorting of HCCs from the same hierarchy into different failure rate groups—and constrained coefficients in risk adjustment. In HHS-RADV, if two HCCs in the same hierarchy have coefficients that are constrained are sorted into different HCC failure rate groupings, a sufficient miscoding of one HCC for the other may lead to the issuer being identified as a positive outlier in one HCC failure rate grouping or a negative outlier in another HCC grouping, despite there being no difference in risk score due to the coding error.

   For example, HCC 54 *Necrotizing Fasciitis* and HCC 55 *Bone/Joint/Muscle Infections/Necrosis* share a hierarchy in risk adjustment and have their risk score coefficients constrained to be equal, but for 2017 benefit year HHS-RADV, HCC 54 was in the high failure rate HCC grouping, while HCC 55 was in the medium failure rate HCC grouping. In validating an enrollee with HCC 54 in HHS-RADV, the IVA or SVA Entity may find that an enrollee with HCC 54 reported in EDGE is not validated as having HCC 54, but the enrollee may have been found to have HCC 55 in audit data.

In this case, when taken together with the issuer's other HHS-RADV results, these HCCs with the same coefficients could contribute to an issuer's failure rate in either the high failure rate grouping or the medium failure rate grouping, even though the HCCs do not have different risk scores and an adjustment to risk score is not conceptually warranted.

4. HCCs in the same HHS-RA HCC hierarchy with constrained coefficients are sorted into the same HHS-RADV HCC failure rate grouping: HCC groupings and hierarchies may interact in a fourth way. If two HCCs share a hierarchy with constrained coefficients in risk adjustment and are sorted into the same HCC failure rate grouping in HHS-RADV, and an enrollee has the first HCC in the HCC group but this HCC fails to be validated in HHS-RADV while another HCC in that HCC group is newly discovered for that enrollee during HHS-RADV, the missing and found HCCs will have a net impact of zero on both the failure rate and risk score.

   For example, HCC 20 *Diabetes with Chronic Complications* and HCC 19 *Diabetes without Complications* share the same hierarchy and have their coefficients constrained to be equal. In the 2017 benefit year HHS-RADV results, HCC 19 and HCC 20 are both in the low HCC failure rate grouping. If an enrollee is not validated as having HCC 20 during the 2017 benefit year HHS-RADV audit procedures and is instead found to have HCC 19, the issuer's failure rate is unaffected by the change from one to the other HCC and no change in risk score would be applied as a result, nor would a change in risk score be conceptually warranted.

We have performed an initial review of the occurrence of these scenarios in the 2017 benefit year HHS-RADV results. Of all the HCCs in EDGE that were not validated in the audit data, about 1/8th represent HCCs that IVA or SVA auditors coded as different HCCs within the same hierarchy. Of the HCCs that were newly found in the audit data – that is, they were not recorded in the original EDGE data – around 1/3rd represent HCCs that were newly found because they were originally reported on EDGE as a different HCC in the same hierarchy. However, we note that these occurrences are distributed among the four scenarios previously described and, therefore, for many issuers, would be unlikely to impact whether they were an outlier in an HCC failure rate grouping.

The methodologies described in this chapter provide varying levels of improvement in the precision of outlier detection and scaling the confidence intervals used to determine outlier status to better account for variation in HCC counts. However, the influence of the interaction between HCC hierarchies and HCC failure rate groups in error estimation and outlier determination persists throughout all of the techniques previously described in this chapter. As such, we are in the preliminary stages of exploring HHS-RADV methodology alternatives that would help mitigate the cases where the misalignment between the HCC grouping in HHS-RADV and the HCC's hierarchy placement in risk adjustment occurs, with the goal to better account for HCCs that are miscoded within an HCC hierarchy when there is a difference in risk and costs between the HCCs. The options described in the next sections include an approach involving assessment of ordinal-by-ordinal relationships and an approach that bases outlier status on the distribution of enrollee-level risk scores, rather than issuer-level HCC failure rates. Although we describe these

options in this paper, we are continuing to generate and assess different options, and are interested in comments on whether there are other options that we should consider to refine the HHS-RADV methodology to better account for HCCs that are miscoded in the same hierarchy when there is a difference in risk and costs between the HCCs.

3.3.1 Ordinal-by-ordinal relationships as Applied to HHS-RADV

The first option that we explored to better account for HCCs that are miscoded within an HCC hierarchy when there is a difference in risk and costs between the HCCs is an approach involving assessment of ordinal-by-ordinal relationships. This type of assessment provides a single test that investigates all of the ways in which HCCs that share a hierarchy can be miscoded in EDGE: missing from audit data, newly discovered in audit data, and swapped to a different HCC in audit data. This approach would test the correspondences between EDGE and audit data for HCCs that share a hierarchy all at once, avoiding the situation in which an issuer may be flagged as an outlier multiple times for various HCCs within the same hierarchy.

As a class of statistics, ordinal-by-ordinal relationships indicate the degree to which higher values on one ordinal variable correspond to higher values on another ordinal variable.[78] Applying this framework to HHS-RADV would involve redefining how we identify which HCC from a hierarchy of HCCs an enrollee has. Currently, we identify each HCC with a separate yes or no question; that is, "does this enrollee have HCC X from Hierarchy A? Does this enrollee have HCC Y from Hierarchy A?" and so on. To implement a test based on ordinal-by-ordinal relationships, we would represent these separate questions as a single question regarding which HCCs within a hierarchy a participant had. For example, the following three HCCs all share a hierarchy:

- HCC 137 *Hypoplastic Left Heart Syndrome and Other Severe Congenital Heart* Disorders
- HCC 138 *Major Congenital Heart/Circulatory Disorders*
- HCC 139 *Atrial and Ventricular Septal Defects, Patent Ductus Arteriosus, and Other Congenital Heart/Circulatory Disorders*

In this hierarchy, HCC 137 supersedes HCC 138, which supersedes HCC 139, indicating that HCC 137 is the most severe and expensive of these HCCs[79] (Figure 3.12).

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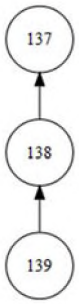
[78] E.g. Normal Cliff and Ventura Charlin, "Variances and Covariances of Kendall's Tau and Their Estimation," *Multivariate Behavioral Research* 26, no. 4 (1994): 693-707. DOI: 10.1207/s15327906mbr2604_6.

[79] In the context of the HHS risk adjustment models, this means that an enrollee who had been coded as having 137 and 138 would only receive the risk score associated with 137, the more severe of the two.

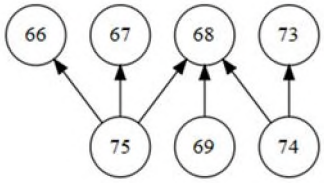
Figure 3.12. Structure of the Heart Abnormality HCC Hierarchy



An ordinal recoding of these variables would be to call them one variable, "congenital heart abnormalities" with four levels in order of severity: 0 = None-in-hierarchy; 1 = HCC 139; 2 = HCC 138; 3 = HCC 137. The EDGE version of this ordinal variable and the audit data version of the ordinal variable could then be compared using a non-parametric correlation coefficient such as Kendall's Tau.

However, this approach presents a major challenge in that some HCC hierarchies have rather complex structures, and we need to investigate further how to recode them as ordinal variables. One such complex hierarchy is seen in Figure 3.13.

Figure 3.13 Structure of the Blood and Immune Disorder Hierarchy



According to this hierarchy, 75, 69 and 74 appear to be on the same level, as do 66, 67, 68, and 73, but several of these HCCs have no defined supersession relationship; for example, 75 and 73. It is therefore difficult to put these values in any particular order. For this reason, we have concerns about this option being a viable alternative to the current methodology.

3.3.2 Assessing Outlier Status based on Risk Score Directly

To develop an option that does not require hierarchies to have any particular structure, we took into consideration that MA-RADV uses a methodology based on assessing the statistical significance of errors in Medicare Advantage (MA) payments directly, rather than through a measure of the frequency of HCC validation failures. We initially expected to use a similar methodology that could create a confidence interval around an issuer's total PLRS. However, we determined that several factors weighed against a close replication of the MA-RADV methodology for HHS-RADV. Two of these factors include:

- Supporting Market Predictability: Our desire to reduce the number of issuers facing adjustments to promote market stability in budget neutral risk pools by adjusting issuers' risk scores based on significant deviation from a national average non-validation value; and

- Different Diagnosis Patterns: A lower frequency of diagnoses in risk adjustment covered plans than MA for common conditions[80] resulting in a greater impact of errors when, for valid clinical reasons, an HCC is difficult to code.

These factors are currently addressed in HHS-RADV through the creation of national confidence intervals around the weighted mean failure rate and the establishment of the three HCC failure rate groups. If HHS-RADV were to transition to a new methodology based on measuring errors in risk scores directly, it would need to continue to address these factors.

Due to input from stakeholders that the current methodology does not take into consideration the impact of HCC hierarchies on outlier detection, we are considering an approach that could create confidence intervals around estimates related to each issuer's per-enrollee average PLRS, with the width of these confidence intervals being defined by the theoretical sampling distribution of that issuer's enrollee risk scores for the applicable benefit year. We have developed a draft approach that may satisfy the above factors, as well as issuer concerns about the impact of HCC hierarchies on outlier detection. This approach could include the following key components:

- Assign HCCs to groups (analogous to HCC failure rate groups in the current methodology) by whole hierarchies, rather than by individual HCCs. This would eliminate all instances of HCCs that are in the same HHS-RA HCC hierarchy being sorted into different HHS-RADV HCC failure rate groupings (HCC-swapping examples 1 and 3 above) regardless of whether the coefficients within that hierarchy have been constrained, and would ensure that swaps within a hierarchy are not counted separately in different groupings.[81]

- Create these groups according to the difference in total risk score between EDGE and audit data for the HCCs in each hierarchy relative to the EDGE risk score, rather than by difference in HCC count relative to the EDGE HCC count (the current approach). That is, create "hierarchy risk score discrepancy" groups instead of HCC failure rate groups. This would eliminate the effects of HCC-swapping examples 2 and 4 by ensuring that swaps are always credited or debited in proportion to their effect on risk score when an issuer is determined to be an outlier in one or more "hierarchy risk score discrepancy" groups. Examples of formulas for determining the relative difference by which to rank the hierarchies could be as follows:

$$EDGE.RS_{hier} = \sum_{\boldsymbol{metal}} \sum_{\boldsymbol{hcc}} \left(EDGE.Freq_{metal,hcc,hier} * coef_{metal,hcc} \right)$$

[80] Approximately 80 percent of enrollees in risk adjustment covered plans had zero HCCs reported through EDGE servers (https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/Summary-Report-Risk-Adjustment-2018.pdf), whereas 49 percent of MA enrollees had zero HCCs reported (https://www.ahip.org/wp-content/uploads/Wakely-2020-Medicare-Advantage-Adv-Notice-and-Risk-Model-Impact-Report-2.28.2019-1.pdf).

[81] Alternatively, we could consider eliminating the use of groupings based on risk score discrepancy/failure rate under this option.

$$Audit.RS_{hier} = \sum_{\boldsymbol{metal}} \sum_{\boldsymbol{hcc}} (Audit.Freq_{metal,hcc,hier} * coef_{metal,hcc})$$

$$relDiff_{hier} = \frac{EDGE.RS_{hier} = Audit.RS_{hier}}{EDGE.RS_{hier}} = 1 - \frac{Audit.RS_{hier}}{EDGE.RS_{hier}}$$

Where:

- $EDGE.RS_{hier}$ is the total risk score in EDGE for all HCCs in a hierarchy;
- $EDGE.Freq_{metal,hcc,hier}$ is the frequency in EDGE for each HCCs in a hierarchy at each metal level, where *metal, hcc, hier* are the indexes for insurance metal level, HCCs and hierarchies;
- $coef_{metal,hcc,}$ is the coefficient for a given HCC from RA for each metal level;
- $Audit.RS_{hier}$ is the total risk score in audit data for all HCCs in a hierarchy;
- $Audit.Freq_{metal,hcc,hier}$ is the frequency in audit data for each HCCs in a hierarchy at each metal level;
- $relDiff_{hier}$ is the relative difference between the audit and EDGE risk scores for a given hierarchy, where *metal, hcc, hier* are the indexes for insurance metal level, HCCs and hierarchies.

- Determine outlier status by comparing the following values (list items *a* and *b*, below):
  a. the average difference between the enrollee-level risk score in EDGE and the enrollee-level risk score in the audit data for each "hierarchy risk score discrepancy" group for each issuer. An example of formulas that could define these values are as follows:

$$EDGE.RS_{e,i,G} = \sum_{\boldsymbol{hcc}} (EDGE.Coded_{e,i,hcc,G} * coef_{metal,hcc})$$

$$Audit.RS_{e,i,G} = \sum_{\boldsymbol{hcc}} (Audit.Coded_{e,i,hcc,G} * coef_{metal,hcc})$$

$$diff_{e,i,G} = EDGE.RS_{e,i,G} - Audit.RS_{e,i,G}$$

$$meanDiff_{i,G} = \frac{\sum_e diff_{e,i,G}}{n_i}$$

Where:

- $EDGE.RS_{e,i,G}$ is the total risk score in EDGE for an enrollee *e* for issuer *i* for group *G;*
- $EDGE.Coded_{e,i,hcc,G}$ has values of 1 or 0, representing the presence or absence of a given HCC in EDGE for an enrollee *e* for issuer *i* for group *G;*
- $Audit.RS_{e,i,G}$ is the total risk score in audit data for an enrollee *e* for issuer *i* for group *G;*
- $Audit.Coded_{e,i,hcc,G}$ has values of 1 or 0, representing the presence or absence of a given HCC in audit data for an enrollee *e* for issuer *i* for group *G;*

- $diff_{e,i,G}$ is the difference between the audit and EDGE risk scores for an enrollee e for issuer i for group G;
- $meanDiff_{i,G}$ is the average enrollee-level difference for each issuer i for group G;
- n_i is the total number of enrollees in the RADV sample for an issuer i.

b. The national average difference between enrollee-level risk score in EDGE and audit data for that "hierarchy risk score discrepancy" group, which could be defined as:

$$natMeanDiff_G = \frac{\sum_i \sum_e diff_{e,i,G}}{N}$$

Where:

- $natMeanDiff_G$ is the national average enrollee-level difference across all issuers for group G;
- N is the total number of enrollees sampled across all issuers nationally for HHS-RADV.

- This type of approach would not use national confidence intervals based on issuer-level failure rates. Instead, this approach would calculate the standard error as the national standard deviation of the difference between the enrollee-level risk scores in EDGE and in audit data divided by the square root of each issuer's sample size. Then, we would use this standard error in the construction of issuer-specific confidence intervals. Formulas for this step could be as follows:

$$natDiffSD_G = \sqrt{\frac{\sum_i \sum_e \left(diff_{e,i} - natMeanDiff_G\right)^2}{N - 1}}$$

$$diffSE_{i,G} = \frac{natDiffSD_G}{\sqrt{n_i}}$$

$$95\%\ CI_{i,G}: meanDiff_{i,G} \pm 1.96 * diffSE_{i,G}$$

Where:

- $natDiffSD_G$ is the standard deviation of all enrollees' difference values across all issuers nationally for a group G;
- $diffSE_{i,G}$ is the standard error of the average difference at an issuer i;
- $95\%\ CI_{i,G}$ is the confidence interval for the average difference in risk score for an issuer i, centered on that issuer's average difference.

- Under this approach, an issuer's outlier status would then be determined according to whether the issuer's confidence interval ($95\%\ CI_{i,G}$) captured the national mean difference $natMeanDiff_G$ for a given group G. If the national mean is outside the bounds of the issuer's confidence interval, that issuer would be considered an outlier for that "hierarchy risk score discrepancy" group.

Although we have preliminary evidence that this methodology may be a viable option to address HCC-swapping scenarios while satisfying the factors for HHS-RADV described above,

further analysis is needed to confirm the ability of this methodology to identify true outliers and to further assess the impact this methodology would have on HHS-RADV adjustments to transfers.

3.4 SUMMARY OF APPROACHES DETAILED IN THIS CHAPTER

At the present time, based on our current analysis of available data, the information that HHS has compiled thus far indicates that, of the basic modifications to the current methodology described in Section 3.2.1 and the alternative methodologies described in Section 3.2.2, the Binomial Distribution methodology (Section 3.2.2.1) is the most viable long-term solution to refine our outlier detection methodology to more precisely identify true outliers. However, we intend to delve deeper into the risk-score-based methodology (Section 3.3.2) as a way of addressing the impact of HCC hierarchies on outlier detection, and as we continue to explore other options, including consideration of stakeholder comments on this paper, our assessment of the most viable long-term approach may change. In the next chapter, we also consider an alternative option to address feedback from stakeholders about the impact of found HCCs in the calculation of error rates. We are interested in comments on the various options described in this chapter and other methods we should consider to address these issues.

4. ERROR RATE CALCULATION

This chapter focuses on the calculation of an outlier issuer's error rate as described in Section 1.2.3 of this paper and whether adjustments to this calculation are needed in cases where the outlier issuer is only slightly outside of the confidence interval for one or more HCC groups, as well as cases where a negative error rate outlier issuer also has a negative failure rate. The first section of the chapter reviews the key factors used in an issuer's error rate calculation. The second section discusses the differences in the types of outliers. The third section discusses the observation of issuers likely to be outliers based on the 2017 benefit year HHS-RADV results. The fourth section reviews how the current error rate adjustment calculation for outliers creates a "payment cliff", then analyzes alternative options to calculate an issuer's error rate to mitigate the "payment cliff" effect. The fifth section discusses negative error rate outliers with negative failure rates with an option to constrain those error rate calculations, and the sixth section considers other options to adjust the error rate calculation beyond adjusting for the "payment cliff." In response to stakeholder feedback, HHS has a particular interest in examining ways to mitigate the impact of the "payment cliff," as well as cases where an outlier issuer has a negative failure rate.

4.1 KEY FACTORS USED IN THE ERROR RATE CALCULATION

As described in Section 1.2.3 of this paper, the calculation of an error rate for an outlier issuer depends on a number of factors. These factors include the frequency of HCCs in the issuer's enrollee sample for the HCC group that was validated by the IVA or SVA, as applicable, the frequency of HCCs in the issuer's enrollee sample for the HCC group in EDGE, the issuer's HCC group failure rates, the national metrics determined for HHS-RADV for that benefit year, and the issuer's sampled enrollee-level original and adjusted risk score.

To calculate the issuer's error rate, the issuer's HCC group failure rates are first calculated by the rate of HCCs validated by the IVA or SVA, as applicable, versus the rate of HCCs on EDGE for the issuer's enrollee sample subtracted from 1. Then, if an issuer's failure rate for an HCC group is determined to be an outlier, that HCC group failure rate is used to determine the issuer's group adjustment factor. The issuer's group adjustment factor for an HCC group is calculated based on the issuer's failure rate and the distance of that failure rate from the weighted mean HCC group failure rate. Once the issuer's group adjustment factor has been calculated for that HCC group, that group adjustment factor is applied directly to sampled enrollee-level HCC risk score factors to calculate the issuer's error rate. Then, that error rate is applied to the issuer's PLRS and results in adjustments to risk adjustment transfers for the applicable state market risk pool.

4.2 DIFFERENCES IN TYPES OF OUTLIERS

HHS-RADV uses a two-sided confidence interval to determine outliers. This approach means that there are both upper and lower bound outliers for each HCC group. An upper bound outlier is a "positive error rate outlier" whereby the issuer's failure to validate the HCCs in its HHS-RADV sample was worse than the confidence interval around the national failure rate for one or more HCC groupings. A lower bound outlier, on the other hand, is a "negative error rate outlier"

whereby the issuer's failure to validate the HCCs in its HHS-RADV sample was better than the national confidence interval for one or more HCC groups. If the error rate is positive, the issuer's PLRS are adjusted downward by the adjustment rate, which results in a higher risk adjustment charge, lower risk adjustment payment, or a shift in the issuer's transfer amount from a payment to a charge, assuming no adjustments to other issuers' PLRS in the same state market risk pool. If the error rate is negative, the issuer's risk scores are adjusted upward by the adjustment rate, which results in a lower risk adjustment charge, higher risk adjustment payment, or a shift in the issuer's transfer amount from a charge to a payment, assuming no adjustments to other issuers' risk scores in the same state market risk pool. Issuers that are outliers in more than one HCC failure rate group have one error rate that is calculated based on all of the HCC groups in which the issuers are an outlier.

Within the group of negative error rate outliers, there is a subgroup of issuers that are negative error rate outliers with negative failure rates. As described in the previous chapter, negative failure rates can occur in HHS-RADV when the audit data contains more HCCs in an HCC group than were recorded on EDGE. Between the 2016 benefit year and 2017 benefit year HHS-RADV results, there was an increase in the number of issuers that were negative error rate issuers with negative failure rates for all HCC groups. We discuss this subgroup of outliers later in this chapter.

Because the current methodology identifies and adjusts for outliers based on a 95 percent confidence interval for each of the three HCC groupings, in any given benefit year, the majority of issuers that participate in HHS-RADV will likely not be outliers and will receive an error rate of zero and no adjustment to their risk score(s). These non-outlier issuers' results are within the confidence intervals of the national HCC group failure rates, but their risk adjustment transfers could nevertheless be adjusted due to other outlier issuers in their state market risk pool(s) due to the budget-neutral nature of the HHS-operated risk adjustment program.

4.2.1 Outlier Observations

In reviewing the 2017 benefit year HHS-RADV results, we observed certain patterns about the distribution of states, issuers, and market risk pools and the prevalence of outlier status in the HHS-RADV results. First, we looked at the difference in outliers between markets. Because there are generally more issuers participating in the small group market risk pools than the other state market risk pools for the 2017 benefit year of HHS-RADV, more small group market issuers were identified as outliers than individual, catastrophic or merged market issuers and saw their risk scores adjusted as a result of HHS-RADV. This resulted in a higher number and level of risk adjustment transfer changes in the small group market risk pools compared to the individual, catastrophic, and merged market risk pools. For the 2017 benefit year, the individual and catastrophic risk pools experienced more issuers leaving the market risk pools than the small group market risk pools. Although issuers that exited the individual and catastrophic risk pools were more likely to be positive error rate outliers, they also tended to have low market shares as they exited the markets and therefore, their error rates when applied to risk scores tended to have a low impact on risk adjustment transfers as shown in Appendix B. Starting with the 2018 benefit year of HHS-RADV, we will adjust for exiting issuers only if the exiting issuers are

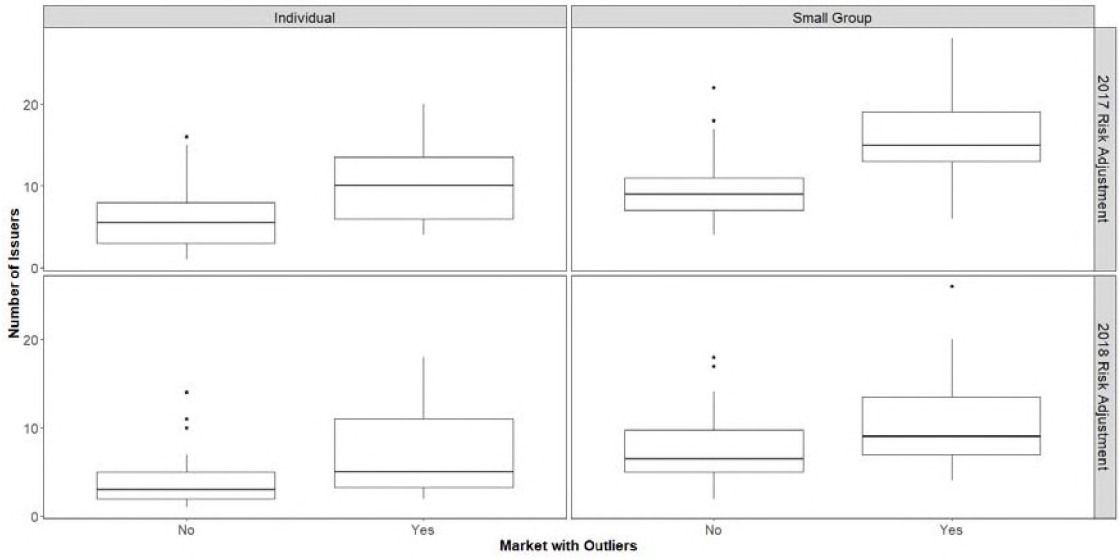
positive error rate outlier issuers, which should limit the number of adjustments being made for exiting issuers.[82]

Second, as we previously stated in the 2016 benefit year HHS-RADV Results memo, based on the empirical failure rate distribution of all issuers in the 2016 benefit year HHS-RADV data, we expected that outliers resulting in positive error rates would be more prevalent than outliers resulting in negative error rates. We found this expectation was supported by 2017 benefit year HHS-RADV results. We also found that in both the 2016 and 2017 benefit years, negative error rate outliers tended to have smaller error rates than positive error rate outliers. We also expect that as issuers gain experience with HHS-RADV, issuers' failure rates will improve, which would result in narrower confidence intervals. These narrower confidence intervals signify a more limited range of failure rates among issuers, resulting in less distance to the weighted means used to calculate the group adjustment factor and by extension lower error rates. We saw this trend between the 2016 and 2017 benefit year HHS-RADV national metric results and anticipate it will continue.

Third, issuers that are outliers in multiple HCC groups were typically outliers in the same direction for each HCC group in benefit year 2017 HHS-RADV results. This trend was also generally observed in the 2016 benefit year HHS-RADV results.

Fourth, in general, the state market risk pools with at least one outlier have a larger number of issuers, compared to states without any outliers. Specifically, there was no relationship between the number of issuers and the percent of issuers being outliers. Likewise, a state with a smaller numbers of issuers participating in a market risk pool was less likely to have an outlier.

Figure 4.1: Comparing the Number of Issuers in a Market to Outliers Being in the Market



[82] 84 FR at 17503-17504.

Lastly, we found in the 2017 benefit year HHS-RADV results that smaller issuers were more likely to be identified as outliers than large issuers. However, this could follow from a major distinction between the 2016 and 2017 benefit year HHS-RADV dataset, in that issuers with $15 million or less in premiums did not have to participate in the 2016 benefit year of HHS-RADV (the second pilot year), but were required to participate in 2017 benefit year HHS-RADV (the first non-pilot year). As these issuers did not have the same experience with the HHS-RADV program in past benefit years as larger issuers, they may not have adapted their medical coding practices, provider engagement, and other factors to the same degree or in the same way as issuers who participated in the HHS-RADV pilot for the 2016 benefit year. The continued, periodic participation in the HHS-RADV program requirement captured in the materiality threshold at 45 C.F.R § 153.630(g)(2) that applies beginning with the 2018 benefit year HHS-RADV will allow us to further evaluate whether smaller issuers will be more likely to be identified as outliers in the long term.

4.3 Application of Thresholds Under the Current methodology

When using a methodology built upon the determination of outliers and a rate of adjustment for those outliers, thresholds are used. In the case of the current methodology, those thresholds are used to determine whether the issuer is an outlier and to determine the error rate that will be used to adjust risk scores and transfers as a result of those outlier issuers' HHS-RADV results. As previously discussed, 1.96 standard deviations on both sides of the confidence interval from the weighted HCC group means are the thresholds currently used to determine whether the issuer is an outlier and the weighted HCC group mean is the threshold used to determine the rate of adjustment. In practice, these thresholds mean that an issuer with failure rates outside this 1.96 range is deemed an outlier and sees an adjustment to its risk score, while an issuer with failure rates inside this 1.96 range sees no adjustment to its risk score. This policy means that all outlier issuers are treated the same in the calculation of their error rates regardless of their relative distance from the confidence interval.

Because the current thresholds used to calculate issuers' error rates are based on the difference between their failure rates and the group weighted mean failure rates, stakeholders have expressed concerns that the current error estimation methodology results in issuers that are just outside of the confidence intervals receiving an adjustment to their risk score, even though they are not significantly different from the issuers just inside the confidence intervals who receive no adjustment to their risk score, creating a "payment cliff" or "a leap frog effect". For example, an issuer with a low HCC group failure rate of 23.9 percent would be considered an upper bound, positive error rate outlier for that HCC group based on the 2017 benefit year national failure rate statistics because the upper bound confidence interval for the low HCC group is 23.8 percent. That issuer's group adjustment factor would be calculated based on the difference between the weighted low HCC group mean of 4.8 percent and the issuer's 23.9 percent failure rate for that HCC group. Under this example, the issuer's group adjustment factor would be 19.1 percent, and that group adjustment factor would be applied to the enrollee-level HCC risk score factors in the issuer's sample population to calculate the error rate. At the same time, another issuer with a similar low HCC group failure rate of 23.7 percent would receive no adjustment to its risk score as a result of HHS-RADV. While this result is due to the nature of

establishing and using a threshold, some stakeholders have argued for limits to the adjustment rate threshold applied to outlier issuers. For example, stakeholders have recommended limits that include calculating error rates based on the position of the confidence interval for the HCC group and not on the position of the weighted mean for the HCC group. Others have recommended not adjusting issuers' risk scores in case of negative error rate issuers to limit the impact of these adjustments on issuers who are not determined to be outliers.

As discussed in prior rulemakings, we have concerns about only adjusting issuers' risk scores for positive error rate outliers. However, we recognize that changing the calculation and application of an outlier issuer's error rate may be appropriate if the outlier issuer is not statistically different from the issuers within the confidence intervals. Thus, our main goal for considering changes to the calculation of the error rate would be to mitigate the "payment cliff" for situations where issuers may be close the confidence intervals and are not substantially different than those issuers inside the confidence intervals. We also discuss in this chapter an option that could change the calculation of the error rate for negative error rate outliers that have negative failure rates.

4.4 Alternative Options to Calculate the Error Rate and their Impact

This section discusses options to revise the current calculation of an outlier issuer's error rate for cases where the outlier issuer is only slightly outside of the confidence intervals for the HCC group. To address the "payment cliff" issue for these issuers, we have considered several options to revise the thresholds used in the error rate calculation to smooth the calculation of the group adjustment factor, including reverting back to the original error estimation methodology, adjusting to the confidence intervals, only adjusting for positive error rate outliers, and several options to apply a sliding scale adjustment factor. While we have looked at some of these options using the 2016 benefit year results, we generally tested these options using the 2017 benefit year HHS-RADV results. One challenge that we ran into in testing these policy options is that an issuer's transfer impact usually occurs for more than one reason. Because of the complexity of this issue, we intend to continue to test our results as future benefit years of data become available, along with other policy options being considered. The following subsections describe and explain our consideration of these options.

4.4.1 Original Error Estimation Methodology

The original error estimation methodology finalized in the 2015 Payment Notice and discussed in Section 1.2.2 of this paper would have adjusted almost all issuers' risk scores for every error identified as a result of HHS-RADV. The adjustments under this methodology would have used the issuer's corrected average risk score to compute an adjustment factor. The adjustment factor would have been based on the ratio between the corrected average risk score and the original average risk score. After taking into consideration the final IVA (or SVA as appropriate) results, we would have calculated the estimated adjusted total population risk score compared to the EDGE total population risk score, and derived a point estimate of the risk score error rate for each issuer based on the original error estimation methodology. We would have calculated adjustments for all issuers with error rates significantly different than zero using a 95 percent confidence interval. In making these calculations for purposes of this paper, we generally used the 2017 benefit year HHS-RADV results to simulate what the risk adjustment transfer

impacts would have been under the original methodology and compared them to the risk adjustment transfer impacts under the current error estimation methodology in Appendix B.[83]

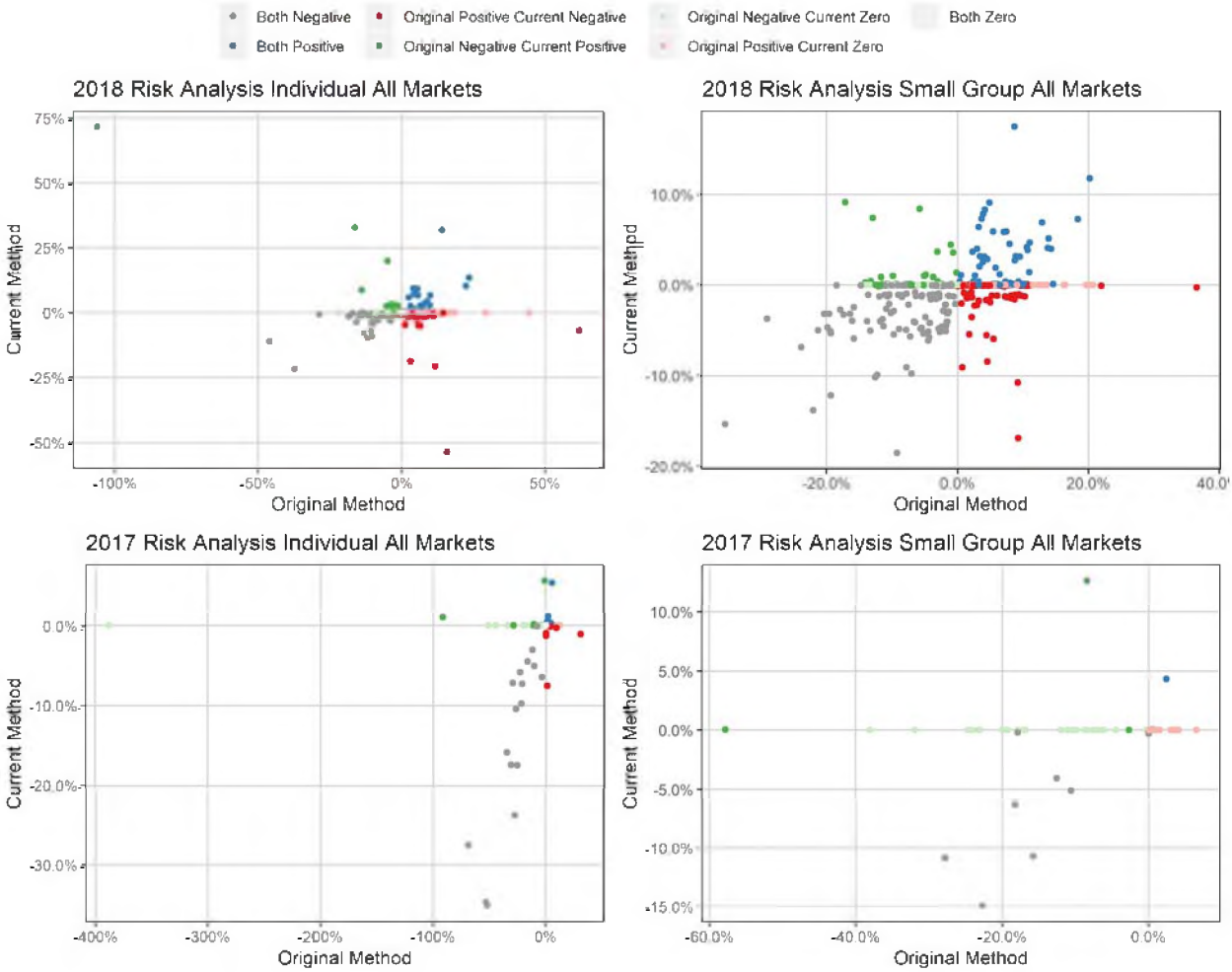
In comparison to the current methodology, this option may be attractive for those issuers who believe that they will typically have HCC group failure rates below the weighted mean that are not low enough to be flagged as a negative error rate outlier for any HCC group under the current methodology. In theory, this option could prevent the "payment cliff," as every issuer's failure to validate an HCC would be taken into account in calculating an issuer's failure rate. Then, assuming that all issuers had some level of failure in the state market risk pool, the error rates being applied in the state market risk pool would be equaled out to some extent because all issuers would see their respective risk scores adjusted, thereby reducing the probability for a "payment cliff".

However, based on our testing of the original error estimation methodology for purposes of this white paper, we did not find this to be the case. Instead, our analysis found that the actual impact of HHS-RADV results on individual issuers' risk adjustment transfers is complex and individual issuers' error rates could decrease or increase under the original methodology in comparison to the current methodology, resulting in larger transfer changes. For example, as shown in Appendix B, we found that applying the 2017 benefit year HHS-RADV results to the original methodology to the small group market risk pools would have resulted in a 121.17 percent change in risk adjustment transfers after HHS-RADV compared to the total risk adjustment transfers before HHS-RADV (in comparison to a 29.81 percent change in transfers under the current methodology).

Additionally, we found that applying the original methodology generally created a more severe "payment cliff," since the majority of adjusted issuers with failure rates significantly different from zero had their original failure rates applied without the benefit of subtracting the weighted mean difference that is used under the current methodology. For these reasons, the risk adjustment transfers move in unexpected ways. Figure 4.2 shows the results of our testing of issuers' 2017 and 2018 risk adjustment transfer change over premiums using the 2017 benefit year HHS-RADV results under the original methodology compared to the current methodology. As shown, almost all issuers would have been adjusted and many issuers would have been negatively impacted under the original methodology compared to the current methodology.

[83] See infra notes 100 and 101 in Appendix B.

Figure 4.2: Comparing Issuers' Transfer Change over Premium for the Original and Current Error Estimation Methodologies on 2017 Benefit Year HHS-RADV Results



Beyond a higher proportion of issuers' risk scores being adjusted under the original methodology, the estimated risk adjustment transfer change using the original methodology was more than four times higher across all markets than the risk adjustment transfer changes under the current methodology as seen in Appendix B.

We also continue to believe that some variation and error should be expected in the compilation of data for risk scores because provider documentation of enrollee's health status varies across provider types and groups. Adjusting almost all issuers for every failure found in the HHS-RADV process, as was the case with the original methodology, does not take into consideration any expected variation and errors. In addition, as detailed in the prior section, we have a strong desire to reduce the number of issuers facing adjustments to promote market stability by adjusting issuers' risk scores based on significant deviation from a national average non-validation value, rather than adjusting for every failure (regardless of the magnitude of the error).

4.4.2 Only Adjusting to Confidence Intervals

As previously discussed, another option suggested by some stakeholders to address the "payment cliff" is to modify the error rate calculation and no longer calculate an outlier issuer's group adjustment factor using the threshold of the distance to the weighted HCC group mean. Instead, under this option, the issuer's group adjustment factor for its error rate calculation would be calculated using the HCC group confidence interval. This option could ensure that outlier issuers with failure rates just outside of the confidence intervals, as well as the outlier issuers with failure rates furthest away from the confidence intervals, are only adjusted to the boundary of the HCC grouping. To illustrate, using the example in Section 4.3 of an issuer with a low HCC group failure rate of 23.9 percent, that issuer's group adjustment factor would change from 19.1 percent under the current methodology to 0.1 percent under this option based on the 2017 benefit year national failure rate statistics. Specifically, under this example, the issuer's group adjustment factor would be the difference between the issuer's 23.9 percent low group failure rate and the upper bound confidence interval for the low HCC group is 23.8 percent (23.9 percent – 23.8 percent = 0.1 percent). Thus, this option could directly address the "payment cliff" and remove the extreme impact of small differences in HCC accuracy for issuers whose failure rates are near the edges of the confidence intervals.

At the same time, however, this option minimizes the impact of HHS-RADV adjustments on risk scores and risk adjustment transfers – including those outlier issuers with high error rates who are furthest away from the confidence intervals. As seen in Appendix B, in comparison to the current methodology, this option (the Confidence Intervals Methodology) would only adjust outlier issuers' risk scores at a fraction of the rate of the current methodology and would result in a significantly lower financial impact for all outlier issuers. For example, an issuer with a 70 percent failure rate in the high HCC group would be considered an outlier under the current methodology, having a failure rate more than 4 standard deviations away from the national mean, well beyond the 1.96 standard deviations required to be determined to have outlier status. A truly average issuer would have a 0.004 percent chance of having a failure rate this high due to random chance alone. As such, the example issuer is clearly an outlier and ought to receive an appropriate adjustment to its risk score(s) due to HHS-RADV. If adjusting to the mean, as under the current methodology, to bring this example issuer on par with the average issuer, the example issuer would receive a group adjustment factor of 70 percent – 26.2 percent = 43.8 percent. In comparison, if the issuer were adjusted to the edge of the confidence interval, they would receive a group adjustment factor of 70 percent – 47.1 percent = 22.9 percent, which reflects only a fraction of the misreported risk that negatively impacted the risk adjustment transfers of other issuers in the state market risk pool.

For this reason, we have concerns that this option would result in under-adjustments based on HHS-RADV results for issuers furthest away from the confidence intervals. As an extension of the findings in Appendix B, we are concerned this option results in such a minimal financial payment impact for outlier issuers that it may not deter up-coding in risk adjustment. Under this option, we found that the maximum and minimum error rates, reflecting the issuers who were furthest in their failure rates from the average issuer across all HCC failure rate groups are much lower in magnitude than under the current methodology and the sliding scale options described

later in this section. Specifically, the maximum error rate when adjusting all outliers to the confidence intervals would be around 15 percent, compared to a maximum error rate of 29.13 percent in 2017 benefit year HHS-RADV data for most of the other options under consideration. This suggests that under this option, even the most egregious failure rate outliers would receive minimal HHS-RADV adjustments. Therefore, although this option could address the "payment cliff" effect for issuers just outside of the confidence interval, this option may also create the unintended consequence of mitigating the financial impact for situations where issuers are not close to the confidence intervals.

4.4.3 Only Make Adjustments for Positive Error Rate Outliers

Another option suggested by some stakeholders that could address, at least in part, the "payment cliff" is to modify the current two-sided approach to HHS-RADV and only make adjustments for positive error rate outlier issuers. This option would retain the current calculation and associated thresholds to identify positive error rate outliers and would align with the policy finalized in the 2020 Payment Notice for exiting issuers.[84] This option may be attractive for non-outlier issuers because it could be seen as more predictable, as it limits the number of issuers whose risk scores would be adjusted as a result of HHS-RADV and would not result in adverse adjustments for zero error rate issuers based on negative error rate outliers.

We have concerns about only adjusting for positive error rate outliers for non-exiting issuers.[85] The intent of the two-sided outlier identification, and the resulting adjustments to outlier issuer risk scores that have significantly better-than-average or poorer-than-average data validation results is to ensure that HHS-RADV makes adjustments for identified, material risk differences between what issuers submitted to the EDGE servers and what was validated by the issuer's medical records. This ensures that, consistent with the statute, the HHS-operated risk adjustment program is transferring funds from issuers with plans with lower-than-average actuarial risk to issuers with plans with higher-than-average actuarial risk. Under this approach, HHS-RADV uses the two-sided outlier identification to ensure that the issuer who is coding well is able to recoup funds that might have been lost through HHS-RA because its competitors are coding badly. For example, if one issuer was fairly accurate in reporting their data to EDGE, resulting in a two percent HCC group failure rate in a state market risk pool, and another issuer had a tendency to report more conditions to EDGE than could be validated from the medical records, resulting in a twenty-five percent failure rate in the state market risk pool, in the absence of HHS-RADV, the issuer with the higher HCC group failure rate who had been reporting more conditions to EDGE than could be validated, would have unfairly benefited in risk adjustment (receiving a higher payment or lower charge amount), negatively impacting the issuer with the lower failure rate when considering the outcome of HHS-RA alone. Under a two-sided HHS-RADV risk adjustment, the lower failure rate issuer (as a negative outlier) would be able to recoup what would have been lost to the high failure rate issuer had data validation not been

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[84] In the 2020 Payment Notice, we finalized a policy, applicable beginning with the 2018 benefit year of HHS-RADV, to only make adjustments to an exiting issuer's risk scores if it was determined to be a positive error rate outlier. See 84 FR at 17503-17504.

[85] See, e.g., the 2020 Payment Notice, 84 FR at 17504-17508.

performed. This logic mirrors how positive error rate outliers are treated whereby the issuer that had a higher than average number of validation errors is penalized for their higher number of errors and the rest of the issuers in the state market risk pool are able to recoup their losses for that higher than average failure rate issuer. Therefore, HHS-RADV uses a two-sided approach to, among other things, make adjustments to equalize the varying coding failure rates across issuers.[86]

However, some stakeholders have expressed concern that negative error rate outlier status may not be the result of issuers having fewer coding errors, but rather as a result of poor EDGE data submission. These stakeholders have suggested that adjusting for negative error rate outliers may reward issuers for submitting incomplete data to EDGE or reduce the incentive for issuers to submit accurate EDGE data. We do not agree that adjusting negative error rate outliers creates such an incentive, because the inherent risk of relying on receiving a negative error rate outlier status in HHS-RADV is too high to significantly interfere with incentives that issuers face to submit complete and accurate EDGE data. For example, we do not believe that there is an incentive for issuers, as a long-term strategy, to under-code in risk adjustment in hopes that enough of their under-coding is picked up in HHS-RADV for the issuer to be identified as a negative error rate outlier every year. We believe that negative error rate issuers that are under-coding will likely reassess their coding practices to ensure that they are accurately capturing their risk in future benefit years of risk adjustment through their initial EDGE submissions. We do not believe these issuers will want to wait for HHS-RADV to take place for a given benefit year in the hopes that they will be able to recoup any of these losses. In addition, as detailed elsewhere in this paper, we believe it is appropriate to include found HCCs to account for HCCs that were miscoded as another HCC within the same hierarchy and to ensure that charges are collected from issuers with lower-than-average actuarial risk and payments are made to issuers with higher-than-average actuarial risk.

We additionally believe that the potential to be a negative error rate outlier could incentivize all issuers to aim for the lowest possible failure rate instead of only aiming for a failure rate that is not a positive error rate outlier. Specifically, we believe that over time, this two-sided approach to adjusting risk scores for both positive and negative error rate outliers will put additional pressure on issuers to code more accurately.

In addition to suggestions to only make adjustments for positive error rate outliers, we have also received comments from stakeholders recommending that we consider treating negative error rate outliers differently than positive error rate outliers. For example, one suggestion was to calculate the group adjustment factor for the negative error rate outliers to the confidence interval and calculate the group adjustment factor for the positive error rate outliers to the weighted mean. Similar to the reasons outlined above in support of a two-sided outlier identification

[86] It is important to note the HHS-RADV approach is fundamentally different than the MA-RADV approach. MA-RADV only adjusts for positive error rate outliers, as the program's intent is to recoup federal funding that was the result of improper payments under the Medicare Part C program, which is not the intent of HHS-RADV.

process, we believe that positive and negative error rate outliers should generally be subject to the same process.

However, we recognize in the cases of negative error rate issuers with negative failure rates that calculating those issuers' group adjustment factor to the weighted mean may not be providing the appropriate incentives for issuers to code correctly in EDGE. Therefore, we discuss this issue in a later section of this chapter and explore an interim option to adjust those issuers' error rate calculations.

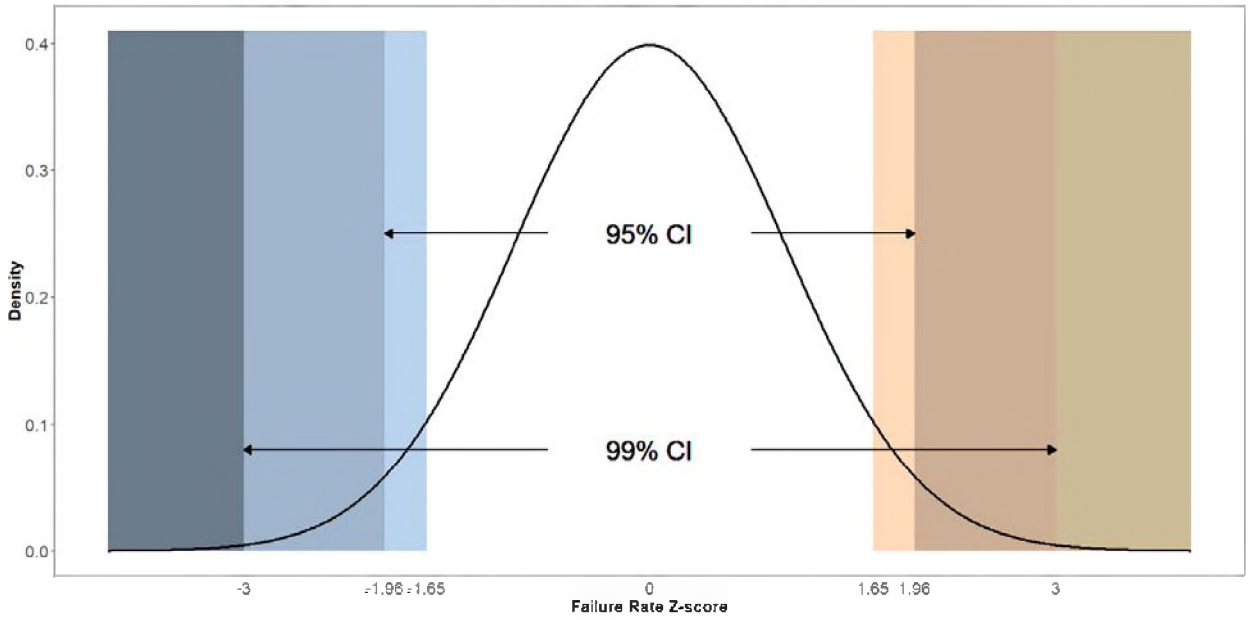
We further note that only adjusting for positive error rate outliers does not address the "payment cliff" and would retain the "payment cliff" for positive error rate outliers (see Appendix B). Therefore, for all of these reasons, we are concerned about moving to a one-sided outlier identification process and are instead interested in potentially pursuing other modifications to the current two-sided outlier identification process to address stakeholders' concerns.

4.4.4 Sliding Scale Adjustment Options

An alternative option to modify the calculation and application of outlier issuers' error rates to mitigate the impact of the "payment cliff" in cases where the failure rates are near the confidence interval is to calculate the group adjustment factor on a sliding scale basis. As discussed in the 2020 Payment Notice, we stated that we may consider alternative options for error rate adjustments, such as using multiple or smoothed confidence intervals for outlier identification and risk score adjustment.[87] If we were to pursue this option, we would need to select additional thresholds to create the sliding scale. Under the current methodology, using the standard normal distribution analogy in the figure below, risk scores for issuers that are inside the 95 percent confidence interval around the mean are not adjusted, and risk scores for issuers that lie outside of the 95 percent confidence interval are adjusted.

[87] 84 FR at 17507.

Figure 4.3: Normal distribution of confidence interval thresholds

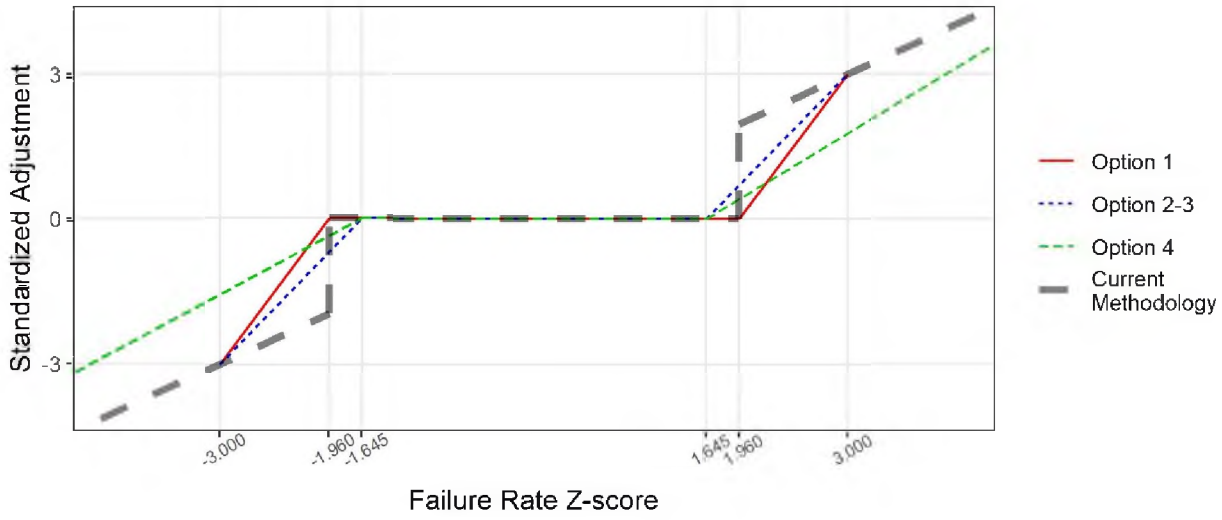


Applying a sliding scale adjustment to the error rate calculation could provide a more balanced approach to mitigate the "payment cliff" under the current methodology without potentially resulting in over-or under-adjusting issuers as a result of HHS-RADV, and would take into account the magnitude of the individual issuer's failure rate in applying an adjustment to the issuer's risk scores. Depending on the thresholds used under this option, it could also ensure that the approach to mitigate the "payment cliff" does not impact situations where outlier issuers' failure rates are not close to the confidence intervals.

Since finalizing the 2020 Payment Notice and calculating the 2017 benefit year HHS-RADV results, we have analyzed various options to explore the creation of a sliding scale adjustment to issuers' error rate calculations based on each issuer's distance from the confidence interval, using a variety of different thresholds. Figure 4.4 shows a comparison of the threshold options that we explored for purposes of developing this paper.

To apply this sliding scale adjustment, we used a linear formula that can be calculated using different threshold options. Under the options described in this section, issuers whose failure rates are near the point where the "payment cliff" occurs would be linearly adjusted between: (1) a failure rate value that occurs at the edge of a confidence interval; and (2) the group mean failure rate in the following form: $A = a\,FR + b$, where the coefficients a (the slope) and b (intercept) would be calculated based on the empirical HHS-RADV failure rate results for each HCC group (see Table 4.5). Using this linear sliding scale adjustment, all of these options could theoretically provide a smoothing effect in the error rate calculation for issuers just outside of the confidence interval. While we are exploring several sliding scale threshold options that are described in this white paper, we are also interested in comments on other potential thresholds for the sliding scale adjustment calculation.

Figure 4.4: Comparison of current error rate adjustment methodology with sliding scale adjustments Options 1-4 described in this section



As noted in Figure 4.4, Option 1 would create the sliding scale adjustment from +/- 1.96 to 3 standard deviations. This option would retain the confidence interval at 1.96 standard deviations under the current methodology, meaning that issuers within the 95 percent confidence interval would not have their respective risk scores adjusted. This option would also retain the full adjustment to the mean failure rate for issuers outside of the 99 percent confidence interval (beyond 3 standard deviations). The distinction of this option would be that it would adjust outlier issuers' error rates on a sliding scale between the 95 percent and 99 percent confidence interval bounds (1.96 to 3 standard deviations). This option retains the most aspects of the current methodology, which would provide stability for issuers. Option 1 also keeps the current significant adjustment to the HCC group weighted mean after 3 standard deviations to ensure the mitigation of the "payment cliff" for those close to the confidence intervals does not impact situations where outlier issuers' failure rates are not close to the confidence intervals.

Option 2, on other hand, would create a sliding scale adjustment from +/-1.645 to 3 standard deviations. This option would adjust the upper and lower bounds of the confidence interval to be at 1.645 standard deviations, meaning that issuers outside of the 90 percent confidence interval would have their risk scores adjusted, instead of beginning adjustments at the 95 percent confidence interval under the current methodology. This option would also adjust issuers' risk scores on a sliding scale between the 90 percent and 99 percent confidence intervals (between 1.645 and 3 standard deviations). This would mean that more issuers would be considered outliers under this option than the current methodology, as seen in Table 4.6 below.

Similar to Option 1, this option would retain the adjustment to the mean failure rate for issuers beyond the 99 percent confidence interval (outside 3 standard deviations). This option, in comparison to Option 1, could provide a more gradual smoothing effect for issuers just outside of the confidence interval, as seen in the bar chart below in Figure 4.7 where more issuers would have errors rates close to zero. However, even though this option lowers the overall impact of HHS-RADV adjustments to transfers, this option increases the number of outliers between 1.645

and 1.96 standard deviations and therefore, would increase the number of state market risk pools seeing adjustment to transfers as a result of HHS-RADV.

The third option that we are considering (Option 3) is to adjust risk scores for issuers that fall between +/-1.96 to 3 standard deviations, as in Option 1, but calculate the amount of the linear adjustment based on values between 1.645 and 3 standard deviations. Option 3 combines using the sliding scale adjustment values from Option 2, with retaining the current confidence intervals under Option 1. Specifically, this option would adjust issuers' risk scores on a sliding scale between 1.96 and 3 standard deviation as in Option 1 (between the 95 percent and 99 percent confidence interval bound) with a different magnitude for the linear adjustment for these issuers from Option 2. This means that this option retains the confidence intervals at 1.96 standard deviations, such that issuers within the 95 percent confidence interval would not have their risk scores adjusted, and it retains the adjustment to the mean failure rate for issuers beyond 3 standard deviations (outside of the 99 percent confidence interval).

Our theory was that Option 3 could provide the more gradual smoothing effect for issuers from Option 2 without increasing the number of issuers identified as outliers. However, this option could create a new, smaller "payment cliff" effect for issuers that lie outside of either side of the 1.96 threshold because the application of the linear adjustment factor would not apply until 1.96 standard deviations. This option also adds another layer of complexity to the error estimation methodology as it would include a set of issuers between 1.645 and 1.96 standard deviations in calculating the linear adjustment for the error rate, but exclude those issuers when applying that linear adjustment to issuers' error rate calculations.

The last option that we considered (Option 4) was to create a sliding scale adjustment starting +/-1.645 to the maximum failure rate z score. Option 4 would adjust the confidence intervals to start at 1.645 standard deviations, meaning that issuers outside the 90 percent confidence interval would have their risk scores adjusted (as in Option 2) and the linear adjustment would be applied until the maximum failure rate z score. Out of all of the options, this option would come the closest to eliminating any "payment cliff" in the error rate calculation for all issuers who are close to the confidence intervals. Because issuers beyond 3 standard deviations impact the calculation of the sliding scale adjustment factor under this option, Option 4 should have the least transfer impact on individual issuers that are just outside of the confidence intervals, as it has the lowest weighted mean of absolute transfer change over premiums. However, as seen in Table 4.6, this option increases the number of outliers between 1.645 and 1.96 standard deviations (as in Option 2), and as a result, an increased number of state market risk pools would have transfers adjusted as a result of HHS-RADV in comparison to the current methodology. Our concern with this option is that it may result in under-adjustments because even very extreme outliers would not receive the full adjustment back to the mean failure rate—the adjustment factor would be applied to failure rates beyond 3 standard deviations. Also, like Option 3, this option is more complex to calculate than Options 1 and 2 and is dependent on outliers that are not close to the confidence intervals.

4.4.5 Evaluating the Sliding Scale Adjustment Options

To assess the four sliding scale options described in the previous section, we ran a series of analyses using the 2017 benefit year HHS-RADV results to evaluate which option may best address the "payment cliff" issue to meet the stated policy goal.

First, to assist in comparing these sliding scale options, we compiled the slopes, number of outliers, and error rates for each of these options using the 2017 benefit year HHS-RADV results. Because Options 2 and 3 use the same values between 1.645 and 3 standard deviations, the slopes are the same in the below Table 4.5, even though there is a difference in the number of outliers identified under these options, as shown in the below Table 4.6. Options 2 and 4 have different slopes because they use a different end points of linear adjustments to calculate their slopes, but these options have the same increased number of identified outliers because these options would flag issuers as outliers starting at 1.645 standard deviations.[88]

Table 4.5: Comparing the Slopes for Sliding Scale Adjustment Options 1-4 described in this section

Method	HCC Group	Starting/End points of Linear Adjustment (z-scores)		Lower		Upper	
				a	b	a	b
		Lower	Upper	slope	intercept	slope	intercept
1	Low	-1.96 / -3	1.96 / 3	2.885	0.413	2.885	-0.687
	Medium	-1.96 / -3	1.96 / 3	2.885	0.114	2.885	-1.008
	High	-1.96 / -3	1.96 / 3	2.885	-0.155	2.885	-1.357
2 and 3	Low	-1.645 / -3	1.645 / 3	2.214	0.249	2.214	-0.46
	Medium	-1.645 / -3	1.645 / 3	2.214	0.018	2.214	-0.704
	High	-1.645 / -3	1.645 / 3	2.214	-0.193	2.214	-0.968
4	Low	-1.645 / -5.62	1.645 / 5.94	1.413	0.159	1.383	-0.287
	Medium	-1.645 / -16.69	1.645 / 5.64	1.109	0.009	1.412	-0.449
	High	-1.645 / -11.86	1.645 /6.94	1.161	-0.101	1.311	-0.573

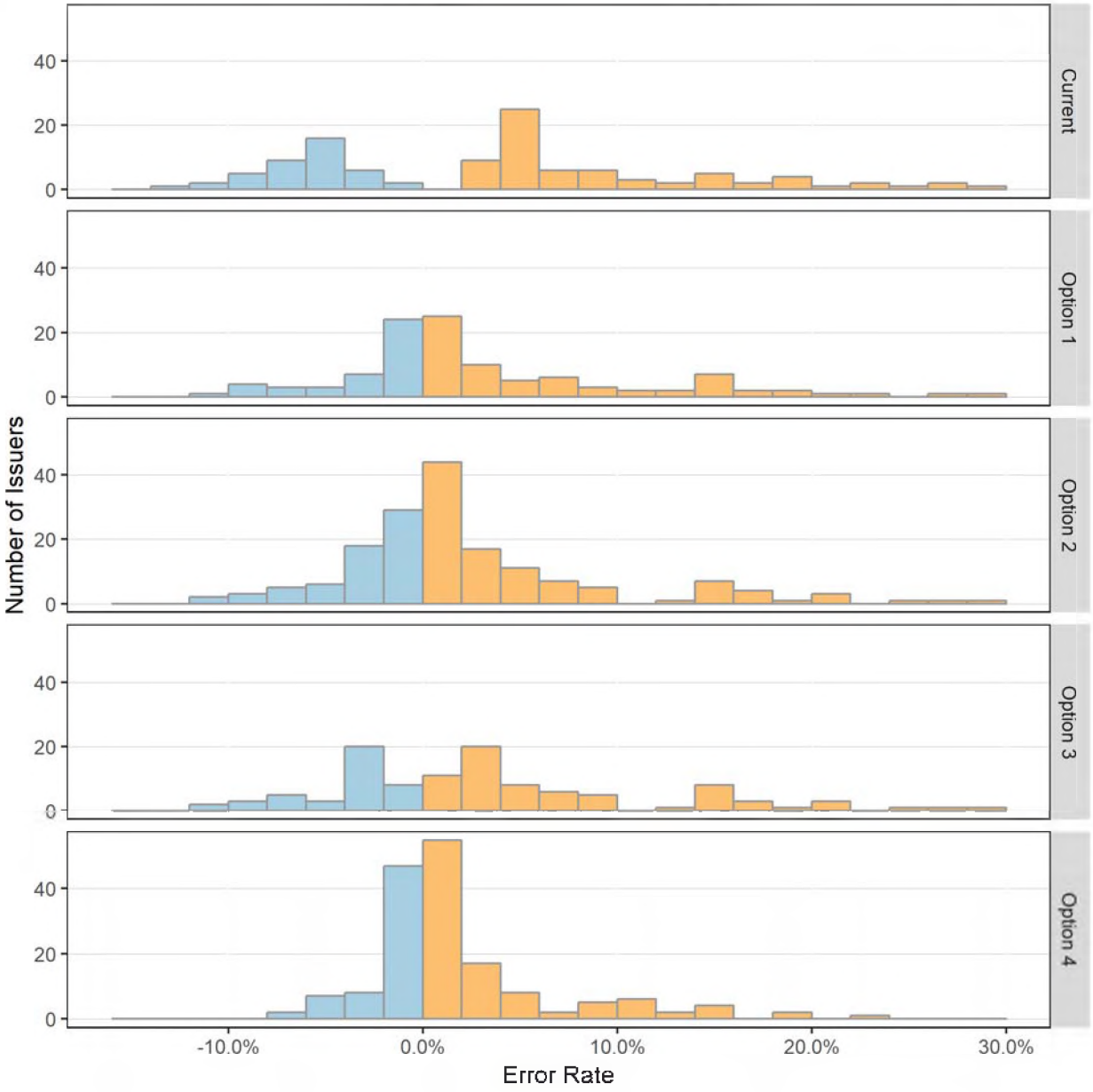
[88] We note that an outlier issuer can be a positive outlier in one HCC group and a negative outlier in another HCC group; therefore, this outlier issuer's error rate can change from being a positive error rate under one option to a negative error rate outlier under another option.

Table 4.6: Comparing Outlier Issuers Impacted by the Sliding Scale Adjustment Options

Method	# Positive Error Rate Issuers	# Negative Error Rate Issuers	Total Error Rate Issuers
Current Methodology	69	41	110
Option 1	68	42	110
Option 2	103	63	166
Option 3	69	41	110
Option 4	102	64	166

Next, we tested the differences in error rates between the current methodology and the various sliding scale options using the 2017 benefit year HHS-RADV results. As shown in Figure 4.7 below, we found that all of the sliding scale options under consideration in this white paper resulted in the distribution of error rates moving closer to zero than the current methodology. As expected, we found that Option 4, which had the smallest group adjustment factors for issuers including those beyond the 99 percent confidence interval, resulted in the smallest error rates. The maximum error rate for Option 4 was also smaller than any of the other sliding scale options being considered.

Figure 4.7: Comparing the Distribution of Estimated Error Rates between the Options Described in this section using the 2017 BY RADV Results



To further assess these options, we wanted to consider whether they directly mitigated the "payment cliff" for issuers just outside the confidence intervals. As previously mentioned, we expected that the more gradual slope from Option 2 that smooths the HCC group level adjustment factors could be better at mitigating the issuer level payment cliff than Option 1.

We did not find that to be the case in testing these sliding scale options using the 2017 benefit year HHS-RADV results. Because Options 1 and 2 use a different set of outliers, it was difficult to create a direct comparison of error rates. Under Option 1, the issuers just outside the confidence intervals were not the same issuers as those just outside the confidence intervals under Option 2. This meant that any comparison using issuers just outside of the confidence

intervals under Option 2 would always result in Options 1 and 3 having lower error rates overall because the risk scores of the issuers just outside the confidence interval in Option 2 were not being adjusted under Options 1 and 3.

For this reason, we compared the sliding scale options utilizing a moving-window approach by dynamically selecting a set of issuers in the evaluation of all sliding scale candidate options. The moving-window allowed us to set various boundaries of the z-score between (±)1.64 and (±)3.05, which covered the "issuers of interest" (i.e. those issuers that are just outside of the confidence intervals under all options to various degrees). The moving-window puts issuers that are closest based on their average failure rate z-scores into one group to evaluate the "payment cliff" via comparing the error rate difference of issuers within each group. Applying the moving-window method to the 2017 benefit year HHS-RADV data, we found that, compared to other options, Option 2 minimizes the "payment cliff" for issuers that are just outside or just inside the upper 95 percent confidence interval. However, for issuers that are close to the upper 90 percent confidence interval, or with lower-than-average failure rates among the issuers of interest (i.e., potential outliers), Option 1 outperforms Option 2 in reducing the "payment cliff".

These observations can be explained by the non-linear relationship between an issuer's error rate and the respective failure rate z-scores in the three HCC groups. The design of the sliding scale option is to smooth out the adjustment factors at the HCC group level. However, at the issuer level, the flattened adjustment factors due to a smaller slope in Option 2 compared to Option 1 could be diminished by other dominant factors. For example, at the HCC group level, Option 1 outperforms Option 2 because it results in zero adjustment factors and potentially a smaller "payment cliff" for issuers with failure rate z-scores between (±)1.645 and (±)1.96 in at least one HCC group. On the other hand, Option 2 outperforms Option 1 for issuers and HCC groups when failure rate z-scores that are between (±)1.96 and (±)3 because of the smaller slope and flattened adjustment factors in Option 2. Therefore, the overall performance of Options 1 and 2 in reducing the "payment cliff" at the issuer level depends on the number of issuers with failure rates z-scores between (±)1.645 and (±)1.96, compared to that of the issuers between (±)1.96 and (±)3 z-scores.

Lastly, to assist in comparing the sliding scale options to the other options described in this paper, in Appendix C, we provide the results of a simulation of the 2017 benefit year HHS-RADV in the same manner as Appendix B. These results show the estimated overall transfer and issuer impact of the sliding scale options on the 2017 benefit year HHS-RADV results. The estimated transfer impact of the sliding scale options between the current methodology and the four sliding scale options is generally as expected.

In short, all of the sliding scale options discussed in this paper result in lower error rates than the current methodology. The nonlinearity of error rates dilutes the ability to compare the effect of the four scaling scale options. Because all of the analyses comparing the impact of each "payment cliff" mitigation option are only based on 2017 benefit year HHS-RADV results (the first non-pilot year), issuers' future error rates may follow different patterns.

We are interested in comments from stakeholders regarding the options to mitigate the existing "payment cliff" for potential future rulemaking, outlined above, recognizing the current limitations related to having only year of non-pilot year data for testing purposes. In particular, we are interested in stakeholders' perspectives regarding what our priorities should be in considering these options, and which best create incentives and outcomes in line with the goals of the RA and RADV programs.

4.5 Negative Error Rate Issuers with Negative Failure Rates

As described earlier in this paper, the purpose of HHS-RADV is to promote confidence and stability in the budget-neutral transfer methodology used by the HHS-operated risk adjustment program by ensuring the integrity and quality of data provided by issuers. As described earlier in this chapter, one the purposes of the two-sided adjustment in HHS-RADV is to penalize issuers that validate HCCs in HHS-RADV at much lower rates than the national average and to reward issuers in HHS-RADV that validate HCCs in HHS-RADV at rates that are much higher than the national average, encouraging issuers to ensure that their EDGE-reported risk scores reflect the true actuarial risk of their enrollees. Positive and negative error outliers represent these two types of adjustments, respectively. An issuer can be identified as a negative error rate outlier due a number of contributing reasons; this section focuses on those issuers for whom low failure rates are driven by newly found HCCs rather than by high validation rates.

The current methodology does not distinguish between low failure rates due to accurate data submission and those that have been depressed through the presence of found HCCs. When a large number of found HCCs appear in an issuer's HHS-RADV sample, failure rates may be so low as to become negative. Although we are considering longer term options to more precisely identify true outliers and to address hierarchy considerations in HCC groups, an interim approach to mitigate the impact of HHS-RADV adjustments as a result of negative error rate outliers with negative failure rates would be to add a constraint in the group adjustment factor calculation in the current error rate calculation methodology for these issuers.

Specifically, we are considering constraining negative error rate outlier issuers' error rate calculation in cases when an issuer's failure rate is negative as a temporary measure. Currently, an outlier issuer's error rate is calculated based on the difference between the weighted mean failure rate for the HCC group and the issuer's failure rate for that HCC group, which may be a negative failure rate. We are considering adding a constraint to the group adjustment factor whereby negative failure rate issuers' error rates are calculated as the difference between the weighted mean failure rate for the HCC group (if positive) and zero (0). To illustrate, we would be substituting the following highlighted terms into the error rate process:

If $GFR_i^G > UB^G$ or $GFR_i^G < LB^G$:

Then $Flag_i^G = \text{"}outlier\text{"}$ and $Adjustment_i^G = GFR_{i\_constr} - \mu(GFR^G)_{constr}$

If $GFR_i^G \leq UB^G$ and $GFR_i^G \geq LB^G$:

Then $Flag_i^G = \text{"}not\ outlier\text{"}$ and $Adjustment_i^G = 0$

Where:

GFR_i^G is an issuer's failure rate for the HCC failure rate grouping

$GFR_{i,constr}^G$ is an issuer's failure rate for the HCC failure rate grouping, constrained to 0 if GFR_i^G is less than 0. Also expressed as:

$$GFR_{i,constrained} = max\{0, GFR_i\}$$

$\mu(GFR^G)$ is the weighted national mean failure rate for the HCC failure rate grouping

$\mu(GFR^G)_{constr}$ is the weighted national mean failure rate for the HCC failure rate grouping, constrained to 0 if $\mu(GFR^G)$ is less than 0. Also expressed as:

$$\mu(GFR^G)_{constr} = max\{0, \mu(GFR^G)\}$$

UB^G and LB^G are the upper and lower bounds of the HCC failure rate grouping confidence interval, respectively.

$Flag_i^G$ is the indicator if issuer i's group failure rate for group G locates beyond a calculated threshold that we are using to classify issuers into "outliers" or "not outliers" for group G.

$Adjustment_i^G$ is the calculated adjustment amount to adjust issuer i's EDGE risk scores for all sampled HCCs in group G.

We would then compute total adjustments and risk adjustment transfer error rates for each issuer based on the sums of the $Adjustment_i^G$.[89]

This approach would limit the financial impact of adjustments due to negative error rate outliers with negative failure rates on other issuers, providing stability to issuers in predicting the HHS-RADV impact. For example, under the current error rate calculation using the 2017 benefit year HHS-RADV metrics, a negative outlier issuer with a -15 percent failure rate for the low HCC grouping would currently receive a group adjustment factor of the difference between -15 percent and the weighted mean for the low HCC grouping of 4.8 percent of -19.8 percent, but if we were to constrain the negative failure rates for negative outlier issuers to zero, the group adjustment factor in this example would be the difference between 0 percent and the weighted mean for the low HCC grouping of 4.8 percent, resulting in a -4.8 percent group adjustment factor. We believe that this type of constraint could help ensure that negative error rate issuers are rewarded for high validation rates while mitigating any incentive for under-reporting on EDGE.

We believe this option would not have a chilling effect on issuer data accuracy and could be easily implemented under the current methodology as a temporary stand-alone adjustment to the error rate calculation, or in combination with the previously discussed alternative options to calculate the error rate in this chapter. As described in Chapter 3 of this paper, we are considering options to account for HCCs miscoded into the same hierarchy and to address newly found HCCs that may be contributing to negative failure rates. These long-term changes could have an impact on the determination of the lower bound confidence interval and reduce the occurrence of negative failure rates, but would also represent substantial departures from the current error estimation methodology. Therefore, we believe that the addition of this type of

[89] See, for example, the 2018 Benefit Year Protocols: PPACA HHS Risk Adjustment Data Validation, Version 7.0 (June 24, 2019), available at https://www.regtap.info/reg_library.php?i=2904.

constraint to the current error rate calculation may offer a balanced interim option to mitigate the impact of negative outlier issuer adjustments on other issuers in the state market risk pool.

4.6 ALTERNATIVE OPTIONS

In addition to the aforementioned options, we received feedback on other potential changes to the calculation and application of issuers' error rates that we did take under consideration in drafting this white paper, but that were not specifically designed to mitigate the impact of the "payment cliff" or negative outlier issuer adjustments. For example, one recommendation was to subject error rate outliers to a second round of sampling and outlier determination before making an adjustment to risk scores and risk adjustment transfers. Our understanding is that the purpose of this alternative option would be to ensure those issuers identified as outliers are truly outliers by conducting a second round of auditing. We are concerned about the significant burden increase that this approach would create on issuers and HHS, as it would result in some issuers being required to conduct medical record retrieval and other IVA activities for two separate sets of enrollees for the same benefit year HHS-RADV. This type of approach would also delay when we would be able to provide issuers with HHS-RADV results.

In the past, we have also heard from stakeholders that the application and calculation of the error rate adjustment should take into consideration state differences in coding practices – that providers in some states may be better at coding than providers in other states, and that when HHS-RADV determines outlier status at the national level, the identification of outliers does not take those state-level differences into account. So far, we have not observed trends in the unmodified 2016 benefit year HHS-RADV results and the 2017 benefit year HHS-RADV results that indicate there is an overall significant difference among states' failure rate results compared to the national benchmarks, but we intend to continue to assess future HHS-RADV results to see if any trends in this regard emerge.

5. APPLICATION OF HHS-RADV RESULTS

This chapter considers a change to the application of HHS-RADV results to better reflect actuarial risk of the benefit year being audited. In the 2020 Payment Notice, we stated that while we are interested in applying the HHS-RADV results to the benefit year being audited, we have concerns about how to switch to that policy and adjust risk scores for a given benefit year twice.[90] This chapter considers options on how HHS might transition away from the current prospective application of HHS-RADV results[91] and move to an approach that would apply the results to the benefit year being audited.

5.1 OVERVIEW OF THE APPLICATION OF HHS-RADV RESULTS

In the 2014 Payment Notice, we finalized that HHS would use a prospective approach when making transfer adjustments based on findings from the data validation process.[92] Currently, HHS generally uses an issuer's HHS-RADV error rate from the prior year to adjust the issuer's average risk score in the current transfer year.[93] We finalized the use of a prospective approach to allow issuers and HHS sufficient time to complete the validation and appeals processes before transfer adjustments are made. As such, we generally used 2017 benefit year HHS-RADV results to adjust 2018 benefit year risk adjustment risk scores, resulting in an adjustment to 2018 benefit year risk adjustment transfer amounts.[94] In light of the policy finalized in the 2020 Payment Notice that delays collection, disbursement, and reporting of transfer adjustments to reflect HHS-RADV results[95], and the changes recently finalized to the risk adjustment holdback policy[96], we are considering whether to change this prospective approach to the application of HHS-RADV findings.

Specifically, we are considering applying HHS-RADV results to the same risk adjustment benefit year risk scores and transfers. For example, 2021 benefit year HHS-RADV results could be applied to adjust 2021 benefit year risk adjustment risk scores and transfers. Under this policy, the risk adjustment risk scores and transfers would only be adjusted based on the same benefit year's HHS-RADV results.[97]

We believe this change has the potential to provide stability for issuers and help them better predict the impact of HHS-RADV results. When we finalized the policy in the 2014 Payment Notice, we did not anticipate the extent of the changes that would occur in the risk profile of enrollees in the individual and small group markets from year to year or the changes in issuer market participation from year to year. Therefore, we believe that this potential change

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[90] The exception to the current prospective application of HHS-RADV results is for exiting issuers, whose risk score error rates are applied to the PLRS and transfer amounts for the benefit year being audited.
[91] See 84 FR at 17507.
[92] See 78 FR 15410 at 15438.
[93] The exception to this general rule is for exiting issuers. See, supra note 90.
[94] Ibid.
[95] See 84 FR at 17506 – 17507.
[96] Available at: https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/Change-to-Risk-Adjustment-Holdback-Policy-for-the-2018-Benefit-Year-and-Beyond.pdf.
[97] Risk scores and risk adjustment transfer amounts may be subsequently adjusted in response to successful appeals.

could help address stakeholder concerns about maintaining actuarial soundness in the application of an issuer's HHS-RADV error rate if an issuer's risk profile, enrollment, or market participation changes substantially from year to year. We also believe that this type of change could eliminate the need to adjust each benefit year twice when there are issuers who have been identified as outliers exiting all of the market risk pools in a state (that is, not selling or offering any new plans in the state). It could also prevent cases where an issuer who enters a state market risk pool is subject to the adjustments for the HHS-RADV results from the prior benefit year when other issuers in the state market risk pool are outliers, even though those issuers did not participate in the state market risk pool for that HHS-RADV benefit year. For these reasons, we are interested in considering this potential change for future benefit years.

5.2 TRANSITION YEAR OPTIONS

Our main concern with implementing this option is the transition from the current prospective adjustment approach into an approach that would apply error rates to the benefit year being audited. In theory, if we were to implement this policy, we would apply two benefit years of HHS-RADV to one year of risk adjustment risk scores. For example, if we were to finalize and implement this policy for 2021 benefit year HHS-RADV, 2021 benefit year risk adjustment risk scores and transfers would be adjusted first to reflect 2020 benefit year HHS-RADV results, and then a second time based on 2021 benefit year HHS-RADV results.[98] Once implemented, for subsequent benefit years, risk adjustment risk scores and transfers would only be adjusted based on the same benefit year's HHS-RADV results.[99]

As we assess the options on how to move away from the prospective framework for future benefit years, we are specifically interested in comments on how we could approach the transition year and we are currently considering three options for how to do so.

First, if we implement this policy for 2021 benefit year HHS-RADV, one option (the average error rate option) would be to calculate an average value between 2021 and 2020 benefit years HHS-RADV error rates and apply this average error rate to 2021 risk adjustment risk scores and transfers. We believe this type of approach would be methodologically straightforward, and would help mitigate the potential impact of two HHS-RADV adjustments on a single year of risk adjustment risk scores, without adversely impacting the predictability of HHS-RADV on risk adjustment transfers. This option would combine the 2020 and 2021 HHS-RADV results into one set of results to be used to adjust 2021 benefit year risk adjustment risk scores and transfers; and therefore, this option would result in no separate RADV adjustment calculation for 2020 benefit year HHS-RADV results. However, as with the options mentioned below, this would result in one final adjustment amount to be collected and paid on the 2021 benefit year HHS-RADV timeline, in early 2025.

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[98] In this illustrative example, it is possible that 2020 risk adjustment risk scores and transfers could be adjusted a third time in response to successful HHS-RADV appeals.

[99] See supra note 97.

Another option (the RA transfer option) would be to calculate 2020 benefit year HHS-RADV adjustments to 2021 benefit year risk adjustment transfers and 2021 benefit year HHS-RADV adjustments to 2021 benefit year risk adjustment transfers separately, then calculate the difference between each of these values and the unadjusted 2021 benefit year risk adjustment transfers before any benefit years HHS-RADV adjustments were applied, and add these differences together to arrive at the total HHS-RADV modification to the 2021 benefit year risk adjustment transfers. That is, HHS would calculate adjustments under 2020 and 2021 benefit years HHS-RADV and incorporate 2020 and 2021 benefit year HHS-RADV results applied to 2021 benefit year risk adjustment transfers in one final adjustment amount to be collected and paid on the 2021 benefit year HHS-RADV timeline, in early 2025.

A third option (the combined PLRS option) would be to apply 2020 benefit year HHS-RADV risk score adjustments to 2021 PLRSs, and then apply 2021 HHS-RADV risk score adjustments to the adjusted 2021 PLRSs. We would then use the final adjusted PLRSs (reflecting both the 2020 and 2021 HHS-RADV results) to adjust 2021 benefit year risk adjustment transfers. Like the RA transfer option, HHS would calculate adjustments under 2020 and 2021 benefit year HHS-RADV and incorporate 2020 and 2021 benefit year HHS-RADV results applied to 2021 benefit year risk adjustment transfers in one final adjustment amount to be collected and paid on the 2021 benefit year HHS-RADV timeline, in early 2025.

We are concerned that at least one of these options could result in duplication of the prior year's impacts for some issuers that had the same underlying issue for both years and therefore, we solicit comment on these options. We are specifically interested in comments on these alternative options to calculating HHS-RADV adjustments for a transition year that would move the program from a prospective application of these adjustments to applying HHS-RADV results to the same risk adjustment benefit year PLRS and transfers. We are also interested in comments on: (1) the advantages and disadvantages of any of these options; (2) which calculation option most closely aligns with the goals of the HHS-RADV program; and (3) whether we should be considering other options for the transition year.

6. CONCLUSION

After two pilot years, HHS has proceeded with making adjustments to reflect HHS-RADV results to ensure the integrity of the HHS-operated risk adjustment program by confirming that issuers can validate the risk that is being used to calculate risk adjustment transfers. The 2017 benefit year is the first non-pilot year where HHS-RADV results were used to adjust risk scores and risk adjustment transfers. The findings from the initial years of HHS-RADV indicate that most issuers' enrollee samples are representative and meet precision targets, that outlier detection issues are only occurring in limited cases where issuers have unusually low or high numbers of HCCs in an HCC group, and that the current methodology results in a more stable level of transfer changes based on HHS-RADV results than the original methodology.

As in all programs of this complexity, we recognize there are aspects that can be refined for future benefit years, such as the incorporation of measures to mitigate the impact of the "payment cliff" and transitioning to apply HHS-RADV results to the benefit year being audited. We look forward to feedback from stakeholders and the general public on the options presented in this paper and anticipate this feedback will inform the development of potential modifications to the HHS-RADV program for future benefit years. As noted in previous sections, the purpose of this paper is to seek stakeholder feedback at this time on the options that we are considering to address these policy issues prior to conducting rulemaking in these areas.

Commenters should submit comments by Monday, January 6, 2020 to CCIIOACARADataValidation@cms.hhs.gov with the subject line of "December 2019 HHS-RADV White Paper."

APPENDIX A: OVERVIEW OF HHS-RADV REGULATIONS

- March 11, 2013: HHS Notice of Benefit and Payment Parameters for 2014 (78 FR 15410) established the six steps of error estimation in § 153.630.
- March 11, 2014: HHS Notice of Benefit and Payment Parameters for 2015 (79 FR 13744):
    - Established the sample size, stratification and Neyman allocation;
    - Established IVA standards, SVA processes and that enrollee risk score validation would be based on medical record review;
    - Established error estimation process whereby issuers' plan enrollee average risk score is adjusted for any error, regardless of the size or magnitude of the error; and
    - Provided appeals, oversight, and data security standards.
- February 27, 2015: HHS Notice of Benefit and Payment Parameters for 2016 (80 FR 10750) increased the risk adjustment user fee to cover the administrative costs of HHS-RADV.
- December 22, 2016: HHS Notice of Benefit and Payment Parameters for 2018 (81 FR 94058):
    - Exempted issuers within the materiality threshold $15 million or less in premiums from participating in HHS-RADV except approximately every three years;
    - Required issuers to provide pharmacy claims to the IVA; and
    - Created a discrepancy reporting process for the audit sample, SVA results, and error rate calculation.
- April 17, 2018: HHS Notice of Benefit and Payment Parameters for 2019 (83 FR 16930):
    - Amended error estimation to only calculate and adjust issuers' risk scores when an issuer's failure rate is statistically significant based on three HCC groupings (low, medium, and high);
    - Exempted issuers with 500 or fewer billable member months from HHS-RADV;
    - Established that the IVA sample only includes enrollees from state risk pools with more than one issuer;
    - Permitted abbreviated mental health assessments in lieu of complete medical records when state privacy laws restrict the disclosure of mental health medical records; and
    - Clarified provisions regarding civil money penalties and adjustments due to demographic or enrollment errors discovered during HHS-RADV.
- April 25, 2019: HHS Notice of Benefit and Payment Parameters for 2020 (84 FR 17454):
    - Extended the Neyman allocation to the 10^{th} stratum for HHS-RADV sampling;
    - Clarified the application and distribution of default data validation charges;
    - Expanded the SVA to audit the full IVA sample when issuers failed pairwise means testing;
    - Adopted and piloted a methodology for including RXCs for the 2018 benefit year HHS-RADV;
    - Outlined the process for applying error rates for exiting issuers and sole issuer markets;
    - Updated the timeline for collection, distribution and reporting of HHS-RADV adjustments to transfers to provide more options to states and issuers for accounting for these amounts in rates and medical loss ratio reports; and
    - Codified HHS-RADV exemptions for issuers within the materiality thresholds (except approximately every three years), 500 or fewer billable member months, and in liquidation.

APPENDIX B: COMPARING THE 2017 BENEFIT YEAR HHS-RADV RESULTS USING THE CURRENT ERROR RATE METHODOLOGY, ORIGINAL ERROR RATE METHODOLOGY, CONFIDENCE INTERVALS METHODOLOGY, AND ONLY POSITIVE METHODOLOGY IN CHAPTER 4[100]

Individual Market Risk Pools – 2018 Risk Adjustment				
Metrics	Current Methodology	Original Methodology	Confidence Intervals Methodology	Only Positive Error Rate Outlier Methodology
Total Risk Adjustment Transfers before RADV	$4,008,083,759	$4,008,083,759	$4,008,083,759	$4,008,083,759
Total Risk Adjustment Transfers after RADV	$4,018,098,320	$3,883,342,860	$4,016,365,468	$3,986,049,393
Total RADV Payment Transfer Amounts	$329,819,454	$2,018,305,677	$49,235,794	$150,981,462
Total RADV Charge Transfer Amounts	-$329,819,454	-$2,018,305,677	-$49,235,794	-$150,981,462
Percent RADV Payment Transfers Over Total Transfers Before RADV	8.23%	50.36%	1.23%	3.77%
Issuer's Average Absolute Transfer over Premium	0.89%	5.27%	0.13%	0.41%
Member Weighted Risk Score	1.547	1.547	1.547	1.547
Member Weighted Risk Score with RADV	1.553	1.448	1.549	1.542
Risk Score % Change	0.35%	-6.87%	0.10%	-0.33%
% Billable Member Months by issuers with Adjusted Risk Scores	15.3%	70.5%	15.3%	2.5%
# State Market Risk Pool	51	51	51	51
# State Market Risk Pools with RADV Adjustments	18	44	18	8
# Issuers	258	258	258	258
# Issuers with Adjusted Risk Scores	28	190	28	10
# Issuers with Adjusted RA Transfers	127	237	127	73
# Issuers with Reduced Transfers After RADV	87	113	78	10
# Issuers with Increased Transfers After RADV	40	124	49	63
% of Issuers with Adjusted RA Transfers	49.2%	91.9%	49.2%	28.3%

[100] Catastrophic risk pools were excluded from the results for the individual market. Results for merged market states (Massachusetts and Vermont) are reported as part of the individual market. Because 2017 benefit year HHS-RADV was a pilot year for Massachusetts, Massachusetts issuers' results are counted in the before RADV and after RADV payments totals, but those issuers have zero error rates under all options; therefore, the state market risk pool is not adjusted in the 2017 HHS-RADV results for all options in this tables.

Small Group Market Risk Pools – 2018 Risk Adjustment				
Metrics	Current Methodology	Original Methodology	Only Adjusting to Confidence Intervals Methodology	Only Positive Methodology
Total Risk Adjustment Transfers before RADV	$1,161,924,456	$1,161,924,456	$1,161,924,456	$1,161,924,456
Total Risk Adjustment Transfers after RADV	$1,226,212,243	$1,464,926,038	$1,155,673,750	$1,253,776,026
Total RADV Payment Transfer Amounts	$346,330,506	$1,407,927,984	$58,040,017	$122,709,965
Total RADV Charge Transfer Amounts	-$346,330,506	-$1,407,927,984	-$58,040,017	-$122,709,965
Percent RADV Payment Transfers Over Total Transfers Before RADV	29.81%	121.17%	5.00%	10.56%
Issuer's Average Absolute Transfer over Premium	1.26%	5.39%	0.21%	0.40%
Member Weighted Risk Score	1.270	1.270	1.270	1.270
Member Weighted Risk Score with RADV	1.279	1.176	1.272	1.265
Risk Score % Change	0.68%	-8.01%	0.17%	-0.39%
% Billable Member Months by issuers with Adjusted Risk Scores	22.1%	86.2%	22.1%	3.4%
# State Market Risk Pools	49	49	49	49
# State Market Risk Pools with RADV Adjustments	31	49	31	24
# Issuers	473	473	473	473
# Issuers with Adjusted Risk Scores	78	379	78	45
# Issuers with Adjusted RA Transfers	329	473	329	273
# Issuers with Reduced Transfers After RADV	207	247	214	45
# Issuers with Increased Transfers After RADV	122	226	115	228
% of Issuers with Adjusted RA Transfers	69.6%	100.0%	69.6%	57.7%

Individual Market Risk Pools – 2017 Risk Adjustment				
Metrics	Current Methodology	Original Methodology	Confidence Intervals Methodology	Only Positive Methodology
Total Risk Adjustment Transfers before RADV	$3,870,537,132	$3,870,537,132	$3,870,537,132	$3,870,537,132
Total Risk Adjustment Transfers after RADV	$3,877,649,989	$3,928,448,874	$3,871,177,444	$3,871,598,886
Total RADV Payment Transfer Amounts	$21,194,560	$167,040,082	$3,945,316	$11,238,538
Total RADV Charge Transfer Amounts	-$21,194,560	-$167,040,082	-$3,945,316	-$11,238,538
Percent RADV Payment Transfers Over Total Transfers Before RADV	0.55%	4.32%	0.10%	0.29%
Issuer's Average Absolute Transfer over Premium	0.06%	0.41%	0.01%	0.03%
Member Weighted Risk Score	1.541	1.541	1.541	1.541
Member Weighted Risk Score with RADV	1.542	1.537	1.541	1.541
Risk Score % Change	0.00%	-0.26%	0.00%	-0.01%
% Billable Member Months by issuers with Adjusted Risk Scores	0.4%	2.1%	0.4%	0.1%
# State Market Risk Pools	51	51	51	51
# State Market Risk Pools with RADV Adjustments	15	28	15	13
# Issuers	391	391	391	391
# Issuers with Adjusted Risk Scores	18	42	18	16
# Issuers with Adjusted RA Transfers	161	279	160	135
# Issuers with Reduced Transfers After RADV	40	53	40	16
# Issuers with Increased Transfers After RADV	121	226	120	119
% of Issuers with Adjusted RA Transfers	41.2%	71.4%	40.9%	34.5%

Small Group Market Risk Pools – 2017 Risk Adjustment[101]				
Metrics	Current Methodology	Original Methodology	Only Adjusting to Confidence Intervals Methodology	Only Positive Methodology
Total Risk Adjustment Transfers before RADV	$1,265,821,729	$1,265,821,729	$1,265,821,729	$1,265,821,729
Total Risk Adjustment Transfers after RADV	$1,266,388,710	$1,368,654,185	$1,265,927,261	$1,266,308,028
Total RADV Payment Transfer Amounts	$3,548,056	$173,053,167	$239,643	$993,404
Total RADV Charge Transfer Amounts	-$3,548,056	-$173,053,167	-$239,643	-$993,404
Percent RADV Payment Transfers Over Total Transfers Before RADV	0.28%	13.67%	0.02%	0.08%
Issuer's Average Absolute Transfer over Premium	0.01%	0.55%	0.00%	0.00%
Member Weighted Risk Score	1.271	1.271	1.271	1.271
Member Weighted Risk Score with RADV	1.271	1.267	1.271	1.271
Risk Score % Change	0.00%	-0.32%	0.00%	0.00%
% Billable Member Months by issuers with Adjusted Risk Scores	0.10%	2.00%	0.10%	0.00%
# State Market Risk Pools	48	48	48	48
# State Market Risk Pools with RADV Adjustments	7	28	7	4
# Issuers	498	498	498	498
# Issuers with Adjusted Risk Scores	9	44	9	6
# Issuers with Adjusted RA Transfers	113	331	113	67
# Issuers with Reduced Transfers After RADV	49	69	49	6
# Issuers with Increased Transfers After RADV	64	262	64	61
% of Issuers with Adjusted RA Transfers	22.7%	66.5%	22.7%	13.5%

[101] The 2017 benefit year small group market for the state of Ohio was excluded in this summary because there were manual adjustments to HHS-RADV transfer adjustments to correct for an issuer data submission discrepancy reflected in the Summary Report of 2017 HHS-RADV Adjustments to Transfers released on August 1, 2019, available at: https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/BY2017-HHSRADV-Adjustments-to-RA-Transfers-Summary-Report.pdf. For simulation purposes in Appendix B and C, excluding the state market risk pool with the manual adjustment allows the analysis to only reflect the impact due to the performance of the error estimation methods under consideration.

APPENDIX C: COMPARING THE 2017 BENEFIT YEAR HHS-RADV RESULTS USING SLIDING SCALE OPTIONS IN CHAPTER 4[102]

Individual Market Risk Pools – 2018 Risk Adjustment				
Metrics	Option 1	Option 2	Option 3	Option 4
Total Risk Adjustment Transfers before RADV	$4,008,083,759	$4,008,083,759	$4,008,083,759	$4,008,083,759
Total Risk Adjustment Transfers after RADV	$4,036,363,976	$4,043,719,836	$4,029,878,362	$4,030,247,409
Total RADV Payment Transfer Amounts	$136,966,244	$231,943,351	$202,308,778	$137,750,104
Total RADV Charge Transfer Amounts	-$136,966,244	-$231,943,351	-$202,308,778	-$137,750,104
Percent RADV Payment Transfers Over Total Transfers Before RADV	3.42%	5.79%	5.05%	3.44%
Issuer's Average Absolute Transfer over Premium	0.37%	0.61%	0.54%	0.36%
Member Weighted Risk Score	1.547	1.547	1.547	1.547
Member Weighted Risk Score with RADV	1.551	1.553	1.552	1.551
Risk Score % Change	0.25%	0.35%	0.28%	0.22%
% Billable Member Months by issuers with Adjusted Risk Scores	15.3%	24.6%	15.3%	24.6%
# State Market Risk Pool	51	51	51	51
# State Market Risk Pools with RADV Adjustments	18	29	18	29
# Issuers	258	258	258	258
# Issuers with Adjusted Risk Scores	28	51	28	51
# Issuers with Adjusted RA Transfers	127	186	127	186
# Issuers with Reduced Transfers After RADV	78	114	88	114
# Issuers with Increased Transfers After RADV	49	72	39	72
% of Issuers with Adjusted RA Transfers	49.2%	72.1%	49.2%	72.1%

[102] See supra note 100.

Small Group Market Risk Pools – 2018 Risk Adjustment				
Metrics	Option 1	Option 2	Option 3	Option 4
Total Risk Adjustment Transfers before RADV	$1,161,924,456	$1,161,924,456	$1,161,924,456	$1,161,924,456
Total Risk Adjustment Transfers after RADV	$1,181,600,625	$1,197,286,697	$1,194,592,346	$1,174,095,392
Total RADV Payment Transfer Amounts	$160,912,306	$246,180,867	$225,706,403	$144,761,922
Total RADV Charge Transfer Amounts	-$160,912,306	-$246,180,867	-$225,706,403	-$144,761,922
Percent RADV Payment Transfers Over Total Transfers Before RADV	13.85%	21.19%	19.43%	12.46%
Issuer's Average Absolute Transfer over Premium	0.58%	0.90%	0.82%	0.53%
Member Weighted Risk Score	1.270	1.270	1.270	1.270
Member Weighted Risk Score with RADV	1.276	1.277	1.277	1.274
Risk Score % Change	0.47%	0.57%	0.54%	0.35%
% Billable Member Months by issuers with Adjusted Risk Scores	22.1%	27.6%	22.1%	27.6%
# State Market Risk Pools	49	49	49	49
# State Market Risk Pools with RADV Adjustments	31	40	31	40
# Issuers	473	473	473	473
# Issuers with Adjusted Risk Scores	78	120	78	120
# Issuers with Adjusted RA Transfers	329	430	329	430
# Issuers with Reduced Transfers After RADV	214	273	215	273
# Issuers with Increased Transfers After RADV	115	157	114	157
% of Issuers with Adjusted RA Transfers	69.6%	90.9%	69.6%	90.9%

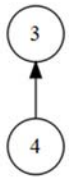
Individual Market Risk Pools – 2017 Risk Adjustment				
Metrics	Option 1	Option 2	Option 3	Option 4
Total Risk Adjustment Transfers before RADV	$3,870,537,132	$3,870,537,132	$3,870,537,132	$3,870,537,132
Total Risk Adjustment Transfers after RADV	$3,872,147,015	$3,873,913,097	$3,873,718,609	$3,872,048,467
Total RADV Payment Transfer Amounts	$9,679,664	$15,008,694	$13,791,460	$9,529,453
Total RADV Charge Transfer Amounts	-$9,679,664	-$15,008,694	-$13,791,460	-$9,529,453
Percent RADV Payment Transfers Over Total Transfers Before RADV	0.25%	0.39%	0.36%	0.25%
Issuer's Average Absolute Transfer over Premium	0.03%	0.04%	0.04%	0.03%
Member Weighted Risk Score	1.541	1.541	1.541	1.541
Member Weighted Risk Score with RADV	1.541	1.541	1.541	1.541
Risk Score % Change	-0.01%	-0.01%	0.00%	0.00%
% Billable Member Months by issuers with Adjusted Risk Scores	0.4%	0.4%	0.4%	0.4%
# State Market Risk Pools	51	51	51	51
# State Market Risk Pools with RADV Adjustments	15	19	15	19
# Issuers	391	391	391	391
# Issuers with Adjusted Risk Scores	18	23	18	23
# Issuers with Adjusted RA Transfers	161	204	161	204
# Issuers with Reduced Transfers After RADV	40	57	40	57
# Issuers with Increased Transfers After RADV	121	147	121	147
% of Issuers with Adjusted RA Transfers	41.2%	52.2%	41.2%	52.2%

Small Group Market Risk Pools – 2017 Risk Adjustment[103]				
Metrics	Option 1	Option 2	Option 3	Option 4
Total Risk Adjustment Transfers before RADV	$1,265,821,729	$1,265,821,729	$1,265,821,729	$1,265,821,729
Total Risk Adjustment Transfers after RADV	$1,266,149,552	$1,266,256,135	$1,266,234,531	$1,266,074,744
Total RADV Payment Transfer Amounts	$656,874	$1,979,327	$1,686,327	$1,125,448
Total RADV Charge Transfer Amounts	-$656,874	-$1,979,327	-$1,686,327	-$1,125,448
Percent RADV Payment Transfers Over Total Transfers Before RADV	0.05%	0.16%	0.13%	0.09%
Issuer's Average Absolute Transfer over Premium	0.00%	0.01%	0.01%	0.00%
Member Weighted Risk Score	1.271	1.271	1.271	1.271
Member Weighted Risk Score with RADV	1.271	1.271	1.271	1.271
Risk Score % Change	0.00%	0.00%	0.00%	0.00%
% Billable Member Months by issuers with Adjusted Risk Scores	0.1%	0.2%	0.1%	0.2%
# State Market Risk Pools	48	48	48	48
# State Market Risk Pools with RADV Adjustments	7	12	7	12
# Issuers	498	498	498	498
# Issuers with Adjusted Risk Scores	9	15	9	15
# Issuers with Adjusted RA Transfers	113	158	113	158
# Issuers with Reduced Transfers After RADV	49	64	49	64
# Issuers with Increased Transfers After RADV	64	94	64	94
% of Issuers with Adjusted RA Transfers	22.7%	31.7%	22.7%	31.7%

[103] See supra note 101.

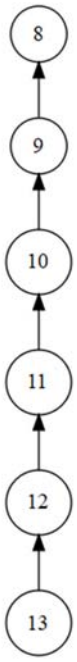
APPENDIX D: DIAGRAMS AND TABLES OF CURRENT HCC HIERARCHY STRUCTURE

Central Nervous System Infections



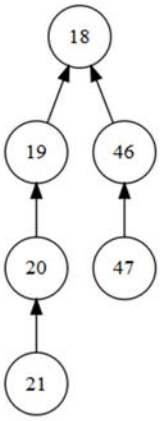
HCC	HCC Label
3	Central Nervous System Infections, Except Viral Meningitis
4	Viral or Unspecified Meningitis

Cancer



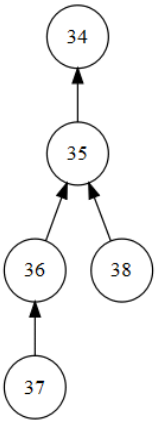
HCC	HCC Label
8	Metastatic Cancer
9	Lung, Brain, and Other Severe Cancers, Including Pediatric Acute Lymphoid Leukemia
10	Non-Hodgkin's Lymphomas and Other Cancers and Tumors
11	Colorectal, Breast (Age < 50), Kidney, and Other Cancers
12	Breast (Age 50+) and Prostate Cancer, Benign/Uncertain Brain Tumors, and Other Cancers and Tumors
13	Thyroid Cancer, Melanoma, Neurofibromatosis, and Other Cancers and Tumors

Pancreas Disorders



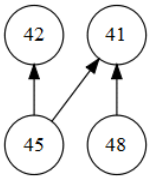
HCC	HCC Label
18	Pancreas Transplant Status/Complications
19	Diabetes with Acute Complications
20	Diabetes with Chronic Complications
46	Chronic Pancreatitis
47	Acute Pancreatitis/Other Pancreatic Disorders and Intestinal Malabsorption
21	Diabetes without Complication

Liver Disorders



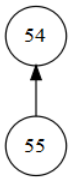
HCC	HCC Label
34	Liver Transplant Status/Complications
35	End-Stage Liver Disease
36	Cirrhosis of Liver
37	Chronic Hepatitis
38	Acute Liver Failure/Disease, Including Neonatal Hepatitis

Gastrointestinal Disorders



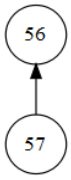
HCC	HCC Label
41	Intestine Transplant Status/Complications
42	Peritonitis/Gastrointestinal Perforation/Necrotizing Enterocolitis
45	Intestinal Obstruction
48	Inflammatory Bowel Disease

Necrosis



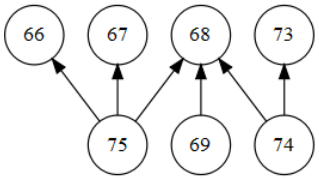
HCC	HCC Label
54	Necrotizing Fasciitis
55	Bone/Joint/Muscle Infections/Necrosis

Autoimmune Disorders



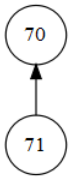
HCC	HCC Label
56	Rheumatoid Arthritis and Specified Autoimmune Disorders
57	Systemic Lupus Erythematosus and Other Autoimmune Disorders

Blood and Immune Disorders



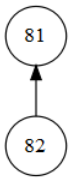
HCC	HCC Label
66	Hemophilia
67	Myelodysplastic Syndromes and Myelofibrosis
68	Aplastic Anemia
69	Acquired Hemolytic Anemia, Including Hemolytic Disease of Newborn
73	Combined and Other Severe Immunodeficiencies
74	Disorders of the Immune Mechanism
75	Coagulation Defects and Other Specified Hematological Disorders

Hemoglobin Disorders



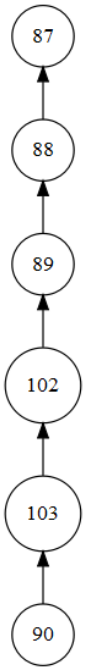
HCC	HCC Label
70	Sickle Cell Anemia (Hb-SS)
71	Thalassemia Major

Substance Use



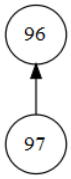
HCC	HCC Label
81	Drug Psychosis
82	Drug Dependence

Behavioral and Developmental Disorders



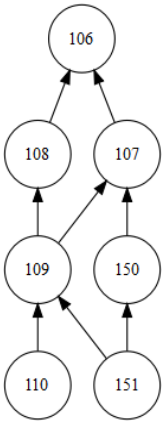
HCC	HCC Label
87	Schizophrenia
88	Major Depressive and Bipolar Disorders
89	Reactive and Unspecified Psychosis, Delusional Disorders
90	Personality Disorders
102	Autistic Disorder
103	Pervasive Developmental Disorders, Except Autistic Disorder

Chromosomal Syndromes



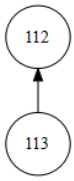
HCC	HCC Label
96	Prader-Willi, Patau, Edwards, and Autosomal Deletion Syndromes
97	Down Syndrome, Fragile X, Other Chromosomal Anomalies, and Congenital Malformation Syndromes

Paralysis



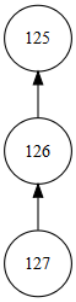
HCC	HCC Label
106	Traumatic Complete Lesion Cervical Spinal Cord
107	Quadriplegia
108	Traumatic Complete Lesion Dorsal Spinal Cord
109	Paraplegia
110	Spinal Cord Disorders/Injuries
150	Hemiplegia/Hemiparesis
151	Monoplegia, Other Paralytic Syndromes

Cerebral Palsy



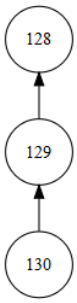
HCC	HCC Label
112	Quadriplegic Cerebral Palsy
113	Cerebral Palsy, Except Quadriplegic

Respiratory Distress



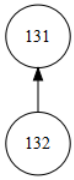
HCC	HCC Label
125	Respirator Dependence/Tracheostomy Status
126	Respiratory Arrest
127	Cardio-Respiratory Failure and Shock, Including Respiratory Distress Syndromes

Heart Failure



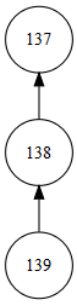
HCC	HCC Label
128	Heart Assistive Device/Artificial Heart
129	Heart Transplant
130	Congestive Heart Failure

Heart Disease



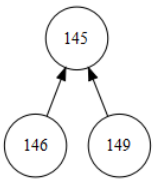
HCC	HCC Label
131	Acute Myocardial Infarction
132	Unstable Angina and Other Acute Ischemic Heart Disease

Heart Defects



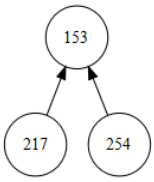
HCC	HCC Label
137	Hypoplastic Left Heart Syndrome and Other Severe Congenital Heart Disorders
138	Major Congenital Heart/Circulatory Disorders
139	Atrial and Ventricular Septal Defects, Patent Ductus Arteriosus, and Other Congenital Heart/Circulatory Disorders

Stroke



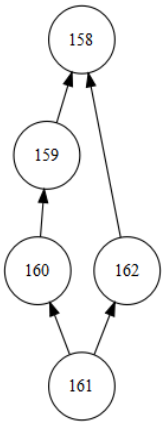
HCC	HCC Label
145	Intracranial Hemorrhage
146	Ischemic or Unspecified Stroke
149	Cerebral Aneurysm and Arteriovenous Malformation

Skin Ulcers and Amputation



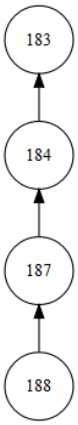
HCC	HCC Label
153	Atherosclerosis of the Extremities with Ulceration or Gangrene
217	Chronic Ulcer of Skin, Except Pressure
254	Amputation Status, Lower Limb/Amputation Complications

Pulmonary Disorders



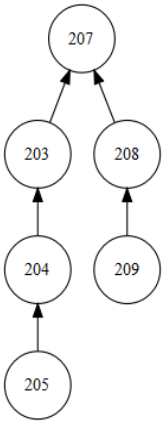
HCC	HCC Label
158	Lung Transplant Status/Complications
159	Cystic Fibrosis
160	Chronic Obstructive Pulmonary Disease, Including Bronchiectasis
161	Asthma
162	Fibrosis of Lung and Other Lung Disorders

Kidney Disease



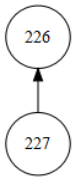
HCC	HCC Label
183	Kidney Transplant Status
184	End Stage Renal Disease
187	Chronic Kidney Disease, Stage 5
188	Chronic Kidney Disease, Severe (Stage 4)

Pregnancy



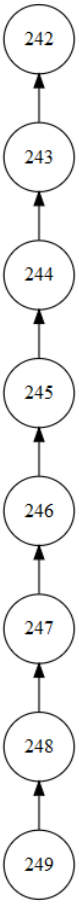
HCC	HCC Label
203	Ectopic and Molar Pregnancy, Except with Renal Failure, Shock, or Embolism
204	Miscarriage with Complications
205	Miscarriage with No or Minor Complications
207	Completed Pregnancy With Major Complications
208	Completed Pregnancy With Complications
209	Completed Pregnancy with No or Minor Complications

Fractures



HCC	HCC Label
226	Hip Fractures and Pathological Vertebral or Humerus Fractures
227	Pathological Fractures, Except of Vertebrae, Hip, or Humerus

Newborns



HCC	HCC Label
242	Extremely Immature Newborns, Birthweight < 500 Grams
243	Extremely Immature Newborns, Including Birthweight 500-749 Grams
244	Extremely Immature Newborns, Including Birthweight 750-999 Grams
245	Premature Newborns, Including Birthweight 1000-1499 Grams
246	Premature Newborns, Including Birthweight 1500-1999 Grams
247	Premature Newborns, Including Birthweight 2000-2499 Grams
248	Other Premature, Low Birthweight, Malnourished, or Multiple Birth Newborns
249	Term or Post-Term Singleton Newborn, Normal or High Birthweight

HCCs without a Hierarchy	
HCC	**HCC Label**
1	HIV/AIDS
2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock
6	Opportunistic Infections
23	Protein-Calorie Malnutrition
26	Mucopolysaccharidosis
27	Lipidoses and Glycogenosis
28	Congenital Metabolic Disorders, Not Elsewhere Classified
29	Amyloidosis, Porphyria, and Other Metabolic Disorders
30	Adrenal, Pituitary, and Other Significant Endocrine Disorders
61	Osteogenesis Imperfecta and Other Osteodystrophies
62	Congenital/Developmental Skeletal and Connective Tissue Disorders
63	Cleft Lip/Cleft Palate
64	Major Congenital Anomalies of Diaphragm, Abdominal Wall, and Esophagus, Age < 2
94	Anorexia/Bulimia Nervosa
111	Amyotrophic Lateral Sclerosis and Other Anterior Horn Cell Disease
114	Spina Bifida and Other Brain/Spinal/Nervous System Congenital Anomalies
115	Myasthenia Gravis/Myoneural Disorders and Guillain-Barre Syndrome/Inflammatory and Toxic Neuropathy
117	Muscular Dystrophy
118	Multiple Sclerosis
119	Parkinson's, Huntington's, and Spinocerebellar Disease, and Other Neurodegenerative Disorders
120	Seizure Disorders and Convulsions
121	Hydrocephalus
122	Non-Traumatic Coma, Brain Compression/Anoxic Damage
135	Heart Infection/Inflammation, Except Rheumatic
142	Specified Heart Arrhythmias
154	Vascular Disease with Complications
156	Pulmonary Embolism and Deep Vein Thrombosis
163	Aspiration and Specified Bacterial Pneumonias and Other Severe Lung Infections
251	Stem Cell, Including Bone Marrow, Transplant Status/Complications
253	Artificial Openings for Feeding or Elimination

APPENDIX E: TABLE OF HCC FAILURE RATE GROUPINGS FOR 2017 BENEFIT YEAR HHS-RADV

HCC	HCC Group	HCC Label
1	Low HCC Group	HIV/AIDS
2	Medium HCC Group	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock
3	High HCC Group	Central Nervous System Infections, Except Viral Meningitis
4	High HCC Group	Viral or Unspecified Meningitis
6	High HCC Group	Opportunistic Infections
8	Medium HCC Group	Metastatic Cancer
9	High HCC Group	Lung, Brain, and Other Severe Cancers, Including Pediatric Acute Lymphoid Leukemia
10	Medium HCC Group	Non-Hodgkin's Lymphomas and Other Cancers and Tumors
11	High HCC Group	Colorectal, Breast (Age < 50), Kidney, and Other Cancers
12	High HCC Group	Breast (Age 50+) and Prostate Cancer, Benign/Uncertain Brain Tumors, and Other Cancers and Tumors
13	High HCC Group	Thyroid Cancer, Melanoma, Neurofibromatosis, and Other Cancers and Tumors
18	Low HCC Group	Pancreas Transplant Status/Complications
19	High HCC Group	Diabetes with Acute Complications
20	Low HCC Group	Diabetes with Chronic Complications
21	Low HCC Group	Diabetes without Complication
23	Medium HCC Group	Protein-Calorie Malnutrition
26	High HCC Group	Mucopolysaccharidosis
27	High HCC Group	Lipidoses and Glycogenosis
28	Medium HCC Group	Congenital Metabolic Disorders, Not Elsewhere Classified
29	High HCC Group	Amyloidosis, Porphyria, and Other Metabolic Disorders
30	Medium HCC Group	Adrenal, Pituitary, and Other Significant Endocrine Disorders
34	Medium HCC Group	Liver Transplant Status/Complications
35	Medium HCC Group	End-Stage Liver Disease
36	Low HCC Group	Cirrhosis of Liver
37	Medium HCC Group	Chronic Hepatitis
38	Medium HCC Group	Acute Liver Failure/Disease, Including Neonatal Hepatitis
41	Low HCC Group	Intestine Transplant Status/Complications
42	High HCC Group	Peritonitis/Gastrointestinal Perforation/Necrotizing Enterocolitis
45	High HCC Group	Intestinal Obstruction
46	Medium HCC Group	Chronic Pancreatitis
47	Medium HCC Group	Acute Pancreatitis/Other Pancreatic Disorders and Intestinal Malabsorption

HCC	HCC Group	HCC Label
48	Low HCC Group	Inflammatory Bowel Disease
54	High HCC Group	Necrotizing Fasciitis
55	Medium HCC Group	Bone/Joint/Muscle Infections/Necrosis
56	Low HCC Group	Rheumatoid Arthritis and Specified Autoimmune Disorders
57	Low HCC Group	Systemic Lupus Erythematosus and Other Autoimmune Disorders
61	High HCC Group	Osteogenesis Imperfecta and Other Osteodystrophies
62	Medium HCC Group	Congenital/Developmental Skeletal and Connective Tissue Disorders
63	High HCC Group	Cleft Lip/Cleft Palate
64	High HCC Group	Major Congenital Anomalies of Diaphragm, Abdominal Wall, and Esophagus, Age < 2
66	Medium HCC Group	Hemophilia
67	High HCC Group	Myelodysplastic Syndromes and Myelofibrosis
68	High HCC Group	Aplastic Anemia
69	High HCC Group	Acquired Hemolytic Anemia, Including Hemolytic Disease of Newborn
70	Medium HCC Group	Sickle Cell Anemia (Hb-SS)
71	Medium HCC Group	Thalassemia Major
73	High HCC Group	Combined and Other Severe Immunodeficiencies
74	High HCC Group	Disorders of the Immune Mechanism
75	Medium HCC Group	Coagulation Defects and Other Specified Hematological Disorders
81	High HCC Group	Drug Psychosis
82	High HCC Group	Drug Dependence
87	Low HCC Group	Schizophrenia
88	High HCC Group	Major Depressive and Bipolar Disorders
89	High HCC Group	Reactive and Unspecified Psychosis, Delusional Disorders
90	High HCC Group	Personality Disorders
94	Medium HCC Group	Anorexia/Bulimia Nervosa
96	Low HCC Group	Prader-Willi, Patau, Edwards, and Autosomal Deletion Syndromes
97	High HCC Group	Down Syndrome, Fragile X, Other Chromosomal Anomalies, and Congenital Malformation Syndromes
102	Low HCC Group	Autistic Disorder
103	Low HCC Group	Pervasive Developmental Disorders, Except Autistic Disorder
106	High HCC Group	Traumatic Complete Lesion Cervical Spinal Cord
107	High HCC Group	Quadriplegia
108	Medium HCC Group	Traumatic Complete Lesion Dorsal Spinal Cord
109	Low HCC Group	Paraplegia
110	High HCC Group	Spinal Cord Disorders/Injuries

HCC	HCC Group	HCC Label
111	High HCC Group	Amyotrophic Lateral Sclerosis and Other Anterior Horn Cell Disease
112	Low HCC Group	Quadriplegic Cerebral Palsy
113	Medium HCC Group	Cerebral Palsy, Except Quadriplegic
114	Low HCC Group	Spina Bifida and Other Brain/Spinal/Nervous System Congenital Anomalies
115	Medium HCC Group	Myasthenia Gravis/Myoneural Disorders and Guillain-Barre Syndrome/Inflammatory and Toxic Neuropathy
117	Low HCC Group	Muscular Dystrophy
118	Low HCC Group	Multiple Sclerosis
119	Medium HCC Group	Parkinson's, Huntington's, and Spinocerebellar Disease, and Other Neurodegenerative Disorders
120	Low HCC Group	Seizure Disorders and Convulsions
121	Medium HCC Group	Hydrocephalus
122	High HCC Group	Non-Traumatic Coma, Brain Compression/Anoxic Damage
125	Low HCC Group	Respirator Dependence/Tracheostomy Status
126	High HCC Group	Respiratory Arrest
127	High HCC Group	Cardio-Respiratory Failure and Shock, Including Respiratory Distress Syndromes
128	Low HCC Group	Heart Assistive Device/Artificial Heart
129	Medium HCC Group	Heart Transplant
130	Medium HCC Group	Congestive Heart Failure
131	High HCC Group	Acute Myocardial Infarction
132	High HCC Group	Unstable Angina and Other Acute Ischemic Heart Disease
135	High HCC Group	Heart Infection/Inflammation, Except Rheumatic
137	High HCC Group	Hypoplastic Left Heart Syndrome and Other Severe Congenital Heart Disorders
138	High HCC Group	Major Congenital Heart/Circulatory Disorders
139	High HCC Group	Atrial and Ventricular Septal Defects, Patent Ductus Arteriosus, and Other Congenital Heart/Circulatory Disorders
142	Medium HCC Group	Specified Heart Arrhythmias
145	High HCC Group	Intracranial Hemorrhage
146	High HCC Group	Ischemic or Unspecified Stroke
149	Medium HCC Group	Cerebral Aneurysm and Arteriovenous Malformation
150	Low HCC Group	Hemiplegia/Hemiparesis
151	High HCC Group	Monoplegia, Other Paralytic Syndromes
153	High HCC Group	Atherosclerosis of the Extremities with Ulceration or Gangrene
154	High HCC Group	Vascular Disease with Complications

HCC	HCC Group	HCC Label
156	High HCC Group	Pulmonary Embolism and Deep Vein Thrombosis
158	High HCC Group	Lung Transplant Status/Complications
159	Medium HCC Group	Cystic Fibrosis
160	Low HCC Group	Chronic Obstructive Pulmonary Disease, Including Bronchiectasis
161	Low HCC Group	Asthma
162	Medium HCC Group	Fibrosis of Lung and Other Lung Disorders
163	High HCC Group	Aspiration and Specified Bacterial Pneumonias and Other Severe Lung Infections
183	Low HCC Group	Kidney Transplant Status
184	High HCC Group	End Stage Renal Disease
187	Low HCC Group	Chronic Kidney Disease, Stage 5
188	Low HCC Group	Chronic Kidney Disease, Severe (Stage 4)
203	Low HCC Group	Ectopic and Molar Pregnancy, Except with Renal Failure, Shock, or Embolism
204	High HCC Group	Miscarriage with Complications
205	High HCC Group	Miscarriage with No or Minor Complications
207	High HCC Group	Completed Pregnancy With Major Complications
208	High HCC Group	Completed Pregnancy With Complications
209	Medium HCC Group	Completed Pregnancy with No or Minor Complications
217	Low HCC Group	Chronic Ulcer of Skin, Except Pressure
226	High HCC Group	Hip Fractures and Pathological Vertebral or Humerus Fractures
227	High HCC Group	Pathological Fractures, Except of Vertebrae, Hip, or Humerus
242	High HCC Group	Extremely Immature Newborns, Birthweight < 500 Grams
243	Medium HCC Group	Extremely Immature Newborns, Including Birthweight 500-749 Grams
244	Medium HCC Group	Extremely Immature Newborns, Including Birthweight 750-999 Grams
245	Medium HCC Group	Premature Newborns, Including Birthweight 1000-1499 Grams
246	High HCC Group	Premature Newborns, Including Birthweight 1500-1999 Grams
247	Low HCC Group	Premature Newborns, Including Birthweight 2000-2499 Grams
248	Medium HCC Group	Other Premature, Low Birthweight, Malnourished, or Multiple Birth Newborns
249	High HCC Group	Term or Post-Term Singleton Newborn, Normal or High Birthweight
251	Low HCC Group	Stem Cell, Including Bone Marrow, Transplant Status/Complications
253	Low HCC Group	Artificial Openings for Feeding or Elimination
254	Low HCC Group	Amputation Status, Lower Limb/Amputation Complications

Health ar i Ameri a

The Values and Experiences8That Could Shape Health Reform

Eric C. Schneider, M.D., Arnav Shah, Corinne Lewis, and Shanoor Seervai 8

If health care is a top concern, why is 8 health reform so challenging? 8

Recent polls show health care is the top issue for many Americans. While millions have gained insurance coverage in the decade since the Affordable Care Act took effect, others remain uneasy about their ability to get the health care they need. With prices surging for prescription drugs and other out-of-pocket costs on the rise, many people worry they are a serious illness or surprise bill away from a personal financial crisis or even bankruptcy.

Allaying these fears is no easy task, however. In an American political system resistant to changes in the 8 status quo, reforming health care can be a monumental challenge. To break through and win public support, proposals to remake U.S. health care must not only address the problems that Americans experience directly, they must also align with their core values and beliefs.

In fact, when it comes to health care, deeply held values often guide our policy preferences, sometimes even more so than our experiences and concerns with the current health system. How Americans respond to a reform plan may depend on whether they believe health care is a right — and whether they feel everyone should have equal access to care. There are a host of additional questions at play as well: How important is it to expand or limit the choices available to people? What are the proper roles of government and private 8 business in health care? How much of the cost should people bear when they are healthy or sick, young or old, rich or poor?

To learn how people's values align with their experiences and with their views on reform, the Commonwealth Fund, the Harvard T.H. Chan School of Public Health, and the *New York Times* commissioned a telephone survey of more than 2,000 U.S. adults during the summer of 2019. Below we highlight some of their responses, with the hope they might inform the ongoing political debate over how to improve health care 8 in America. 8

There is a clash between what we value and how we experience health care in America.

Equal treatment is a value widely shared by Americans. The vast majority of those we surveyed (93%) believe that, with regard to health care, it's very or somewhat important that "all Americans are treated equally" — and without regard to income or race. Nearly all (95%) said it's very or somewhat important that poor families receive the same quality of health care as rich families, and nearly all (96%) felt the same when asked whether African Americans should receive the same quality of care as white Americans.

Of those surveyed,

93%

believe it is very or somewhat important that all Americans be treated equally in terms of the health care they receive

16%

believe all Americans are currently being treated equally when it comes to the health care they receive

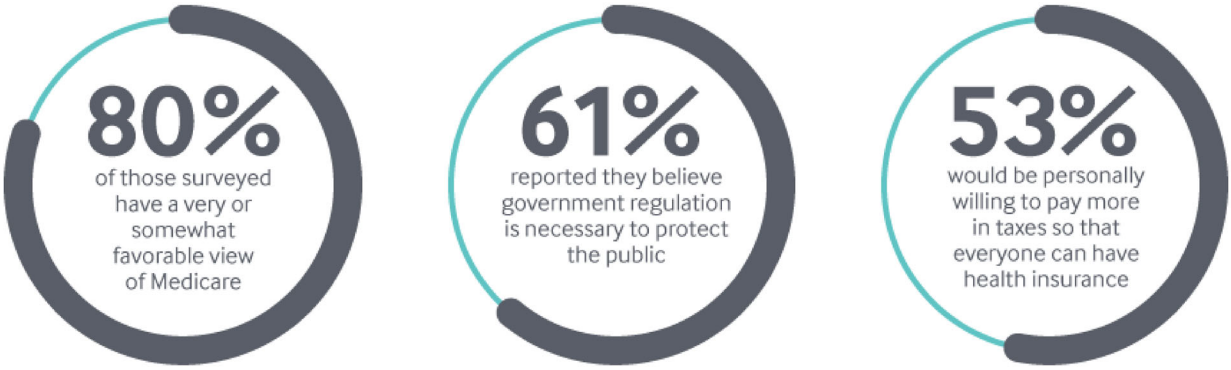
Further, a majority of the public supports a right to health care. Nearly eight in 10 respondents to the survey endorsed the statement that "all Americans should have a right to health care regardless of ability to pay." Support for this principle was high irrespective of age, gender, race, ethnicity, income, or past education.

Unfortunately, the day-to-day experiences of Americans fall short of these values. A majority of Americans don't believe that today's health system treats people equally (only 16% believe treatment is equal). Meanwhile, nearly half of Americans (49%) are very or somewha dissa isfied with the costs of their care, with dissatisfaction higher among people under 65 (who are not yet eligible for Medicare), those who are uninsured, and those in the middle of the income range (earning between $50,000 and $74,900 a year). And about one-quarter of Americans are very or somewhat dissatisfied with their ability to get care when they need it, with larger shares of people under 65 and people without insurance reporting this.

How can we design a health care 4 system that aligns with our values?

Our survey shows th t most Americans believe the government should play some role in health care. For example, eight in 10 have a favorable view of the Medicare program, which insures adult 65 and over and people with serious disabilities. Seven of 10 also have a favorable view of Medicaid, which covers low-income adults and children and people needing long-term services and supports.

Moreover, about 60 percent of Americans believe that government regulation of businesses and 4 corporations is necessary to protect the public. About the same, 59 percent, would support increasing taxes on higher-income people so that everyone could have health insurance, while 53 percent would personally 4 be willing to pay more in taxes so that everyone could have insurance. 4



H w v r, th public s ms t vi w g v rnment int rv nti n in h lth c r s d ubl - dg d sw rd. 4 Americans ov4rall t nd to b sk ptical that gov4rnment can run things w ll, although vi ws ar mix d on 4 this. In our survey,4a majority (56%) agreed4hat "when4omething is run by the government today, it is generally run not too well or not well at all." And less than half (44%) said they would prefer a health insurance system run mostly by the government. At the same time, 68 percent of respondents hold favorable views of private employer-sponsored insurance, similar to the favorable views of Medicare and Medicaid. 4

How do we thread the needle on health reform? 5

As our survey shows, here is a dissonance between the values most Americans expect to see reflected in health care and their experiences with a system that fails to treat people equally and falls seriously short in 5 guaranteeing all have a right to health care regardless of ability to pay. 5

Dissatisfac ion wi e cos s and fairness of eal care is fueling a desire among many in merica to see 5 reforms beyond those the5 ffordable Care ct put in place. But the sur ey results also suggest an 5 ambivalence about the role gove5nment should play. This ambivalence seems to be heightened when

people are presented with a new program or plan but tends to gradually evaporate as programs become established.

Indeed, wide familiarity with public programs appears to breed acceptance and neutralize any skepticism about government's capabilities, at least with regard to health care. Certainly Medicare and Medicaid, which together cover more than 130 million Americans, have grown in popularity over time. The ACA, too, may be spurring additional confidence in government's role in health care: a majority of Americans (53%) now see the 2010 health care law in a favorable light. In addition, 56 percent of Americans believe it is the responsibility of the government to make sure all Americans have health insurance coverage, up from 42 6 percent in 2014.

Perhaps it's because private health insurers are playing a larger and larger role in operating Medicare and Medicaid (think Medicare Advantage and Medicaid managed care plans) that the public no longer 6 experiences these programs as "run by government." In any case, Americans seem quite comfortable with health care provided by a mix of private business and government programs. 6

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Government's othe 6 key ole in health 6a e is otecting the 6 ublic and ensu ing a fai e system. The majority 6 of survey es ondents su o ts egulation. These esults a e co obo ated by othe olling data showing 6

that 61 percent of Americans think the amount of government regulation of business and industry is either just right or even too little; just five years ago, the share believing this was 49 percent. Fairness also matters: a majority of Americans would accept higher taxes to ensure everyone has health insurance. 7

What is the path forward? 7

The politics o ederal health reform have been contentious for ha . Some hard-won reforms have produced dramatic improvements in access to care, such as the 1946 Hill-Burton Act, which enabled the building of hospitals throughout the country, and the enactment of the Medicare and Medicaid programs in 1965, which extended insurance to millions of elderly and poor Americans. The dawn of the current century saw the enactment of smaller-scale programs to expand coverage for low-income children (in 1997) and create a prescription drug benefit for Medicare beneficiaries (in 2003).

But attempts at large-scale, comprehensive change, such as President Clinton's 1993 overhaul plan, have foundered. While the ACA is larger in scope than some of those earlier reforms — and has led to significant improvements in the availability and quality of coverage and care for millions of Americans — additional reforms will be needed to close the gaps in access and affordability that remain.

If anything, the examples of successful reforms cited above suggest that closing the gap between what people value about health care and the experience of health care today can produce meaningful improvements in people's lives. Such reforms appear to be more palatable to the public when they address persistent concerns about the ability to obtain affordable care, and when they acknowledge American ambivalence about government's stewardship of the health care system. New public policies that weave together and build on the complementary strengths of the public and private sectors may be especially well aligned with the nuances of American thinking about health care.

About the Survey

The *Health Care in America* survey was conducted for the Commonwealth Fund, the *New York Times,* and the Harvard T.H. Chan School of Public Health by SSRS, an independent research company. Interviews were conducted by telephone (cell phones and landlines) in English and Spanish from July 10 to August 11, 2019, among a nationally representative, probability-based sample of 2,005 randomly selected adults age 18 and older. The results were weighted to reflect the demographics of the national adult population as described by the U.S. Census. The margin of error for the full sample is ±2.5 percentage points. 7

B ck to t e Commonwe t Fund 8

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Resource:
Health Insurance Benefit Mandates in California State and Federal Law

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Prepared by
California Health Benefits Review Program

www.chbrp.org

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ABOUT THIS RESOURCE

The California Health Benefits Review Program (CHBRP) responds to requests from the California Legislature to provide independent analysis of the medical, financial, and public health impacts of proposed health insurance benefit mandates and repeals.[1,2] This document has been prepared by CHBRP to inform interested parties of existing state and federal health insurance benefit mandate laws that may relate to the subject or purpose of a proposed state health insurance benefit mandate or repeal bill.

This document includes the following:

- Table 1. California Health Insurance Benefit Mandates (by Topic)
- Table 2. California Mandates with Sunset or Contingency Language
- Table 3. Federal Health Insurance Benefit Mandates
- Appendix A. Explanation of Table Terms and Categories
- Appendix B. Discussion of Basic Health Care Services
- Appendix C. California Mandates (by Health and Safety Code Section)
- Appendix D. California Mandates (by Insurance Code Section)

Benefit Mandate Categories

CHBRP defines health insurance benefit mandates through the lens of its authorizing statute.[3] Therefore, the mandates listed in Tables 1 and 2 fall into one or more of the following categories: (a) offer or provide coverage for the screening, diagnosis, or treatment of specific diseases or conditions; (b) offer or provide coverage for types of health care treatments or services, including coverage of medical equipment, supplies, or drugs used in a treatment or service; (c) offer or provide coverage permitting treatment or services from a specific type of health care provider; and/or (d) specify terms (limits, timeframes, copayments, deductibles, coinsurance, etc.) for any of the other categories. Table 1 includes California's state health insurance benefit mandate laws, and Table 3 includes federal health insurance benefit mandate laws.

Information Included for Listed Mandates

Table 1 identifies relevant California statutes. The table specifies when the law mandates *an offer* of coverage for the benefit. The table also identifies which health insurance markets (group and/or individual) are subject to the mandate. Explanations of these terms are provided in Appendix A.

Table 2 lists California benefit mandate statutes that contain either a sunset clause or contingency language. Sunset clauses specify that the law will no longer be in effect after the listed date. Contingency language specifies that the state law is in effect only so long as a federal law is in effect, or only if federal rulings do not indicate that some or all of the state law would exceed essential health benefits (EHBs).

Table 3 identifies relevant federal statutes, both those in existence prior to passage of the Affordable Care Act (ACA)[4] as well as federal benefit mandates contained in the ACA. Like Table 1, Table 3 identifies the health insurance markets subject to the mandate. Because none of the federal mandates are mandates to *offer* coverage, this information is not included in Table 3.

[1] Additional information about CHBRP is available at: www.chbrp.org.
[2] Completed CHBRP analyses are available at: www.chbrp.org/completed_analyses/index.php.
[3] Available at: http://chbrp.com/about_chbrp/faqs/index.php.
[4] The federal "Patient Protection and Affordable Care Act" (P.L.111-148) and the "Health Care and Education Reconciliation Act" (P.L 111-152) were enacted in March 2010. Together, these laws are referred to as the Affordable Care Act (ACA).

Key Facts

- **Applicability of mandate laws:** Not all health insurance is subject to state health insurance benefit mandate laws. CHBRP annually posts estimates of Californians' sources of health insurance, including figures for the numbers of Californians with health insurance subject to state benefit mandates.[5]
- **California insurance regulation:** California has a bifurcated legal and regulatory system for health insurance products. The Department of Managed Health Care (DMHC) regulates health care service plan contracts, which are subject to the Health and Safety Code. The California Department of Insurance (CDI) regulates health insurance policies, which are subject to the California Insurance Code. DMHC-regulated plan contracts and CDI-regulated policies may be subject to state benefit mandate laws, depending upon the exact wording of the law.
- **Federal benefit mandates:** Federal benefit mandates can apply more broadly than state benefit mandates. For example, federal benefit mandates, unlike state mandates, may apply to Medicare or to self-insured plans. Table 3 only lists federal benefit mandate laws that are applicable to DMHC-regulated plans and CDI-regulated policies, which are also under the purview of state law.
- **Federal-state mandate overlap:** DMHC-regulated plans and CDI-regulated policies may be subject to both state and federal benefit mandate laws. Federal benefit mandates may interact or overlap with state benefit mandates, as in the case of mammography benefits. In addition, state laws that duplicate federal laws allow state-level regulators explicit authority to implement them, as in the case of Essential Health Benefits (EHBs). Some known interactions are noted in the footnotes for Table 1.
- **DMHC rules:** DMHC-regulated health plans are subject to "minimum benefit" laws and regulations, also known as "Basic Health Care Services," that may interact or overlap with state benefit mandate laws. The Basic Health Care Services requirement for DMHC-regulated health plans is noted in Table 1 and further explained in Appendix B.

[5] Available at: www.chbrp.org/other_publications/index.php.

Table 1. California Health Insurance Benefit Mandates[6] (by Topic)

#	Topic	California Health and Safety Code (DMHC)	California Insurance Code (CDI)	Mandate to Offer?[7]	Markets (regulated by DMHC or CDI) Subject to the Mandate	Mandate Category
DMHC-Regulated Health Care Service Plan "Basic Health Care Services" (BHCS)						
0	Health Plans regulated by the Department of Managed Health Care (DMHC) are required to cover medically necessary basic health care services, including: (1) Physician services; (2) Hospital inpatient services and ambulatory care services; (3) Diagnostic laboratory and diagnostic and therapeutic radiologic services; (4) Home health services; (5) Preventive health services; (6) Emergency health care services, including ambulance and ambulance transport services, out-of-area coverage, and ambulance transport services provided through the 911 emergency response system; (7) Hospice care. See Appendix B for further details.	Multiple Sections - See Appendix B	N/A[8]		Group and Individual	Not a distinct mandate
Essential Health Benefits						
1	A federal mandate that requires some plans and policies to cover essential health benefits (EHBs) and places limits on cost sharing. The state statutes listed in this row define EHBs and cost sharing for California.[9,10] (also see Table 3)	1367.005 1367.006	10112.27 10112.28		Small Group and Individual[11] In 2017, Large Group sold via Covered California[12]	a, b, d
Cancer Benefit Mandates – also see row 37 under "Outpatient Prescription Drug Benefit Mandates"						
2	Breast cancer screening, diagnosis, and treatment	1367.6	10123.8		Not Specified	a
3	Cancer screening tests	1367.665	10123.20		Group and Individual	b
4	Cervical cancer screening	1367.66	10123.18		Group and Individual	a
5	Clinical trials	1370.6	10145.4		Group and Individual	b
6	Mammography	1367.65	10123.81		Not Specified	a, c
7	Mastectomy and lymph node dissection (length of stay, complications, prostheses, reconstructive surgery)	1367.635	10123.86		Not Specified	b, d
8	Patient care related to clinical trials for cancer	1370.6	10145.4		Not Specified	d
9	Prostate cancer screening	1367.64	10123.835		Group and Individual	a

[6] Defined per CHBRP's authorizing statute, available at: http://chbrp.com/about_chbrp/faqs/index.php
[7] "Mandate to offer" indicates that all health care service plans and health insurers selling health insurance subject to the benefit mandate are required to *offer* coverage for the benefit. The health plan or insurer may comply (1) by including coverage for the benefit as standard in its health insurance products or (2) by offering coverage for the benefit separately and at an additional cost (e.g., a rider). See Appendix A.
[8] N/A indicates that the benefit mandate does not apply to products governed under the specified code.
[9] Affordable Care Act (ACA), Section 1301, 1302, and Section 1201 modifying Section 2707 of the Public Health Service Act (PHSA). See Table 3 below.
[10] Review report: *California's State Benefits Mandates and the Affordable Care Act's "Essential Health Benefits*, available at: www.chbrp.org/other_publications/index.php.
[11] The EHB coverage requirement applies to nongrandfathered plans and policies sold outside of the exchange as well as to qualified health plans (QHPs, see ACA Section 1301) certified by and sold via a health insurance exchange.
[12] Effective 2017, states may allow large-group market qualified health plans (QHPs, see ACA Section 1301) to be certified by and sold via an exchange [ACA Section 1312(f)(2)(B)]. Large-group QHPs would be subject the EHB coverage requirement.

Table 1. California Health Insurance Benefit Mandates[6] (by Topic)

#	Topic	California Health and Safety Code (DMHC)	California Insurance Code (CDI)	Mandate to Offer?[7]	Markets (regulated by DMHC or CDI) Subject to the Mandate	Mandate Category
Chronic Conditions Benefit Mandates – also see row 38 under "Outpatient Prescription Drug Benefit Mandates"						
10	Diabetes education	N/A	10176.6	Offer	Not Specified (CDI)	a
11	Diabetes education, management, and treatment	1367.51	10176.61		Not Specified	a, b, d
12	HIV/AIDS, AIDS vaccine	1367.45	10145.2		Group and Individual (DMHC), Not Specified (CDI)	a
13	HIV/AIDS, HIV Testing	1367.46	10123.91		Group and Individual	a
14	HIV/AIDS, Transplantation services for persons with HIV	1374.17	10123.21		Not Specified	d
15	Osteoporosis	1367.67	10123.185		Not Specified	a
16	Phenylketonuria	1374.56	10123.89		Not Specified	a
Hospice & Home Health Care Benefit Mandates						
17	Dementing illness exclusion prohibition	1373.14	10123.16		Group and Individual	a, d
18	Home health care	1374.10 (non-HMOs only)	10123.10	Offer	Group	b, d
19	Hospice care	1368.2	N/A		Group (DMHC)	b
Mental Health Benefit Mandates						
20	Alcohol and drug exclusion prohibition	N/A	10369.12		Group (CDI)	d
21	Alcoholism treatment	1367.2(a)	10123.6	Offer	Group	a
22	Behavioral health treatment for autism and related disorders (also see Table 2)	1374.73	10144.51 10144.52		Not Specified	b
23	Care provided by a psychiatric health facility	1373(h)(1)	N/A		Not Specified (DMHC)	b, d
24	Coverage and premiums for persons with physical or mental impairment	1367.8	10144		Group and Individual	a, d
25	Coverage for mental and nervous disorders, including care provided by a psychiatric health facility	N/A	10125	Offer	Group (CDI)	a
26	Coverage for persons with physical handicap	N/A	10122.1	Offer	Group (CDI)	a, d
27	Coverage for severe mental illnesses (in parity with coverage for other medical conditions)	1374.72	10144.5 10123.15		Not Specified	a, b, d
28	Coverage for mental health and substance use disorder in compliance with federal law. [13]	1374.76	10144.4		Group and Individual	a, b, d
29	Nicotine or chemical dependency treatment in licensed alcoholism or chemical dependency facilities	1367.2(b)	10123.6	Offer	Group	b, d
30	Prohibition of Lifetime Waiver for Mental Health Services	1374.5	10176(f)		Individual	a, d
31	Prohibition on Determining Reimbursement Eligibility from Inpatient Admission Status	1374.51	10144.6		Not Specified	d
Orthotics & Prosthetics Benefit Mandates						
32	Orthotic and prosthetic devices and services	1367.18	10123.7	Offer	Group	b

[13] ACA Section 1311(j) and Section 1563(c)(4) modifying Section 2726 of the Public Health Services Act (PHSA). See Table 3 below.

Table 1. California Health Insurance Benefit Mandates[6] (by Topic)

#	Topic	California Health and Safety Code (DMHC)	California Insurance Code (CDI)	Mandate to Offer?[7]	Markets (regulated by DMHC or CDI) Subject to the Mandate	Mandate Category
33	Prosthetic devices for laryngectomy	1367.61	10123.82		Not Specified	b
34	Special footwear for persons suffering from foot disfigurement	1367.19	10123.141	Offer	Group	b
Outpatient Prescription Drug Benefit Mandates						
35	Authorization for nonformulary prescription drugs	1367.24	N/A		Not Specified (DMHC)	d
36	HIV/AIDS, pre-exposure and post-exposure prophylaxis: prohibition of step therapy or prior authorization	1342.74	10123.1933		Not specified	d
37	Oral anticancer medication cost-sharing limits (also see Table 2)	1367.656	10123.206		Group and Individual	d
38	Prescription Cost Sharing – includes HIV/AIDS-specific requirements (also see Table 2)	1342.71 1342.72 1342.73 1367.205 1367.41 1367.42 1367.47	10123.192 10123.193 10123.1931 10123.1932 10123.201 10123.65		Varied: Not Specified or Small Group and Individual	b, d
39	Prescription drugs: coverage for previously prescribed drugs	1367.22	N/A		Not Specified (DMHC)	d
40	Prescription drugs: coverage of “off-label” use	1367.21	10123.195		Not Specified (DMHC), Group and Individual (CDI)	d
41	Prescription drugs: prorating cost sharing for partial fill for Schedule II controlled substance	1367.43	10123.203		Not specified	d
42	Prior authorization requests for prescription drugs	1367.241	10123.191		Not Specified	d
43	Step Therapy	1367.244	10123.197		Not Specified	d
Pain Management Benefit Mandates						
44	Acupuncture	1373.10 (non-HMOs only)	10127.3	Offer	Group	c, d
45	General anesthesia for dental procedures	1367.71	10119.9		Not Specified	b
46	Pain management medication for terminally ill	1367.215	N/A		Not Specified (DMHC)	b
Pediatric Care Benefit Mandates						
47	Asthma management	1367.06	N/A		Not Specified (DMHC)	a
48	Comprehensive preventive care for children aged 16 years or younger	1367.35	10123.5		Group	b
49	Comprehensive preventive care for children aged 17 or 18 years	1367.3	10123.55	Offer	Group	b
50	Coverage for the effects of diethylstilbestrol	1367.9	10119.7		Not Specified	a
51	Screening children at risk for lead poisoning for blood lead levels	1367.3(b)(2)(D)	10123.5 10123.55		Group (DMHC), Group (CDI)	b
52	Screening children for blood lead levels	N/A	10119.8	Offer	Individual	b

Table 1. California Health Insurance Benefit Mandates[6] (by Topic)

#	Topic	California Health and Safety Code (DMHC)	California Insurance Code (CDI)	Mandate to Offer?[7]	Markets (regulated by DMHC or CDI) Subject to the Mandate	Mandate Category
Provider Reimbursement Mandates						
53	Air Ambulance services	1371.55	10126.65		Not Specified	d
54	Emergency 911 transportation[14]	1371.5	10126.6		Not Specified	d
55	Licensed or certified providers	1367(b)	N/A		Not Specified	c, d
56	Medical transportation services – direct reimbursement	1367.11	10126.6		Not Specified	d
57	OB-GYNs as primary care providers[15]	1367.69 1367.695	10123.83 10123.84		Not Specified	c, d
58	Pharmacists – compensation for services within their scope of practice	1368.5	10125.1	Offer	Not Specified	c, d
59	Telehealth	1374.13 1374.14	10123.85 10123.855		Not Specified	c, d
Reproductive Benefit Mandates						
60	Contraceptive devices and sterilization, and contraceptive education and counseling	1367.25	10123.196		Group and Individual	b
61	Contraceptive devices requiring a prescription	1367.25	10123.196		Group and Individual	b
62	Fertility preservation services	1374.551	N/A		Not specified	a, b
63	Infertility treatments	1374.55	10119.6	Offer	Group	a, b, d
64	Maternity services	N/A	10123.865 10123.866		Group and Individual (CDI)	b
65	Maternity – amount of copayment or deductible for inpatient services	1373.4	10119.5		Not Specified	d
66	Maternity – minimum length of stay[16]	1367.62	10123.87		Not Specified (DMHC), Group and Individual (CDI)	d
67	Maternal mental health	1367.625	10123.867		Not Specified	a
68	Participation in the statewide prenatal testing Expanded Alpha Feto Protein (AFP) program	1367.54	10123.184		Group and Individual	b
69	Prenatal diagnosis of genetic disorders	1367.7	10123.9	Offer	Group	b
70	Annual supply of self-administered hormonal contraceptives	1367.25	10123.196		Not Specified	d
71	Reproductive health care services	1367.31	10123.202		Not Specified	d

[14] The ACA (Section 1001 modifying Section 2719A of the PHSA) imposes a related requirement regarding coverage and cost-sharing for emergency services. Grandfathered health plans (ACA Section 1251) are not subject to this requirement. See Table 3 below.
[15] The ACA (Section 1001 modifying Section 2719A of the PHSA) imposes a similar requirement prohibiting prior authorization for access to OB-GYNs. Grandfathered health plans (ACA Section 1251) are not subject to this requirement. See Table 3 below.
[16] The federal Newborns' and Mothers' Health Protection Act of 1996 requires coverage for a minimum length of stay in a hospital after delivery *if* the plan covers maternity services. See Table 3 below.

Table 1. California Health Insurance Benefit Mandates[6] (by Topic)

#	Topic	California Health and Safety Code (DMHC)	California Insurance Code (CDI)	Mandate to Offer?[7]	Markets (regulated by DMHC or CDI) Subject to the Mandate	Mandate Category
Sterilization						
72	Sterilization rationale exclusion prohibition	1373(b)	10120		Not Specified	d
Surgery Benefit Mandates						
73	Jawbone or associated bone joints	1367.68	10123.21		Not Specified (DMHC), Group and Individual (CDI)	a
74	Reconstructive surgery[17]	1367.63	10123.88		Not Specified	b
Other Benefit Mandates						
75	Blindness or partial blindness exclusion prohibition	1367.4	10145		Group and Individual	a, d
76	Family Cost Sharing Limits (also see Table2)	1367.006 1367.007	10112.28 10112.29		Varied: Large Group, Small Group, Individual	d
77	Preventive services without cost sharing (in compliance with federal laws and regulations)[18] (also see Table 2)	1367.002	10112.2		Group and Individual	b, d
78	Second opinions	N/A	10123.68		Not Specified (CDI)	c
79	Out-of-network coverage	1371.9[19]	10112.8[20]		Not Specified	d

[17] The federal Women's Health and Cancer Rights Act of 1998 requires coverage for post mastectomy reconstructive surgery. See Table 3 below. s
[18] ACA, Section 1001 modifying Section 2713 of the PHSA. See Table 3 below.
[19] Out-of-network coverage also amended 1371.30 (regarding an independent dispute resolution process) and 1371.31 (regarding average contracted rates) of the Health and Safety Code. The table references the section most closely tied to the benefit mandate (1371.9).
[20] Out-of-network coverage also amended 10112.81 (regarding an independent dispute resolution process) and 10112.82 (regarding average contracted rates) of the Insurance Code. The table references the section most closely tied to the benefit mandate (10112.8).

Table 2. California Mandates with a Sunset or Contingency Clause in Existing Code (by Topic)

#	Topic	California Health and Safety Code (DMHC)	California Insurance Code (CDI)	Disabling Clause (Type and Language)
Essential Health Benefits				
1	Essential health benefits (EHBs) and cost sharing for California.[21,22]	1367.005 1367.006 1367.0065	10112.27 10112.28 10112.285	CONTINGENCY – 1367.005(k) and 10112.27(k): "This section shall be implemented only to the extent essential health benefits are required pursuant to the PPACA."
Cancer Benefit Mandates				
2	Oral anticancer medication cost-sharing limits	1367.656	10123.206	SUNSET – 1367.656(b) and 10123.206(b): "This section shall remain in effect only until January 1, 2024, and as of that date is repealed."
Chronic Conditions Benefit Mandates				
3	HIV/AIDS, antiretroviral drug treatments	1342.72	10123.1931	SUNSET – 1342.72(c) and 10123.1931(b): "This section shall remain in effect only until January 1, 2023, and as of that date is repealed, unless a later enacted statute that is enacted before January 1, 2023, deletes or extends that date."
Mental Health Benefit Mandates				
4	Behavioral health treatment for autism and related disorders	1374.73	10144.51 10144.52	CONTINGENCY – 1374.73(a)(2) and 10144.51(a)(2): "[This] section does not require any benefits to be provided that exceed the essential health benefits that all health insurers will be required by federal regulations to provide under Section 1302(b) of the federal Patient Protection and Affordable Care Act."
Outpatient Drug Benefit Mandates				
5	Prescription cost sharing	1342.71 1342.73 1367.205 1367.41 1367.42	10123.192 10123.193 10123.1932 10123.201	SUNSET – 1342.73(d) and 10123.1932(c): "This section shall remain in effect only until January 1, 2024, and as of that date is repealed, unless a later enacted statute that is enacted before January 1, 2024, deletes or extends that date."
Other Benefit Mandates				
6	Family Cost Sharing Limits	1367.006 1367.007	10112.28 10112.29	CONTINGENCY – 1367.006(c)(2) and 10112.28(c)(2): "The [annual out-of-pocket] limit shall result in a total maximum out-of-pocket limit for all covered essential health benefits equal to the dollar amounts in effect under Section 223(c)(2)(A)(ii) of the Internal Revenue Code of 1986 with the dollar amounts adjusted as specified in Section1302(c)(1)(B) of PPACA." CONTINGENCY – 1367.007(a)(2) and 10112.29(a)(2): "The dollar amounts [of the small employer deductible] shall be indexed consistent with Section 1302(c)(4) of PPACA and any federal rules or guidance pursuant to that section."

[21] Affordable Care Act (ACA), Section 1301, 1302, and Section 1201 modifying Section 2707 of the Public Health Service Act (PHSA).
[22] Review report: *California's State Benefits Mandates and the Affordable Care Act's "Essential Health Benefits*, available at: www.chbrp.org/other_publications/index.php.

Table 2. California Mandates with a Sunset or Contingency Clause in Existing Code (by Topic)

#	Topic	California Health and Safety Code (DMHC)	California Insurance Code (CDI)	Disabling Clause (Type and Language)
7	Preventive services without cost sharing (in compliance with federal laws and regulations)[23]	1367.002	10112.2	CONTINGENCY - 1367.002 and 10112.2: "To the extent required by federal law, a group or individual [health plan shall] comply with Section 2713 of the federal Public Health Service Act [as added by] Section 1001 of the federal Patient Protection and Affordable Care Act."

[23]ACA, Section 1001 modifying Section 2713 of the PHSA.

Table 3. Federal Health Insurance Benefit Mandates[24]

#	Federal Law	Topic Addressed by Benefit Coverage Mandate[25]	Markets Subject to the Mandate[26]	Mandate Category
Federal Mandates in Existence Prior to the Passage of the Affordable Care Act of 2010 (ACA)				
1	Pregnancy Discrimination Act of 1978 amending Title VII of the federal Civil Rights Act	Requires coverage for pregnancy and requires the coverage be in parity with other benefit coverage.	Group (15 or more)	d
2	Newborns' and Mothers' Health Protection Act of 1996	If maternity is covered, requires that coverage include at least a 48-hour hospital stay following childbirth (96-hour stay in the case of a cesarean section).	Group	d
3	Women's Health and Cancer Rights Act of 1998	If mastectomy is covered, requires coverage for certain reconstructive surgery and other post-mastectomy treatments and services.	Group	b
4	Mental Health Parity and Addiction Equity Act of 2008, modified by the Affordable Care Act of 2010 [ACA Section 1311(j) and Section 1563(c)(4) modifying Section 2726 of the Public Health Services Act (PHSA)]	If mental health or substance use disorder (MH/SUD) services are covered, requires that cost-sharing terms and treatment limits be no more restrictive than the predominant terms or limits applied to medical/surgical benefits.[27]	Group and Individual	d
Federal Mandates in the Affordable Care Act of 2010 (ACA)				
5	Section 1001 modifying Section 2711 of the PHSA	Prohibits lifetime and annual limits on the dollar value of benefits. [28]	Group and Individual	d
6	Section 1001 modifying Section 2713 of the PHSA	Preventive services without cost sharing.[29,30] As soon as 12 months after a recommendation appears in any of three sources, benefit coverage is required. The four sources are: • 'A' and 'B' rated recommendations of the United States Preventive Services Task Force (USPSTF)[31]; • Immunizations recommended by the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention (CDC)[32]; • For infants, children, and adolescents, evidence-informed preventive care and screenings provided for in the comprehensive guidelines supported by the Health Resources and Services Administration (HRSA)[33]; and • For women, preventive care and screenings provided for in comprehensive guidelines supported by HRSA.[34]	Group and Individual	a, d
7	Section 1001 modifying Section 2719A(b) of the PHSA	If emergency services are covered, requires coverage for these services regardless of whether the participating provider is in or out of network, with the same cost-sharing levels out of network as would be required in network, and without the need for prior authorization.	Group and Individual	d

[24] CHBRP defines health insurance benefit mandates as per its authorizing statute, available at: http://chbrp.com/about_chbrp/faqs/index.php.

8	Section 1001 modifying Section 2719A(d) of the PHSA	Prohibits requiring prior authorization or referral before covering services from a participating health care professional who specializes in obstetrics or gynecology.	Group and Individual	d
9	Section 1201 modifying Section 2704 of the PHSA	Prohibits "preexisting condition" benefit coverage denials.	Group and Individual[35]	d
10	Section 1301, 1302, and Section 1201 modifying Section 2707 of the PHSA	Requires coverage of essential health benefits (EHBs), and, for plans and policies that provide coverage for EHBs, and places limits on cost sharing. The 10 EHB categories are: (1) ambulatory patient services; (2) emergency services; (3) hospitalization; (4) maternity and newborn care; (5) mental health and substance use disorder services, including behavioral health treatment; (6) prescription drugs; (7) rehabilitative and habilitative services and devices; (8) laboratory services; (9) preventive and wellness services and chronic disease management; and (10) pediatric services, including oral and vision care.[36]	Small Group and Individual[37] In 2017, Large Group sold via Covered California[38]	a, b, d

[25] All listed federal health insurance benefit mandates are benefit coverage mandates. CHBRP is aware of no federal "mandates to offer."
[26] Unless otherwise noted, the federal mandates in the ACA do not apply to grandfathered health plans (Section 1251).
[27] California law requires compliance with this mandate. See Table 1 above (categorized with "Mental Health Benefit Mandates").
[28] Annual limits and lifetime limits apply to grandfathered plans, with the exception that grandfathered individual market plans are not subject to the prohibitions on annual limits [ACA Section 1251(a)(4)].
[29] California law requires compliance with this mandate. See Table 1 above (categorized with "Other Benefit Mandates").
[30] For more information on the preventive services coverage requirement, see CHBRP's resource, *Federal Preventive Services Benefit Mandate and the California Benefit Mandates*, available at: www.chbrp.org/other_publications/index.php.
[31] Available at: http://www.uspreventiveservicestaskforce.org/Page/Name/uspstf-a-and-b-recommendations/.
[32] Available at: www.cdc.gov/vaccines/hcp/acip-recs/index.html.
[33] Regulations published in the Federal Register (Vol. 75, No 137, July 19, 2010) clarified which HRSA guidelines were applicable. The guidelines appear in two charts: Periodicity Schedule of the Bright Futures Recommendations for Pediatric Preventive Health Care, available at: http://brightfutures.aap.org/clinical_practice.html; and
Uniform Panel of the Secretary's Advisory Committee on Heritable Disorders in Newborns and Children, available at: http://www.hrsa.gov/advisorycommittees/mchbadvisory/heritabledisorders/recommendedpanel/index.html.
[34] Available at: https://www.hrsa.gov/womens-guidelines/index.html
[35] Applies to grandfathered group market health plans and grandfathered individual market plans [ACA Section 1251(a)(4)].
[36] California has laws in place to define EHBs for the state. See Table 1 above (categorized with "Essential Health Benefits").
[37] The EHB coverage requirement will apply to nongrandfathered plans and policies sold outside of the exchange as well as to qualified health plans (QHPs, see ACA Section 1301) certified by and sold via a health insurance exchange.
[38] Effective 2017, states may allow large-group market qualified health plans (QHPs, see ACA Section 1301) to be certified by and sold via a health insurance exchange [ACA Section 1312(f)(2)(B)]. Large group QHPs would be subject to the EHB coverage requirement.

APPENDIX A EXPLANATION OF TABLE TERMS AND CATEGORIES

Code: A health insurance benefit mandate is a law requiring health insurance products (plans and policies) to provide, or in some cases simply to offer, coverage for specified benefits or services. Because California has a bifurcated regulatory system for health insurance products, a benefit mandate law may appear in either of two codes, or in both:

- Health & Safety Code: The California Department of Managed Health Care (DMHC) regulates and licenses health care services plans as per the California Health and Safety Code.[39]
- Insurance Code: The California Department of Insurance (CDI) licenses disability insurance carriers and regulates disability insurance, which includes health insurance policies, per the California Insurance Code.[40]

Mandated Benefit Coverage or Mandated Offer of Benefit Coverage: In the language of either code section, the law may mandate coverage of benefits or may mandate that coverage for the benefits be offered.

- "Mandate to cover" means that all health insurance subject to the law must cover the benefit.
- "Mandate to offer" means all health care service plans and health insurers selling health insurance subject to the mandate are required to offer coverage for the benefit for purchase. The health plan or insurer may comply with the mandate either (1) by including the benefit as standard in its health insurance products, or (2) by offering coverage for the benefit separately at an additional cost (e.g., a rider).

Markets Subject to the Mandate: In the language of either code, the law may (or may not) specify which market(s) are subject to the mandate.

- The group markets includes health insurance products issued to employers (or other entities) to provide coverage for employees (or other persons) and/or their dependents.
- The individual market includes health insurance products issued to an individual to provide coverage for a person and/or their dependents.

Mandate Category: As per CHBRP's authorizing statute, the listed mandates fall into one or more types. A particular mandate law can require that subject health insurance do one or more of the following:

a. Offer or provide coverage for the screening, diagnosis, or treatment of a particular disease or condition. An example would be a mandate that requires coverage for all health care services related to the screening and treatment of breast cancer.

b. Offer or provide coverage of a particular type of health care treatment or service, or of medical equipment, medical supplies, or drugs used in connection with a health care treatment or service. An example would be a mandate to cover reconstructive surgery.

c. Offer or provide coverage for services from a specified type of health provider that fall within the provider's scope of practice. An example would be a mandate that requires coverage for services provided by a licensed acupuncturist.

d. Offer or provide any of the forms of coverage listed above per specific terms and conditions. For example, the mental health parity law requires coverage for serious mental health conditions to be *on par* with other medical conditions, so that mental health benefits and other benefits are subject to the same copayments, limits, etc.

[39] Available at: http://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=HSC&tocTitle=+Health+and+Safety+Code+-+HSC.
[40] Available at: http://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=INS&tocTitle=+Insurance+Code+-+INS.

APPENDIX B DISCUSSION OF BASIC HEALTH CARE SERVICES[41]

The California Department of Managed Health Care (DMHC) regulates health care service plans, which are subject to the Knox-Keene Health Care Service Plan Act of 1975, as amended, which was codified in the Health and Safety Code.[42] The Knox-Keene Act requires all health care service plans, except specialized health care service plans, to provide coverage for all medically necessary basic health care services.

This requirement is based on several sections of the Knox-Keene Act rather than one straightforward provision, and so is not technically a health insurance benefit mandate as defined by CHBRP's authorizing statute. Specifically, subdivision (b) of Section 1345 defines the term "basic health care services" to mean all of the following: (1) Physician services, including consultation and referral; (2) Hospital inpatient services and ambulatory care services; (3) Diagnostic laboratory and diagnostic and therapeutic radiologic services; (4) Home health services; (5) Preventive health services; (6) Emergency health care services, including ambulance and ambulance transport services and out-of-area coverage and ambulance transport services provided through the 911 emergency response system; (7) Hospice care pursuant to Section 1368.2. "Basic health care services" are also further defined in Section 1300.67 of Title 28 of the California Code of Regulations.

In addition, subdivision (i) of Section 1367 of the Health and Safety Code provides the following: A health care service plan contract shall provide to subscribers and enrollees all of the basic health care services included in subdivision (b) of Section 1345, except that the director may, for good cause, by rule or order exempt a plan contract or any class of plan contracts from that requirement. The director shall by rule define the scope of each basic health care service that health care service plans are required to provide as a minimum for licensure under this chapter. Nothing in this chapter shall prohibit a health care service plan from charging subscribers or enrollees a copayment or a deductible for a basic health care service or from setting forth, by contract, limitations on maximum coverage of basic health care services, provided that the copayments, deductibles, or limitations are reported to, and held unobjectionable by, the director and set forth to the subscriber or enrollee pursuant to the disclosure provisions of Section 1363.

Although the Act does not explicitly state that "basic health care services" means all "medically necessary" basic health care services, there are numerous provisions within the Knox-Keene Act that reference "medical necessity" and that place requirements on plans in terms of what they must do when denying, delaying, or modifying coverage based on a decision for medical necessity (Section 1367.01). In addition, Section 1300.67 of Title 28 of the California Code of Regulations, which further defines "basic health care services," does further clarify that "the basic health care services required to be provided by a health care service plan to its enrollees shall include, where medically necessary, subject to any co-payment, deductible, or limitation of which the Director may approve…"

The entire Knox-Keene Act and the applicable regulations can be accessed online on the DMHC's website at www.dmhc.ca.gov.

[41] The text in this appendix was adapted from a document prepared by the Department of Managed Health Care.
[42] Health and Safety Code Section 1340 et seq.

APPENDIX C CALIFORNIA MANDATES (BY HEALTH AND SAFETY CODE SECTION)

The following table is presented to allow easy comparison of the mandates listed in Table 1. An N/A in either the Health and Safety Code column or the California Insurance Code column indicates that a mandate does not apply to products governed under that code.

#	Health and Safety Code (DMHC)	Insurance Code (CDI)
10	N/A	10176.6
20	N/A	10369.12
25	N/A	10125
26	N/A	10122.1
52	N/A	10119.8
64	N/A	10123.865
64	N/A	10123.866
78	N/A	10123.68
38	1342.71	10123.192
38	1342.72	10123.193
38	1342.73	10123.1931
36	1342.74	10123.1933
51	1367.3(b)(2)(D)	10123.5
51	1367.3(b)(2)(D)	10123.55
55	1367(b)	N/A
77	1367.002	10112.2
1	1367.005	10112.27
1	1367.006	10112.28
76	1367.006	10112.28
76	1367.007	10112.29
47	1367.06	N/A
56	1367.11	10126.6
32	1367.18	10123.7
34	1367.19	10123.141
21	1367.2(a)	10123.6
29	1367.2(b)	10123.6
38	1367.205	10123.1932
40	1367.21	10123.195
46	1367.215	N/A
39	1367.22	N/A
35	1367.24	N/A
42	1367.241	10123.191
43	1367.244	10123.197
60	1367.25	10123.196
61	1367.25	10123.196
70	1367.25	10123.196
49	1367.3	10123.55
71	1367.31	10123.202
48	1367.35	10123.5
75	1367.4	10145
38	1367.41	10123.201
38	1367.42	10123.65
41	1367.43	10123.203
12	1367.45	10145.2
13	1367.46	10123.91
38	1367.47	N/A
11	1367.51	10176.61
68	1367.54	10123.184
2	1367.6	10123.8
33	1367.61	10123.82
66	1367.62	10123.87
67	1367.625	10123.867
74	1367.63	10123.88
7	1367.635	10123.86
9	1367.64	10123.835
6	1367.65	10123.81
37	1367.656	10123.206
4	1367.66	10123.18
3	1367.665	10123.20
15	1367.67	10123.185
73	1367.68	10123.21
57	1367.69	10123.83
57	1367.695	10123.84
69	1367.7	10123.9
45	1367.71	10119.9
24	1367.8	10144
50	1367.9	10119.7
19	1368.2	N/A
58	1368.5	10125.1
5	1370.6	10145.4
54	1371.5	10126.6
53	1371.55	10126.65
74	1371.9	10112.8
23	1373(h)(1)	N/A
72	1373(b)	10120
44	1373.10 (non-HMOs only)	10127.3
17	1373.14	10123.16
65	1373.4	10119.5
18	1374.10 (non-HMOs only)	10123.10
59	1374.13	10123.85
59	1374.14	10123.855
14	1374.17	10123.21
30	1374.5	10176(f)
31	1374.51	10144.6
63	1374.55	10119.6
62	1374.551	N/A
16	1374.56	10123.89
27	1374.72	10123.15
27	1374.72	10144.5
22	1374.73	10144.51
22	1374.73	10144.52
28	1374.76	10144.4

APPENDIX D CALIFORNIA MANDATES (BY INSURANCE CODE SECTION)

The following table is presented to allow easy comparison of the mandates listed in Table 1. An N/A in either the Health and Safety Code column or the California Insurance Code column indicates that a mandate does not apply to products governed under that code.

#	Health and Safety Code (DMHC)	**Insurance Code (CDI)**
47	1367.06	N/A
46	1367.215	N/A
39	1367.22	N/A
35	1367.24	N/A
38	1367.47	N/A
19	1368.2	N/A
55	1367(b)	N/A
23	1373(h)(1)	N/A
62	1374.551	N/A
77	1367.002	10112.2
1	1367.005	10112.27
1	1367.006	10112.28
76	1367.006	10112.28
76	1367.007	10112.29
65	1373.4	10119.5
63	1374.55	10119.6
50	1367.9	10119.7
52	N/A	10119.8
45	1367.71	10119.9
72	1373(b)	10120
26	N/A	10122.1
18	1374.10 (non-HMOs only)	10123.10
34	1367.19	10123.141
27	1374.72	10123.15
17	1373.14	10123.16
4	1367.66	10123.18
68	1367.54	10123.184
15	1367.67	10123.185
42	1367.241	10123.191
38	1342.71	10123.192

#	Health and Safety Code (DMHC)	**Insurance Code (CDI)**
38	1342.72	10123.193
38	1342.73	10123.1931
38	1367.205	10123.1932
36	1342.74	10123.1933
40	1367.21	10123.195
60	1367.25	10123.196
61	1367.25	10123.196
70	1367.25	10123.196
43	1367.244	10123.197
3	1367.665	10123.20
38	1367.41	10123.201
71	1367.31	10123.202
41	1367.43	10123.203
37	1367.656	10123.206
73	1367.68	10123.21
14	1374.17	10123.21
48	1367.35	10123.5
51	1367.3(b)(2)(D)	10123.5
49	1367.3	10123.55
51	1367.3(b)(2)(D)	10123.55
21	1367.2(a)	10123.6
29	1367.2(b)	10123.6
38	1367.42	10123.65
78	N/A	10123.68
32	1367.18	10123.7
2	1367.6	10123.8
6	1367.65	10123.81
33	1367.61	10123.82
57	1367.69	10123.83
9	1367.64	10123.835
57	1367.695	10123.84

#	Health and Safety Code (DMHC)	**Insurance Code (CDI)**
59	1374.13	10123.85
59	1374.14	10123.855
7	1367.635	10123.86
64	N/A	10123.865
64	N/A	10123.866
67	1367.625	10123.867
66	1367.62	10123.87
74	1367.63	10123.88
16	1374.56	10123.89
69	1367.7	10123.9
13	1367.46	10123.91
25	N/A	10125
58	1368.5	10125.1
56	1367.11	10126.6
54	1371.5	10126.6
53	1371.55	10126.65
44	1373.10 (non-HMOs only)	10127.3
24	1367.8	10144
28	1374.76	10144.4
27	1374.72	10144.5
22	1374.73	10144.51
22	1374.73	10144.52
31	1374.51	10144.6
75	1367.4	10145
12	1367.45	10145.2
5	1370.6	10145.4
10	N/A	10176.6
11	1367.51	10176.61
20	N/A	10369.12
79	1371.9	10112.8
30	1374.5	10176(f)

ABOUT CHBRP

The California Health Benefits Review Program (CHBRP) was established in 2002. As per its authorizing statute, CHBRP provides the California Legislature with independent analysis of the medical, financial, and public health impacts of proposed health insurance benefit-related legislation. The state funds CHBRP through an annual assessment on health plans and insurers in California.

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Over Half of Nonelderly Adults Support Either a Public Option or Medicare for All, with More Preferring a Public Option

Michael Karpman and John Holahan

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AT A GLANCE

- Among adults ages 18 to 64, more than half (51.6 percent) support either a public option or Medicare for All, with more preferring a public option. Nearly one-quarter are neutral toward both approaches.
- Though Democrats are more likely to prefer a public option to Medicare for All, most support or are neutral toward each approach. Among Republicans, opposition to Medicare for All is much stronger than opposition to a public option.
- Adults who are young, are Hispanic, have low educational attainment and income, and who do not have private insurance are more likely to prefer Medicare for All than adults without those characteristics. Problems affording care and dissatisfaction with current coverage also increase the likelihood of preferring Medicare for All.

The Affordable Care Act (ACA) expanded health insurance coverage and made health care more affordable for many, but gaps in coverage and affordability remain (Haley, McMorrow, and Kenney 2019; Long et al. 2017). Policymakers and presidential candidates are now debating several options to address these gaps, from incremental reforms to an overhaul of the health insurance system.

Two proposals that have received significant attention are the "public option," which would provide some or all nonelderly people the option to keep their private insurance or buy into a government-run plan, generally with larger premium and cost-sharing subsidies than under current law, and "Medicare for All," which would enroll everyone in a single government-run plan with comprehensive benefits and no cost-sharing requirements. The question about whether to maintain a role for private insurance in the current health care system has been a central divide among candidates competing for the 2020

Democratic presidential nomination. The findings in this brief are not intended to endorse or oppose any candidate for public office or the proposed platforms or policies of any candidate for public office.

Numerous polls have examined attitudes toward the public option and Medicare for All (Collins and Gunja 2019; TCF, NYT, and Chan 2019),[1] but few have assessed preferences between these proposals or the characteristics of people who prefer each approach.[2] We find that more than half of nonelderly adults support expanding public coverage through one of these proposals. More prefer a public option to Medicare for All, but preferences vary by political party affiliation, demographic and socioeconomic characteristics, type of health insurance coverage, health care experiences, and satisfaction with coverage.

What We Did

We used data from the September 2019 round of the Health Reform Monitoring Survey (HRMS), a nationally representative survey of adults ages 18 to 64.[3] All 9,619 participants in the September 2019 round were asked whether they support or oppose a public option and Medicare for All.[4] Respondents could report that they strongly support, somewhat support, neither support nor oppose, somewhat oppose, or strongly oppose each proposal. The inclusion of a neutral category in the response scale captures more ambivalence about each proposal than other surveys that force a choice between support and opposition (Holahan and Karpman 2019).

Those who supported both a public option and Medicare for All were asked, "If you had to choose one approach for expanding health insurance coverage, would you prefer Medicare for All with little or no role for private insurance, or the public option with private insurance available for those who want it?" We use these responses to construct the following groups:

- prefers the public option
- prefers Medicare for All
- neutral toward both approaches
- does not support either approach and opposes one or both[5]

We estimate the share of adults in each of these groups, overall and among those who identify as Democrats or lean Democratic (hereafter referred to collectively as Democrats) and those who identify as Republican or lean Republican (hereafter referred to collectively as Republicans).[6] We also assess variation by party affiliation in support of and in opposition to each approach separately (i.e., looking at support for the public option even if the respondent's first preference was Medicare for All, and vice versa).

We then compare preferences for the public option and Medicare for All by age, race or ethnicity, educational attainment, annual family income as a share of the federal poverty level (FPL), and type of health insurance coverage at the time of the survey. We also compare preferences based on two measures of health care affordability—unmet needs for care in the past year because of costs and

problems paying family medical bills in the past year—as well as satisfaction with coverage in terms of the range of health care services available, choice of providers, premiums, cost of out-of-network care, and protection against high medical bills.

This analysis has several limitations. The sample does not include adults ages 65 and older, nearly all of whom are covered by Medicare. Some polls have found that the opinions of these adults are similar to those of nonelderly adults,[7] but others suggest older adults are more likely to oppose Medicare for All.[8] The survey also does not assess respondents' understanding of the public option or Medicare for All. The Kaiser Family Foundation's Health Tracking Poll has found that attitudes toward Medicare for All vary substantially based on whether respondents receive information on potential advantages or disadvantages of this approach.[9]

What We Found

Among adults ages 18 to 64, more than half (51.6 percent) support either a public option or Medicare for All, with more preferring a public option. Nearly one-quarter are neutral toward both approaches.

More than half of nonelderly adults prefer either a public option (30.1 percent) or Medicare for All (21.4 percent; figure 1).[10] Another 23.8 percent were neutral toward both approaches. A similar share, 23.5 percent, did not support either approach and opposed one or both.

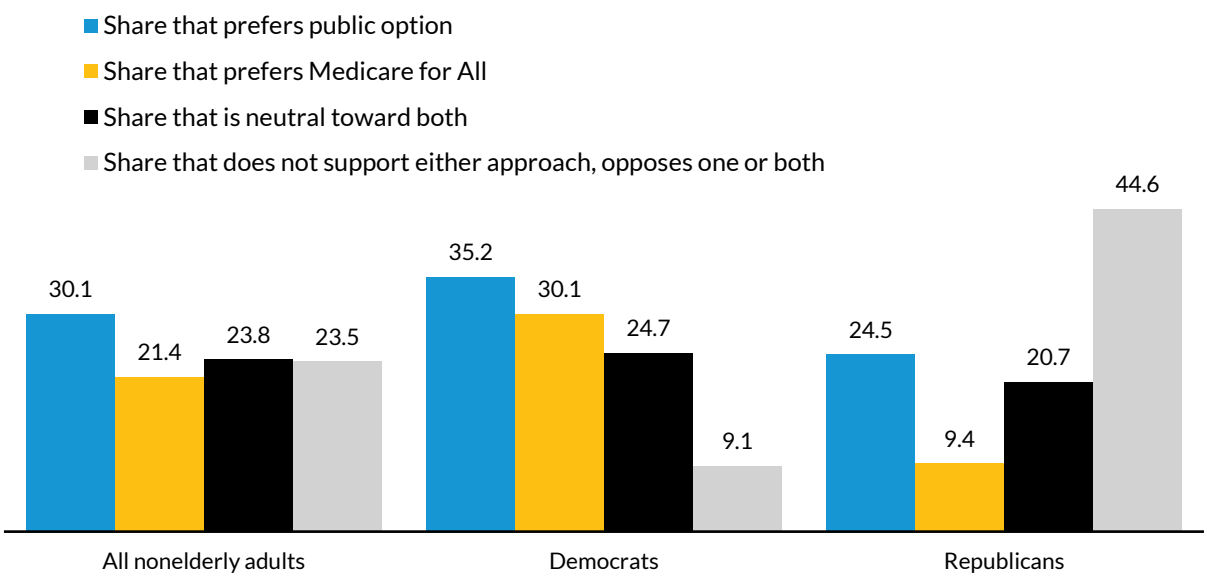
Nearly two-thirds of Democrats support either a public option or Medicare for All, with a slightly higher share preferring a public option to Medicare for All (35.2 percent versus 30.1 percent; figure 1). About one-quarter (24.7 percent) of Democrats were neutral toward both, and 9.1 percent do not support either approach and oppose one or both.

More than one-third of Republicans support either a public option or Medicare for All, including 24.5 percent who prefer a public option and 9.4 percent who prefer Medicare for All (figure 1). About one in five Republicans are neutral toward both, and 44.6 percent do not support either approach and oppose one or both.

Among those who prefer a public option (Democrats, Republicans, and independent, third party, and unaffiliated individuals combined), about 38 percent oppose Medicare for All and 42 percent would support Medicare for All as a second choice (data not shown). In contrast, among those who prefer Medicare for All, only 10 percent oppose a public option and 64 percent would support a public option even though it is not their preferred approach.

FIGURE 1

Preferences toward a Public Option and Medicare for All among Adults Ages 18 to 64, Overall and by Political Party Affiliation, September 2019



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Source: Health Reform Monitoring Survey, quarter 3 2019.

Notes: Estimates not shown for 1.1 percent of adults who do not support either approach and do not report for one or both and for 0.1 percent of adults who support both approaches but do not report a preference. Democrats include independents who lean Democratic, and Republicans include independents who lean Republican. Estimates not shown separately for 4.6 percent of adults who are independents (and do not lean Democratic or Republican), undecided, or other party affiliation and 5.6 percent of adults whose party affiliation is not reported. Within each group, all estimates differ significantly from share who prefer public option at the 0.01 level, using two-tailed tests.

Though Democrats are more likely to prefer a public option to Medicare for All, most support or are neutral toward each approach. Among Republicans, opposition to Medicare for All is much stronger than opposition to a public option.

Figure 2 highlights adults' support for each approach separately, even if the approach was not their first preference. Overall, support for the public option is greater than opposition (43.8 percent versus 17.1 percent). The shares supporting and opposing Medicare for All are about the same (34.2 percent versus 33.6 percent).

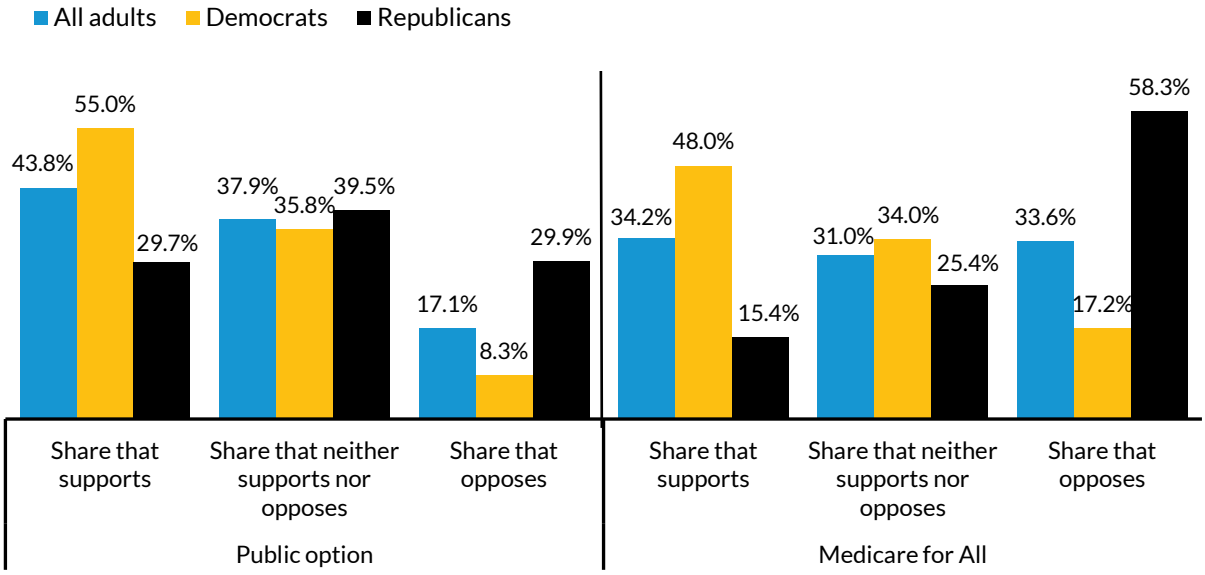
Differences in support and opposition toward these approaches are driven by party affiliation. Support among Democrats is substantially greater than opposition for both the public option (55.0 percent versus 8.3 percent) and Medicare for All (48.0 percent versus 17.2 percent). Just over one-third of Democrats are neutral toward each approach.

Republicans were equally likely to support or oppose a public option (29.7 percent versus 29.9 percent). But only 15.4 percent support Medicare for All, compared with 58.3 percent who oppose. Of

Republicans who oppose Medicare for All, nearly three-quarters strongly oppose that approach (data not shown).

FIGURE 2

Support for a Public Option and Medicare for All among Adults Ages 18 to 64, Overall and by Political Party Affiliation, September 2019



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Source: Health Reform Monitoring Survey, quarter 3 2019.
Notes: Estimates not shown for approximately 1 percent of adults who do not report whether they support each approach. Democrats include independents who lean Democratic, and Republicans include independents who lean Republican. Estimates not shown separately for 4.6 percent of adults who are independents (and do not lean Democratic or Republican), undecided, or other party affiliation and 5.6 percent of adults whose party affiliation is not reported. All differences between Democrats and Republicans are significant at the 0.05 level, using two-tailed tests.

Adults who are young, are Hispanic, have low educational attainment and income, and who do not have private insurance are more likely to prefer Medicare for All than adults without those characteristics. Problems affording care and dissatisfaction with current coverage also increase the likelihood of preferring Medicare for All.

Table 1 shows preferences for Medicare for All and the public option by selected demographic and socioeconomic characteristics. Young adults ages 18 to 34 are about equally likely to prefer a public option as they are to prefer Medicare for All. Older adults ages 50 to 64 are about twice as likely to prefer a public option as they are to prefer Medicare for All (34.4 percent versus 17.3 percent).

Among Hispanic adults, roughly equal shares prefer Medicare for All and a public option. But other racial and ethnic groups prefer a public option to Medicare for All by a margin of 8 to 11 percentage points. In addition, those who did not complete high school are more likely to prefer Medicare for All to a public option (28.8 percent versus 20.8 percent), whereas higher levels of educational attainment are

associated with an increased likelihood of preferring a public option. Those with a college degree or more prefer a public option by a margin of 36.5 percent to 22.1 percent.

Twenty-five percent of adults with incomes below the ACA's Medicaid eligibility threshold of 138 percent of the FPL in states that expanded Medicaid prefer Medicare for All, and the same share prefers a public option. Adults in higher income groups (between 139 and 399 percent of the FPL or 400 percent or more of the FPL) were more likely to prefer a public option than Medicare for All.

Nearly one-third (32.7 percent) of adults with private health insurance prefer a public option, compared with 20.0 percent who prefer Medicare for All. But preferences are more evenly divided among adults who are publicly insured or uninsured. These patterns are generally the same within each party affiliation (data not shown).

Adults who had health care affordability problems in the past year, including unmet needs for care because of costs and problems paying family medical bills, are significantly more likely to prefer Medicare for All than those who did not have these problems, but they are just as likely to prefer a public option as Medicare for All. Similarly, preferences for Medicare for All are higher among insured adults who are dissatisfied with one or more aspects of their coverage, compared with those who are not dissatisfied. But even among those who are dissatisfied, a larger share prefer a public option to Medicare for All (33.0 percent versus 26.9 percent). Also notable is that nearly one in five adults who are not dissatisfied with any aspects of their own coverage still prefer Medicare for All (though a larger share, 29.5 percent, would prefer a public option) and that nearly one-quarter of those who are dissatisfied with at least one aspect of their coverage do not support either reform and oppose one or both.

Adults who are ages 50 to 64, are non-Hispanic white, have incomes at or above 400 percent of the FPL, have private insurance, have not had health care affordability problems, and who are satisfied with their coverage are more likely to oppose one or both approaches than to prefer Medicare for All. But across all the characteristics we examined in this analysis, no more than 30 percent of adults in each group reported that they did not support either approach and opposed one or both.

TABLE 1

Preferences toward a Public Option and Medicare for All among Adults Ages 18 to 64, by Demographic and Socioeconomic Characteristics, Health Care Experiences, and Satisfaction with Coverage, September 2019

	Share that prefers Medicare for All	Share that prefers public option	Share that is neutral toward both	Share that does not support either approach and opposes one or both	Sample size
Age					
18–34~	25.5%	26.7%	25.8%	20.2% ^^^	2,222
35–49	20.9% ***	29.6% ** ^^^	26.3% ^^^	22.1%	2,979
50–64	17.3% ***	34.4% *** ^^^	19.1% ***	28.6% *** ^^^	4,418
Race and ethnicity					
White, non-Hispanic~	19.2%	30.5% ^^^	20.4%	29.1% ^^^	6,570
Black, non-Hispanic	21.0%	29.2% ^^^	35.3% *** ^^^	12.8% *** ^^^	868
Other race or more than one race, non-Hispanic	21.1%	30.6% ^^^	28.2% *** ^	18.2% ***	692
Hispanic	29.2% ***	29.3%	24.9% ***	15.3% *** ^^^	1,489
Educational attainment					
Less than high school~	28.8%	20.8% ^^^	36.0%	13.2% ^^^	630
High school graduate	19.9% ***	25.7% ** ^^^	31.6% ^^^	21.1% ***	2,181
Some college	19.5% ***	30.2% *** ^^^	22.4% *** ^	26.6% *** ^^^	2,693
College graduate or higher	22.1% ***	36.5% *** ^^^	14.8% *** ^^^	25.9% *** ^	4,115
Family income					
At or below 138% FPL~	25.2%	25.2%	32.7% ^^^	15.3% ^^^	1,859
139–399% FPL	22.2% *	27.9% ^^^	24.7% ***	23.8% ***	3,422
400% FPL or more	18.3% ***	35.2% *** ^^^	17.3% ***	28.4% *** ^^^	4,338
Health insurance at time of survey					
Private coverage~	20.0%	32.7% ^^^	20.0%	26.4% ^^^	7,211
Public coverage	26.5% ***	24.0% ***	31.7% *** ^	16.3% *** ^^^	1,398
Uninsured	24.2% ***	26.5% ***	31.4% *** ^^^	16.5% *** ^^	811
Health care affordability in past year					
Unmet needs for care because of cost~	27.7%	29.4%	23.3% ^^^	18.5% ^^^	2,857
Did not report unmet needs for care because of cost	18.5% ***	30.4% ^^^	24.0% ^^^	25.9% *** ^^^	6,762
Problems paying family medical bills~	29.8%	29.3%	21.2% ^^^	18.6% ^^^	1,600
Did not report problems paying family medical bills	19.6% ***	30.3% ^^^	24.3% ** ^^^	24.6% *** ^^	8,019
Satisfaction with coverage, if insured					
Dissatisfied with any aspect of coverage~	26.9%	33.0% ^^^	14.9% ^^^	24.3%	2,892
Not dissatisfied with any aspect of coverage	18.4% ***	29.5% ** ^^^	26.4% *** ^^^	24.5% ^^^	5,916

Source: Health Reform Monitoring Survey, quarter 3 2019.
Notes: FPL is federal poverty level. Unmet needs for care include medical care, general doctor care, specialist care, prescription drugs, dental care, mental health care and counseling, and tests, treatment, or follow-up care. Satisfaction with coverage includes the range of health care services available, choice of doctors and other providers, premiums, out-of-network costs, and protection against high medical bills.
*/**/*** Estimate differs significantly from reference group (~) at the 0.10/0.05/0.01 levels, using two-tailed tests.
^/^^/^^^ Estimate differs significantly from share that prefers Medicare for All at the 0.10/0.05/0.01 levels, using two-tailed tests.

What It Means

Just over half of nonelderly adults support either a public option or Medicare for All, with more preferring a public option. Attitudes vary by party affiliation. Democrats are somewhat evenly divided in their preferences and are more likely to prefer a public option than Medicare for All by a small margin. But few Democrats oppose either approach. Among Republicans, support for Medicare for All is much weaker and opposition much stronger relative to support for and opposition to a public option. A majority of Republicans oppose Medicare for All and few support it, compared with about 30 percent who oppose a public option and 30 percent who support it.

Compared with adults who prefer a public option, those who prefer Medicare for All tend to be more disadvantaged based on their characteristics: they are disproportionately younger, have lower incomes and educational attainment, and are more likely to have Medicaid or other public coverage or to be uninsured (though nearly two-thirds have private insurance). Adults who prefer Medicare for All are more likely than others to have had problems affording care in the past year and are less likely to be satisfied with their coverage. These adults may therefore see more to gain from Medicare for All.

In contrast, those who prefer a public option to Medicare for All tend to be in more socioeconomically advantaged groups (older, non-Hispanic white, higher incomes and educational attainment, privately insured), are generally more satisfied with their coverage, and may be reluctant to risk giving up private insurance. Those who do not support either approach and oppose one or both share many of these characteristics.

Compared with the roughly half of adults who support the public option or Medicare for All, less than one-quarter of adults do not support either proposal and oppose one or both. These results indicate that most nonelderly adults are either receptive or neutral toward expanding public health insurance to close remaining gaps in coverage and health care affordability.

About the Series

This brief is part of a series drawing on the HRMS, a survey of the nonelderly population that explores the value of cutting-edge internet-based survey methods to monitor the Affordable Care Act before data from federal government surveys are available. Funding for the core HRMS is provided by the Robert Wood Johnson Foundation and the Urban Institute. For more information on the HRMS and for other briefs in this series, visit www.urban.org/hrms.

Notes

[1] See also Lunna Lopes, Liz Hamel, Audrey Kearney, and Mollyann Brodie, "KFF Health Tracking Poll–October 2019: Health Care in the Democratic Debates, Congress, and the Courts," Henry J. Kaiser Family Foundation, October 15, 2019, https://www.kff.org/health-reform/poll-finding/kff-health-tracking-poll-october-2019/; Julia Manchester, "70 Percent of Americans Support 'Medicare for All' Proposal," *The Hill*, October 22, 2018, https://thehill.com/hilltv/what-americas-thinking/412545-70-percent-of-americans-support-medicare-for-all-health-care; "NPR/PBS NewsHour/Marist Poll Results," Marist Poll, July 22, 2019, http://maristpoll.marist.edu/npr-pbs-newshour-marist-poll-results-7/#sthash.jhc5HNKy.dpbs.

[2] Polls that compare preferences between Medicare for All and improving on the ACA include the Kaiser Family Foundation Health Tracking Poll (Ashley Kirzinger, Cailey Muñana, and Mollyann Brodie, "KFF Health Tracking Poll–January 2019: The Public on Next Steps for the ACA and Proposals to Expand Coverage," Henry J. Kaiser Family Foundation, January 23, 2019, https://www.kff.org/health-reform/poll-finding/kff-health-tracking-poll-january-2019/) and a poll conducted by The Commonwealth Fund, the *New York Times*, and the Harvard T. H. Chan School of Public Health (TCF, NYT, and Chan 2019).

[3] For more information about the design of the HRMS, visit http://hrms.urban.org.

[4] Respondents were asked the following questions:

The next few questions focus on proposals for expanding health insurance coverage. One approach would give some or all Americans **the option** of enrolling in a government-run health insurance plan that would be similar to Medicare. Medicare is a federal health insurance program for people 65 and older and for people with certain disabilities. This strategy for expanding health insurance coverage is sometimes called a **"public option."** This new government-run plan **would not replace** the other health insurance options that are currently available, but would instead be an additional option. People would pay a premium based on their income to buy into the government-run plan. The government-run plan would have lower premiums and out-of-pocket costs than most private health insurance plans. Would you support or oppose a **public option**?

Another approach to expand health insurance coverage would enroll **all** Americans in a single government-run health insurance plan that would be similar to Medicare. This would be done as part of a new national health insurance program. This strategy is sometimes called **"Medicare for All."** This new program **would replace** the current health insurance system with a single government-run plan, with little or no role for private insurance. Instead of paying premiums, taxpayers would cover the costs of this national health insurance program. Would you support or oppose **Medicare for All?**

[5] The analysis excludes the 1.1 percent of adults who did not express support for either approach and did not report whether they supported one or both approaches, and it excludes 0.1 percent of adults who supported both approaches but did not report their preference.

[6] We do not provide separate estimates for the 4.6 percent of adults whose party affiliation was undecided, independent, or other or for the 5.9 percent of adults who did not report party affiliation.

[7] Kirzinger, Muñana, and Brodie, "KFF Health Tracking Poll."

[8] Matthew Sheffield, "Poll: Supporting 'Medicare for All' Helps Presidential Candidates," *The Hill*, February 4, 2019, https://thehill.com/hilltv/what-americas-thinking/428332-poll-most-americans-say-theyd-be-more-likely-to-support.

[9] Kirzinger, Muñana, and Brodie, "KFF Health Tracking Poll."

[10] About 0.1 percent of adults support both approaches but do not report a preference.

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Trapped by the Firewall: Policy Changes Are Needed to Improve Health Coverage for Low-Income Workers

By Tara Straw

The Affordable Care Act (ACA) expanded health coverage to more than 20 million people, principally by improving access to Medicaid and the individual insurance market. While the law put in place new protections for people with employer-sponsored health insurance, it did not dramatically change that market, the major source of health coverage for people under age 65. Employer-sponsored coverage often works well, allowing many people to enroll in comprehensive health benefits using employer contributions that make premiums affordable. But the picture can be quite different for low-income workers.[1]

Frequently, low-income workers get less employer help with their premiums, are offered less robust coverage, and must pay a greater share of their income toward health care costs compared to higher-income workers. And even if an employer's offer of health coverage is not comprehensive or is unaffordable in practice, it may still disqualify low-income workers and their family members from getting a premium tax credit (PTC) for coverage in the marketplace. This is because the ACA included a "firewall" that makes people with employer-sponsored coverage offers ineligible for PTCs, provided that the employer coverage meets minimum federal standards for affordability and comprehensiveness.[2] But the standards are insufficient, barring many low-income people from enrolling in subsidized marketplace coverage that would be far more affordable and comprehensive.

Low-income workers deserve renewed attention from policymakers to further expand health coverage and make it more affordable for those who have it. Roughly 2.7 million uninsured people have incomes under 400 percent of the poverty line (the income cut-off for PTCs) but can't claim the PTCs due to an offer of employer coverage.[3] Millions more enroll in employer plans but struggle to pay premiums or find they have inadequate protection against high out-of-pocket costs. On average, workers with employer coverage with incomes below 200 percent of the poverty line spend

[1] This paper focuses on low-income workers (generally, those with income below 200 percent of the poverty line), but moderate-income workers (those with income within the range for PTCs, up to 400 percent of the poverty line) often face challenges, especially in affording family coverage.

[2] An offer of employer-sponsored coverage does not preclude Medicaid eligibility.

[3] Linda Blumberg *et al.*, "Characteristics of the Remaining Uninsured: An Update," Urban Institute, July 2018, https://www.urban.org/sites/default/files/publication/98764/2001914-characteristics-of-the-remaining-uninsured-an-update_2.pdf.

14 percent of income on premiums and out-of-pocket costs, compared to 7.9 percent for those between 200 and 400 percent of the poverty line, and 4.5 percent for those above 400 percent of the poverty line.[4]

Eliminating the ACA firewall would let low-income workers choose their best coverage offer, whether it's with their employer or at the marketplace with assistance from a PTC. That would reduce costs for workers and decrease the number of uninsured, but it would come at a high budgetary cost.

Short of eliminating the firewall, a range of policies could work around it to make coverage more affordable for workers by making more people eligible for PTCs and increasing awareness of the marketplace enrollment option:

- **Fix the "family glitch."** Today an offer of affordable, adequate employee-only coverage disqualifies *all* family members from PTC eligibility, even when the family premium is very high as a share of income; this is referred to as the "family glitch." One fix would be to measure family affordability based on the cost of family coverage, rather than the cost of an employee-only plan.
- **Raise the standards for employer coverage offers.** An employer coverage offer can be considered affordable and comprehensive under federal standards while still imposing high out-of-pocket expenses or covering a skimpy set of benefits. Raising these standards would improve employer coverage or, if the offer doesn't meet the improved minimum requirements, free more workers to enroll in subsidized marketplace plans.
- **Better equip PTC-eligible employees to enroll in marketplace coverage.** Employers could do more to facilitate marketplace enrollment of employees who are ineligible for the workplace coverage. They could also be required to provide better upfront information about whether the employer offer is affordable and comprehensive or whether the worker can bypass the employer offer for subsidized coverage in the marketplace.

These options for making coverage more affordable for low-income workers could complement broader strategies for reducing health care costs and improving the quality of employer-sponsored insurance for all workers. Unfortunately, the Trump Administration is moving in the opposite direction, taking actions that will likely *increase* employees' costs and exacerbate affordability struggles for those with low incomes.

Low-Income People Face High Costs Even in "Affordable" Employer Coverage

The cost of employer-sponsored insurance has increased steadily in the last several decades and has consistently outpaced workers' earnings growth, even though premium growth has slowed notably since the ACA's passage. Between 2000 and 2010, family premiums increased by 114

[4] Gary Claxton, Bradley Sawyer, and Cynthia Cox, "How Affordability of Health Care Varies by Income Among People With Employer Coverage," Kaiser Family Foundation, April 14, 2019, https://www.healthsystemtracker.org/brief/how-affordability-of-health-care-varies-by-income-among-people-with-employer-coverage/#item-start.

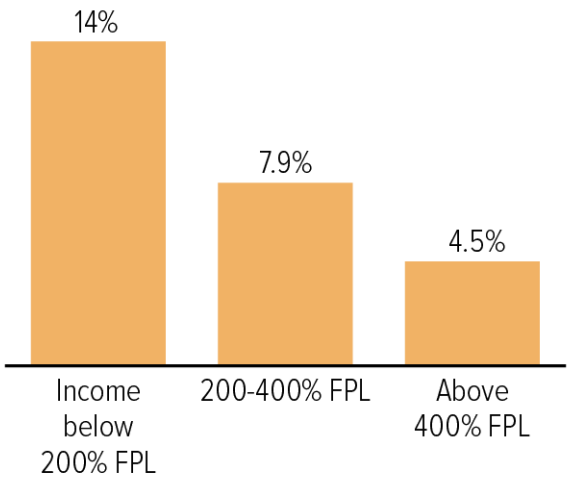
percent, compared to a 36 percent increase in earnings; between 2010 and 2019, family premiums increased by 49 percent compared to a 23 percent increase in earnings.[5]

Employee premiums for employer-sponsored coverage are particularly burdensome for low-income workers. Employees pay, on average, 18 percent of the premium for single coverage and 30 percent for family coverage.[6] Any given employee premium represents a higher share of income for low-income workers. For example, the average annual dollar amounts that covered workers contribute for family coverage is $6,015. That's 6 percent of the annual income of someone making $100,000, but it's 12 percent for someone making $50,000, and 30 percent of the income of someone making $20,000 a year.[7] Compounding this problem, employers with a large share of low-income workers tend to cover a smaller share of the total premium, especially for family coverage. Workers at these firms pay 41 percent of the cost of family coverage, compared to 30 percent at firms overall.[8]

FIGURE 1

Low-Income Workers Spend Highest Share of Income on Employer Coverage

Average spent on premiums, out-of-pocket costs, 2017



Note: Combined premiums and out-of-pocket expenses of people in families with employment-based coverage, 2017. FPL = Federal poverty level.

Source: Kaiser Family Foundation

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High out-of-pocket costs also create hardships for low-income families.[9] Total out-of-pocket health spending increased by 54 percent and deductibles by 176 percent from 2006 to 2016, according to the Kaiser Family Foundation.[10] Among all firms, covered workers have an average annual deductible of $1,396 for single coverage and more than 1 in 10 workers have a deductible of $3,000 or more.[11] Deductibles are even higher for low-wage workers: $2,679 is more

[5] Kaiser Family Foundation, "2019 Employer Health Benefits Survey," September 25, 2019, https://www.kff.org/health-costs/report/2019-employer-health-benefits-survey/, and CBPP analysis of Bureau of Labor Statistics data.

[6] *Ibid.*

[7] *Ibid.*

[8] *Ibid.*

[9] Liz Hamel, Cailey Muñana, and Mollyann Brodie, "Kaiser Family Foundation/LA Times Survey Of Adults With Employer-Sponsored Health Insurance," Kaiser Family Foundation, May 2, 2019, https://www.kff.org/private-insurance/report/kaiser-family-foundation-la-times-survey-of-adults-with-employer-sponsored-insurance/.

[10] Numbers are for people with large-employer coverage. Out-of-pocket expenses and deductibles grew faster than wages (up 29 percent) during this time period. Part of the growth in deductibles is due to employers' shift away from co-payments, which dropped by 38 percent. Gary Claxton *et al.*, "Increases in Cost-Sharing Payments Continue to Outpace Wage Growth," Kaiser Family Foundation, June 15, 2018, https://www.healthsystemtracker.org/brief/increases-in-cost-sharing-payments-have-far-outpaced-wage-growth/#item-start.

[11] Kaiser Family Foundation, "2019 Employer Health Benefits Survey."

than two months' earnings for a full-time, federal minimum wage worker. An increasing number of employees with high-deductible plans also have a savings option, such as a health savings account (HSA), to which they or their employer can make tax-deductible contributions, but these accounts are often poorly funded. Nearly half of workers still have an annual deductible greater than $1,000, after including employer contributions to accounts.[12] Front-loaded cost-sharing poses barriers for low-income workers. More than one-third of people with individual deductibles and half of people with family deductibles say they don't have enough savings to meet their deductibles.[13] High out-of-pocket costs make people more likely to skip filling a prescription, receiving a medical test, or getting needed specialty care, according to the Commonwealth Fund.[14]

All told, low-income workers pay a substantial share of their income toward health costs. Among workers who enroll in employer coverage, people with income below 200 percent of the poverty line spend, on average, 14 percent of their income on premiums and out-of-pocket costs.[15] For comparison, people with income between 200 and 400 percent of poverty spend 7.9 percent of income, and people with income over 400 percent of the poverty line spend only 4.5 percent. (See Figure 1.)

Low insurance offer and take-up rates contribute to striking disparities in employer-sponsored coverage enrollment by income and race. In the lowest quartile of the wage distribution, only about one-third of private sector workers are offered coverage, with 22 percent of them actually participating. This compares to 92 percent of workers in the top wage quartile being offered coverage and 80 percent participating.[16] (See Figure 2.)

[12] *Ibid.*

[13] PwC, "Medical Cost Trend: Behind the Numbers," June 2019, https://www.pwc.com/us/en/industries/health-industries/assets/pwc-hri-behind-the-numbers-2020.pdf. In another study, 4 in 10 adults said they could not pay an unexpected expense over $400 with cash on hand. The number is higher for people with a high school degree or less. The numbers are also higher for Black and Hispanic adults at any education level compared to white adults. Federal Reserve, "Report on the Economic Well-Being of U.S. Households in 2018," May 2019, https://www.federalreserve.gov/publications/files/2018-report-economic-well-being-us-households-201905.pdf.

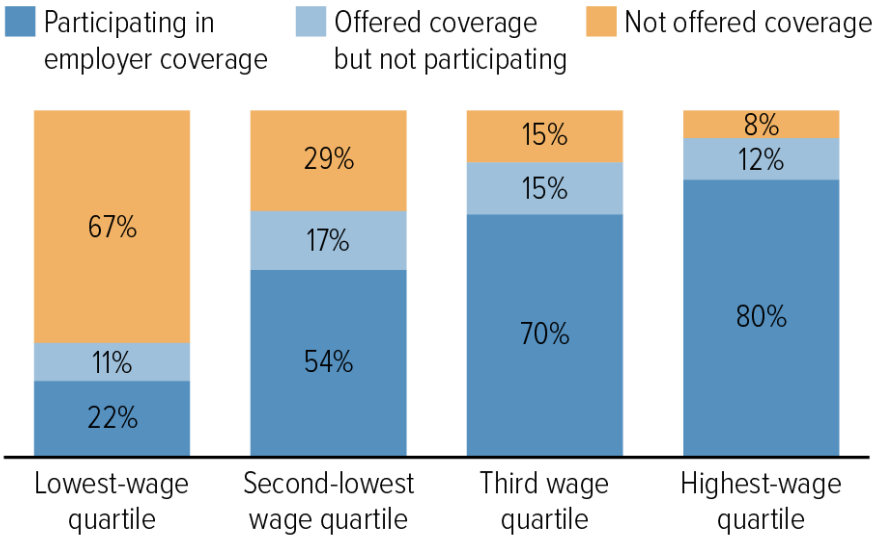
[14] Sara R. Collins, Herman K. Bhupal, and Michelle M. Doty, "Health Insurance Coverage Eight Years After the ACA: Fewer Uninsured Americans and Shorter Coverage Gaps, But More Underinsured," Commonwealth Fund, February 7, 2019, https://www.commonwealthfund.org/publications/issue-briefs/2019/feb/health-insurance-coverage-eight-years-after-aca.

[15] Claxton, Sawyer, and Cox.

[16] Bureau of Labor Statistics, "Healthcare Benefits: Access, Participation, and Take-Up Rates," March 2017, https://www.bls.gov/ncs/ebs/benefits/2017/ownership/private/table09a.htm.

FIGURE 2

Two-Thirds of Lowest-Wage Workers Aren't Offered Employer Coverage



Note: Wage data are hourly.

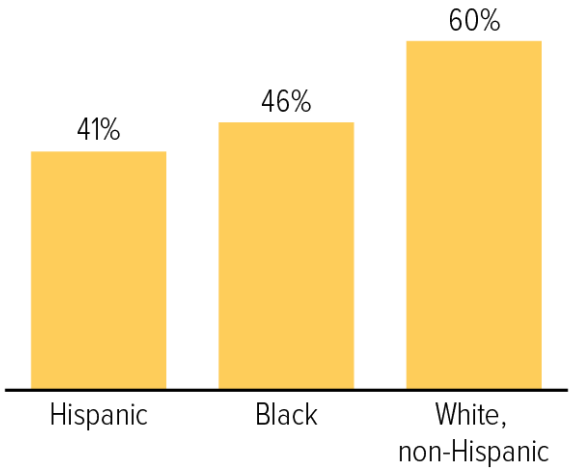
Source: CBPP analysis of 2017 Bureau of Labor Statistics data

Employer-sponsored coverage is less common among Black and Hispanic people. About 60 percent of non-Hispanic white people have coverage through the workplace compared to 46 percent of Black people and 41 percent of Hispanic people.[17] These groups are less likely to have workplace coverage mainly because they are disproportionately likely to be in lower-income households where employer coverage is less available, but these disparities exist at nearly every income level. (See Figure 3.)

FIGURE 3

Hispanic and Black People Less Likely to Have Employer Coverage

Percentage enrolled in employer health plans



Source: CBPP analysis of Census Bureau's 2017 Current Population Survey data

Inadequate Employer Offers Can Make Workers Worse Off

The ACA's premium tax credits defray premium costs for low- and moderate-income families purchasing coverage in the marketplace, and cost-sharing reductions decrease out-of-pocket spending for people with income below 250 percent of the poverty line. Having an offer of employer-sponsored coverage makes someone ineligible for these subsidies, unless the offer is considered unaffordable or fails to meet a minimum value test. An offer is unaffordable if the lowest-cost plan covering only the employee costs more than about 10 percent of income (9.86 percent in 2019). A plan falls short of minimum value if its "actuarial value" is below 60 percent, meaning that it pays, on average, less than 60 percent of the cost of allowed benefits. If the employer offer is deemed affordable and meets minimum value, the employee is "firewalled" — that is, blocked from receiving marketplace subsidies.

Because of the firewall, having an offer of employer coverage can make a lower-income worker *worse off* compared to a worker with no offer of coverage at all. A major issue is that the affordability standard is set at a level that requires low-income workers to pay a far greater share of income for an employer plan than people with the same income are expected to pay toward marketplace coverage. A single person making $18,000 a year (about 150 percent of the federal poverty line) could be asked to pay nearly $1,800 toward premiums for an employer-sponsored plan, but in the marketplace, her expected contribution for benchmark coverage would be $750 (4.15 percent of income). This disparity is amplified for families, which often don't qualify for assistance due to the so-called family glitch. Because of the glitch, if employee-only coverage is deemed affordable, no family member eligible for the employer plan is eligible for a PTC, even if family coverage costs much more than 10 percent of income.

In addition, minimum value is a relatively meager standard. Large employers (with 50 or more full-time workers) aren't required to cover the package of essential health benefits that plans in the individual or small group markets must cover. Instead, employer plans can meet minimum value if they cover preventive services, physician visits, and hospital inpatient services and meet the 60

[17] CBPP analysis using the Census Bureau's 2017 Current Population Survey.

percent actuarial value standard. But this can leave some workers, particularly lower-wage ones, with skimpy benefit plans that may not cover needed care. Notably, 60 percent is far lower than the actuarial value of coverage that low-income marketplace enrollees can generally purchase in the marketplaces and translates to sizeable out-of-pocket costs, such as deductibles in excess of $6,000 for single coverage or $12,000 for a family.

These factors create disparities between families with and without employer coverage offers and show why some employees may be better off if they are free to shift to the marketplace. For example:

- A single person with income of $18,000 (roughly 150 percent of the poverty line) has affordable employer-sponsored coverage if a plan costs less than about $150 per month, whereas in the marketplace, such an enrollee would pay only $62 per month, after a PTC, for benchmark coverage.

  In the marketplace, a cost-sharing reduction would raise this consumer's benchmark plan's actuarial value to 94 percent. Deductibles for such plans average $239, and maximum out-of-pocket costs average $1,073.[18] That's more generous than a typical employer plan, which has a lower actuarial value (85 percent),[19] higher average annual deductible ($1,396),[20] and higher maximum out-of-pocket cost ($4,064),[21] and it's far more generous than a plan meeting the minimum standard of a 60 percent actuarial value. (See Figure 4.)

- For a family of three with income of $42,000 (about 200 percent of the poverty line), an employer offer would make them ineligible for a PTC if the *employee's* premium was less than about $345 per month (9.86 percent of income), even if family coverage cost three to four times that amount.[22] However, without an employer coverage offer, the *whole family* could get comprehensive benchmark coverage in the marketplace for only $229 per month (6.54 percent of income), net of the PTC.

  They'd also be guaranteed a plan with an 87 percent actuarial value in the marketplace, in line with a typical employer plan but much more generous than the 60 percent minimum value requirement.

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[18] 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/.

[19] Actuarial Research Corporation, "Final Report: Analysis of Actuarial Values and Plan Funding Using Plans from the National Compensation Survey," Compiled for Office of Policy Research, Employee Benefits Security Administration, Department of Labor, May 12, 2017, https://www.dol.gov/sites/default/files/ebsa/researchers/analysis/health-and-welfare/analysis-of-actuarial-values-and-plan-funding-using-plans-from-the-national-compensation-survey.pdf.

[20] Kaiser Family Foundation, "2019 Employer Health Benefits Survey."

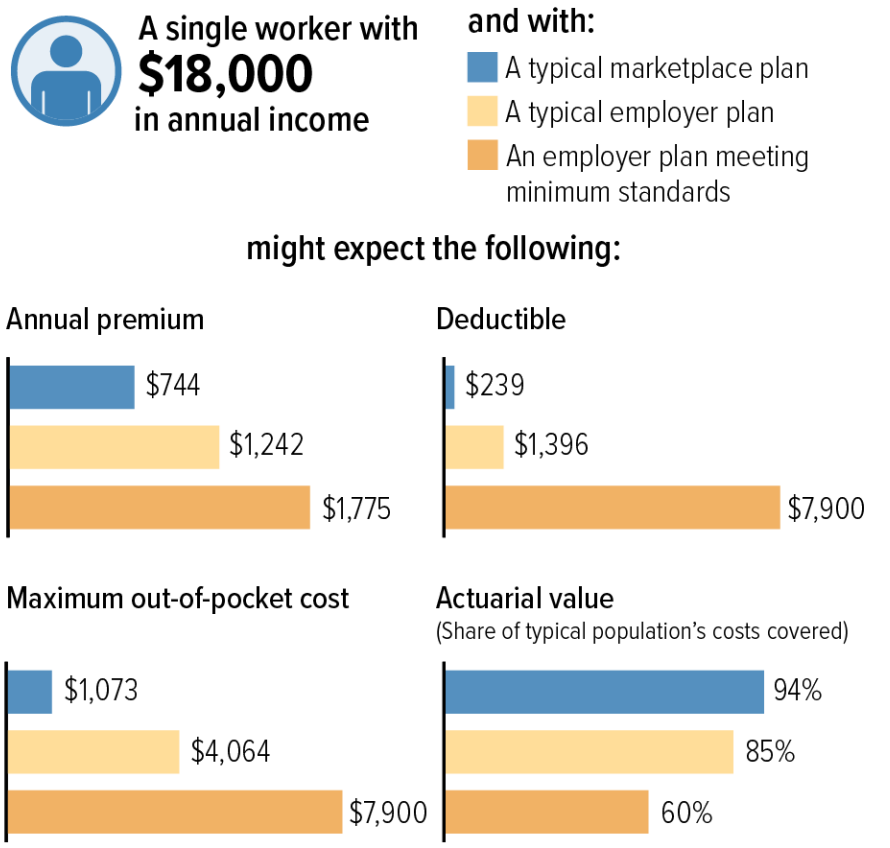
[21] *Ibid.*

[22] Figure based on the excess total average premium of $20,576 for employer-sponsored family coverage over the annual premium for coverage meeting the affordability threshold. Kaiser Family Foundation, "2018 Employer Health Benefits Survey."

FIGURE 4

Low-Income Workers "Firewalled" From Marketplace Plans Pay Much More for Coverage

Workers are ineligible for marketplace subsidies (firewalled) if an employer offers a plan meeting minimum standards



Source: Kaiser Family Foundation, Actuarial Research Corporation, CMS 2019 Actuarial Value Calculator, and CBPP analysis

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Eliminating Firewall Would Reduce Disparities But Is Costly

Eliminating the firewall that prevents most people with employer-sponsored coverage offers from PTC eligibility would make an estimated 2.7 million more people — 9 percent of the total uninsured population — eligible for affordable coverage.[23] Under this policy, employees would have a choice to enroll in their employer coverage or go to the marketplace. Many employees would likely choose to remain in employer-sponsored coverage, particularly middle- and higher-income workers whose income is too high for the PTC but who benefit substantially from the tax exclusion for employer-sponsored health insurance premiums. Workers who have less generous coverage offers or who are eligible for substantial PTCs would enter the marketplace.

[23] Blumberg *et al.*, "Characteristics of the Remaining Uninsured: An Update."

Several groups — the Center for American Progress, the Urban Institute, and Third Way — have endorsed some version of eliminating the firewall as part of comprehensive health reform proposals.[24] The key advantage is improving equity across working families. It would give low-income workers access to the same marketplace premium and cost-sharing assistance available to people without employer offers. It could also improve equity across employers that may offer plans with vastly different coverage and out-of-pocket costs, since marketplace coverage would effectively become a new coverage floor.

The downside is cost. Many low- and moderate-income workers, particularly those with families, would move to the marketplace, generating increased federal costs for PTCs and cost-sharing assistance that would substantially exceed the federal savings from the tax exclusion for employer-sponsored coverage. Employers could also take certain measures that could further increase federal costs. First, some employers may encourage sicker or older workers to move to the marketplace, perhaps through design decisions that make their plans less attractive to people with serious health needs or through less subtle steering. Strong non-discrimination provisions would be necessary to prevent this. Second, employers would presumably be motivated to restructure their plans to maximize the benefits of both PTCs and the tax exclusion. That is, they'd probably have less incentive to keep premiums low for low-income workers (as long as they could avoid the penalty) since those workers could just go to the marketplace. Beyond further increasing federal costs, that could also mean that some middle-income people would see higher employee premiums (although employers could increase wages to compensate and employee dissatisfaction could mitigate premium increases).

"Shared Responsibility" Requirement Could Be Improved

The ACA's "shared responsibility" provision requires large employers (those with more than 50 full-time workers) to offer health insurance coverage to full-time employees and their dependents. A penalty of $2,500 for each full-time worker (in 2019) is triggered if the firm doesn't offer coverage and *any* employee gets a PTC in the marketplace. If it offers coverage but the employee-only premium is unaffordable or the plan doesn't meet minimum value, the penalty is $3,750, but applies only to each full-time worker who receives a PTC. Employers are protected from the penalty by various safe harbors. For example, the employer's offer is considered affordable if the lowest-cost plan would be affordable for workers with wages at the federal poverty line.

One way to improve the employer shared responsibility penalty would be to disconnect it from employees' eligibility for PTCs. Under this policy, failure to offer coverage or offering subpar coverage would trigger the penalty, irrespective of workers' enrollment in marketplace coverage with PTCs. Penalties could be assessed using existing employer reporting of offers and cost of coverage.

Separating the penalty from PTC enrollment would have several advantages. Most significantly, it would eliminate any employer incentive to discourage marketplace enrollment in order to avoid

[24] Center for American Progress, "Medicare Extra for All: A Plan to Guarantee Universal Health Coverage in the United States," February 2018, https://www.americanprogress.org/issues/healthcare/reports/2018/02/22/447095/medicare-extra-for-all/; Linda J. Blumberg, John Holahan, and Stephen Zuckerman, "The Healthy America Program," Urban Institute, May 14, 2018, https://www.urban.org/research/publication/healthy-america-program; David Kendall, Jim Kessler, and Gabe Horowitz, "Cost Caps and Coverage for All: How to Make Health Care Universally Affordable," Third Way, February 19, 2019, https://www.thirdway.org/report/cost-caps-and-coverage-for-all-how-to-make-health-care-universally-affordable.

the penalty; indeed, employers could engage in outreach and enrollment without repercussions. Second, it would simplify administration using existing employer reporting versus the current multi-step process of cross-matching employer reporting with employee PTCs. This would also reduce uncertainty among employers about what penalties they will owe since penalties would not be contingent on an employee actions, and it would avoid a potentially lengthy appeals process contesting the eligibility of each specific employee who is awarded a PTC. Finally, disconnecting the penalty from PTC receipt would allow Congress to make decisions about changing the firewall separate from reconsideration of the nature and magnitude of the employer penalty. With this structure, an employer penalty could be maintained in some form while the firewall is eliminated or relaxed and more workers are freed to claim the PTC.

Another option is to eliminate the employer responsibility requirement altogether. But that would be very expensive and would likely come at the expense of much-needed improvements to PTCs and cost-sharing assistance.[a] It could also result in fewer employers offering coverage or employers offering worse coverage.

[a] For example, even retroactively suspending the employer mandate for its first four years (2015-2018) would cost $26 billion, according to the Congressional Budget Office. This doesn't factor in the change in employer behavior that could result from lifting the penalty. "H.R. 4616, Employer Relief Act of 2018," July 27, 2018, https://www.cbo.gov/system/files/2018-07/hr4616.pdf.

Other Ways to Improve Coverage for Workers

Short of eliminating the firewall, a range of policies could work around it to make coverage more affordable for workers by making more people eligible for the PTC. To the extent a policy change increases PTC eligibility, there would be some degree of crowd-out: a substitution of one type of coverage for another, instead of uninsured people becoming newly covered. But that is balanced by the desirability of giving more affordable coverage to currently insured workers, particularly low-income workers. In addition, one potential benefit of enrolling more people in marketplace coverage is a modest premium reduction in the marketplace, as a result of more healthier people who previously didn't enroll in employer coverage due to cost joining the risk pool.

Fix the Family Glitch

More than 6 million people live in families that are ineligible for PTCs because they have an employer offer of single coverage that meets the federal affordability standard, even though the cost of family coverage from the employer exceeds the premium threshold, according to the Urban Institute.[25] Legislative or administrative action could allow families with unaffordable coverage offers to get financial help in the marketplace.[26]

One potential fix would allow family members with unaffordable coverage offers to be eligible for PTCs, while the employees themselves remain subject to the firewall. An estimated 3 million people

[25] Matthew Buettgens, Lisa Dubay, and Genevieve M. Kenney, "Marketplace Subsidies: Changing the 'Family Glitch' Reduces Family Health Spending But Increases Government Costs," *Health Affairs*, July 2016, https://www.healthaffairs.org/doi/10.1377/hlthaff.2015.1491.

[26] While most attention has been paid to a legislative fix, the Trump Administration could address this problem under its existing statutory authority. The Treasury Department under the Obama Administration interpreted 26 U.S.C. 5000A to determine the employee's "required contribution" for coverage in one way for the firewall (measuring the affordability of family coverage by the cost of individual coverage) but in a different way for determining whether an individual responsibility payment was owed (measuring the affordability of family coverage by the cost of family coverage). The latter interpretation is more reasonable and could be adopted by the current or future administrations.

would become eligible for tax credits under this proposal, according to the Urban Institute's analysis.[27] More than 40 percent of those gaining PTC eligibility would be children. While the majority of people gaining eligibility would be those with income between 200 and 400 percent of poverty, people with income under 138 percent of the poverty line would experience the biggest premium reductions, with the mean family premium for people in this income range falling from 20 percent of income in employer-sponsored coverage to 5.5 percent in the marketplace.[28] People with incomes between 138 and 200 percent of the poverty line would see their premiums cut in half, from 17.6 percent to 8.2 percent of their income. An alternative proposal would be to allow the employee to claim a PTC in the marketplace if family coverage is unaffordable, even if the employee's single offer is affordable. More than 6 million people would become eligible for PTCs under this option, according to the Urban Institute.

A second analysis concurred that fixing the family glitch would reduce families' average total health care spending by thousands of dollars and drop their risk of spending at least 20 percent of income on health care by more than two-thirds.[29]

Raise the Standards for Employer Coverage Offers

As explained above, employer-sponsored coverage is considered unaffordable if the employee's share of the premium for the lowest-cost plan exceeds roughly 10 percent of household income (9.86 percent in 2019). Reducing this threshold could prod more employers to improve coverage affordability or release more workers to seek subsidized marketplace plans if their employers did not meet the new standard. This could increase penalty collections, helping to finance the shift of workers to marketplace coverage with PTCs. Alternatively, Congress could de-link the affordability standard for employees' PTC eligibility from the affordability standard for the employer penalty. (See box, "'Shared Responsibility' Requirement Could Be Improved.") This would allow more workers (particularly those with low incomes) to enroll in subsidized marketplace plans without necessarily penalizing more employers.

Lowering the affordability threshold would primarily benefit low-income workers, who are more likely to have high premiums relative to income and would be eligible for the most substantial assistance if no longer firewalled. It would also complement congressional proposals to make PTCs more generous for marketplace consumers. For example, legislation by Representatives Richard Neal, Frank Pallone, and Bobby Scott — chairs of the three House committees with jurisdiction over major health care programs — would reduce the maximum share of income a family would pay for subsidized marketplace coverage from the current 9.86 percent to 8.5 percent.[30] The threshold for affordable employer coverage could be reduced to the same amount.

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[27] *Ibid.*

[28] Adults with income below 138 percent of poverty are eligible for Medicaid in states that expanded Medicaid under the ACA; a person with an offer of employer-sponsored coverage is not barred from Medicaid eligibility. The percentage of income includes the cost of employer-sponsored coverage, after accounting for the tax exclusion, plus the percentage of income the family would contribute toward marketplace coverage.

[29] Sarah A. Nowak, Evan Saltzman, and Amado Cordova, "Alternatives to the ACA's Affordability Firewall," RAND Corporation, 2015, https://www.rand.org/pubs/research_reports/RR1296.html.

[30] H.R. 1884, "Protecting Pre-Existing Conditions and Making Health Care More Affordable Act of 2019," introduced March 26, 2019.

But even if the affordability threshold were reduced to 8.5 percent, a low-income person with an employer plan could pay considerably more for less coverage than someone with the same income who is eligible for a marketplace subsidy. For example, a person with income at 150 percent of the poverty line ($18,210 in 2019) would pay 4.15 percent of their income ($756) for individual or family coverage in the marketplace but up to 8.5 percent of income ($1,548) for single employer-sponsored insurance, which could offer less coverage. Congress could consider setting a lower affordability threshold for lower-income workers (for example, those with incomes below 200 percent of the poverty line), freeing those without truly affordable employer coverage to seek a better deal in the marketplace.

Another way to improve health care affordability for people with offers of job-based coverage would be to increase the share of anticipated health costs that the plan pays for. As explained above, a large-employer or self-insured group plan currently meets the minimum value standard if it covers at least 60 percent of the plan's total allowed benefit cost, according to an online calculator that the Department of Health and Human Services (HHS) maintains. By contrast, "benchmark" marketplace coverage (the basis for calculating PTCs) covers 70 percent of expected costs, and people with incomes below 250 percent of the poverty line are eligible for cost-sharing assistance that further increases plans' actuarial values.

One option would be to raise the minimum value standard from 60 percent to 70 percent to align with the marketplace benchmark. Raising the minimum value standard wouldn't affect most employers since the average employer plan has an actuarial value of 85 percent.[31] While it could lead some employers to pass on premium increases to employees, the increase in the employee premium would be constrained by the affordability standard. Other employers offering low-value plans may drop coverage altogether but, to the extent that employees are eligible for PTCs, this might give more workers and their families access to more affordable and comprehensive coverage in the marketplace.

Another approach would be to define a more robust benefit standard. As noted, the benefit standard set for purposes of minimum value is less than what's required in the individual or small group markets. When the ACA passed, the assumption was that employer-sponsored coverage at large firms was already sufficiently comprehensive. But as the employer coverage requirement was implemented, it became clear that a small minority of employers were not providing comprehensive coverage. That led the IRS to issue a warning that plans that did not include "substantial coverage" of inpatient hospitalization and physician services do not meet minimum value and employers can't tell employees the coverage makes them ineligible for PTCs. However, it appears that the onus is on employees to bring non-compliance to the IRS's attention.[32]

Improvements to the benefit requirements would help vulnerable workers who are offered the barest coverage today. For example, to qualify as minimum value coverage, large and self-insured

[31] Actuarial Research Corporation.

[32] Internal Revenue Service, "Group Health Plans that Fail to Cover In-Patient Hospitalization Services," Notice 2014-69, https://www.irs.gov/pub/irs-drop/n-14-69.pdf. The Treasury Department (through the IRS) administers the minimum value rules, as they pertain to a determination of the adequacy of an employer coverage offer and employees' eligibility for PTCs. This notice can be relied on, but the accompanying IRS regulation was never finalized. HHS did finalize its companion regulation on minimum value requiring "substantial coverage of inpatient hospital services and physician services." 45 CFR 156.145.

employers' health plans could be required to meet their state's essential health benefit standard — ten defined categories of items and services — as individual and small-group coverage must do. An approach to avoid the complexity of employers having to meet a different standard in every state in which they operate is to either create a nationwide benefit standard based on the essential health benefit standard or allow employers to choose to follow one state's standard, as they do to determine to which services the ACA's annual and lifetime limits apply. The vast majority of large and self-insured plans exceed these minimum standards, but for employers with plans that don't, their workers would no longer be firewalled into subpar coverage.

Help Eligible Workers Access Marketplace Subsidies

Some workers and their families aren't firewalled but don't realize it. One group often in this situation is workers who aren't eligible for their employer's coverage. Employers could be required to do more to connect those workers to the marketplace, and HHS could lower barriers to marketplace enrollment. Another group is workers who are eligible for employer-sponsored coverage but whose coverage is inadequate (i.e., doesn't meet existing affordability or minimum value standards). Employees need help to determine whether their employer offer disqualifies them from marketplace subsidies or whether the offer falls short and leaves them eligible for more affordable, comprehensive coverage in the marketplace. Reaching out to these groups of PTC-eligible workers may reduce the number of uninsured.

One policy change that might help is to change the structure of the employer responsibility requirement. The current structure — where an employee claiming the PTC potentially triggers a penalty for the employer — discourages employers from connecting people to the marketplace. (See box, "'Shared Responsibility' Requirement Could Be Improved.") Other approaches are discussed below.

Reaching Workers Ineligible for Employer-Sponsored Coverage

Even if an employer offers coverage, workers can still be ineligible for a variety of reasons. Large employers are only required to offer coverage of 95 percent of full-time workers, for example, and can exclude part-time employees or employees in certain locations or job classifications.[33] Employers may also establish waiting periods for enrollment in their coverage or use a "measurement period" to delay eligibility for up to a year for new workers who they contend don't meet full-time status. Other people are eligible for coverage then lose eligibility. Job loss is the most common reason people lose employer coverage, but other workers can become ineligible despite still being employed, such as when their hours are reduced or their position or job location changes.

Employers are well-positioned to identify employees who have not been offered coverage, whose coverage has changed, or who are losing their coverage, and to help them find other sources of insurance. Regardless of an employee's eligibility for employer-sponsored coverage, federal law requires employers to inform new employees about the marketplace and the PTC.[34] The law could

[33] Self-insured plans are subject to IRS rules that prohibit discrimination in favor of highly compensated workers in eligibility or benefits, which somewhat constrains employers' ability to differentiate between groups of workers. Fully insured plans are not subject to the same non-discrimination rules.

[34] See Model Notice, "New Health Insurance Marketplace Coverage Options and Your Health Coverage," Department of Labor. For employers that offer coverage: https://www.dol.gov/sites/default/files/ebsa/laws-and-regulations/laws/affordable-care-act/for-employers-and-advisers/model-notice-for-employers-who-offer-a-health-plan-to-some-or-all-employees.pdf. For employers that do not offer coverage:

be expanded to direct the Department of Labor (DOL) to require employers to provide this notice at other times, such as during the employer's annual open enrollment. DOL could also improve the notice so that it provides more useful information. The DOL's model notice requires an employer to note which classes of employees, if any, are eligible for coverage and to check a box indicating whether the coverage meets minimum value and is intended to be affordable, but questions that are specific to each employee are optional for employers. Employers could instead be required to answer all these questions so that an employee would know with certainty whether they are eligible for employer coverage, the actual cost of that coverage, and if any waiting period applies.

Employers are required to notify people who are losing their employer health benefits that they are eligible to continue with that coverage (typically by paying the full premium) under what's known as "COBRA," after the federal law that created it.[35] The DOL model notice for COBRA, which many employers use, contains language about the availability of the marketplace, but the information could be expanded to include: marketplace website and contact information, the availability of enrollment assistance, the availability of financial assistance, examples of how that financial assistance lowers premiums for a family, and the availability of a special enrollment period allowing people losing employer coverage to enroll outside the normal annual open enrollment period. Beyond adding information to the *model* notice, DOL could require this information in *every* COBRA notice.

COBRA notices are likely to reach a large portion of the 10 million uninsured people eligible for a special enrollment period due to job loss every year.[36] Providing workers with more information about financial assistance in the marketplace could help people avoid gaps in coverage during employment transitions or unnecessarily paying for COBRA coverage. Connecting people with in-person enrollment assistance could also help people bridge the gap when they lose job-based coverage.

Reaching Workers Who Are Offered Employer-Sponsored Coverage But Not Firewalled

Another group of workers who may be able to seek subsidized marketplace coverage are those who are eligible for employer-sponsored coverage that is unaffordable or fails to meet minimum value, but it's often difficult for workers to determine on their own whether their employer's health benefits meet those standards. To remedy this, employers could be required to tell an employee in advance if their coverage offer meets minimum value and how to calculate whether the premium for that plan is affordable. The information would need to be specific to the employee and account for the litany of exceptions and complications that employees are expected to navigate for themselves today.

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https://www.dol.gov/sites/default/files/ebsa/laws-and-regulations/laws/affordable-care-act/for-employers-and-advisers/model-notice-for-employers-who-do-not-offer-a-health-plan.pdf.

[35] See "Model COBRA Continuation Coverage Election Notice," Department of Labor, https://www.dol.gov/sites/dolgov/files/EBSA/laws-and-regulations/laws/cobra/model-election-notice.doc.

[36] Matthew Buettgens, Stan Dorn, and Hannah Recht, "More than 10 Million Uninsured Could Obtain Marketplace Coverage through Special Enrollment Periods," Urban Institute, November 2015, https://www.urban.org/sites/default/files/publication/74561/2000522-More-than-10-Million-Uninsured-Could-Obtain-Marketplace-Coverage-through-Special-Enrollment-Periods.pdf.

Without requiring employers to provide such information, coverage offers can be hard for employees to parse. To start, an employee must know whether any plan is "eligible employer-sponsored coverage" — meaning it meets the ACA's rules as a plan offer — versus a non-qualifying supplemental coverage option, such as fixed indemnity coverage, that offers scant benefits at a lower cost. Employers should have to be transparent about which plans qualify as eligible plans.

Once the employee knows which plan is an eligible employer-sponsored plan, determining whether it meets the minimum value and affordability requirements is similarly complicated. An employee would need to know the minimum value and calculate the affordability of each plan to know if any one plan meets both requirements to disqualify an employee from a PTC. Only then would an employee have the information to make an informed determination about whether the employer's offer precludes PTC eligibility for themselves and their family.

Minimum value can't be determined independently by employees; rather, it's disclosed on an employer-provided summary of benefits and coverage (SBC). Employers are required to make the forms available to workers for each plan they offer, but in practice, many employees don't know they are entitled to this form or have trouble getting it. Even if they have it, the form is lengthy and the minimum value designation is easily missed. The form also doesn't spell out the consequences of having an offer that is *not* minimum value; for example, an employee whose plan's minimum value is 58 percent isn't told how to use that information.

The affordability standard requires that a plan cost less than 9.86 percent of income (in 2019), but special rules can make the calculation more than a function of just premium cost. Special tax provisions — like for wellness plans, health reimbursement arrangements (HRAs), or cafeteria plans — also affect whether a plan is considered affordable but are not transparent to even an employee who's very knowledgeable about their benefits.

For example, one staffing company offers three medical plans: "Enhanced MEC," "Fixed Indemnity," and "Major Medical."[37] The Enhanced MEC plan doesn't cover hospitalization so doesn't appear to meet the IRS definition of minimum value. The fixed indemnity plan is not eligible employer-sponsored coverage. Only the major medical plan, which is available only to full-time workers, might firewall a worker, so that plan's minimum value and cost are what matters. The SBC for the major medical plan isn't readily available so it's unclear whether the plan meets minimum value. The website tells employees that if they qualify for the major medical plan, they are not eligible for a PTC, but with a premium of more than $1,500 per month, the plan may be unaffordable for many workers, allowing them to access PTCs.

No single required document available to employees at open enrollment captures all these variables, making it hard for employees to know whether they are firewalled or eligible for a marketplace subsidy. A form called the Employer Coverage Tool solicits key information — including whether the offer has a waiting period, extends to family members, or meets minimum value, and the employee's share of the premium — but completing the form is optional for employers.[38] And, crucially, the form doesn't tell employees how to use premium information to

[37] See Employer Solutions Staffing Group at www.essghealth.com. Accessed December 2, 2019.

[38] The Employer Coverage Tool can be found here: https://www.healthcare.gov/downloads/employer-coverage-tool.pdf.

make an affordability determination. Because these forms aren't required, they are often completed in one-off, and sometimes haphazard, ways. For example, two employees with identical positions going to the same human resources office may get different responses on the Employer Coverage Tool.

Requiring employers to provide reliable, comprehensive information about their health coverage offers in advance of the coverage year would make it possible for workers to determine whether they have an offer that bars them and their families from PTCs. This would help more employees gain access to subsidized coverage in the marketplace if they are eligible for it, while also preventing people from incorrectly claiming federal subsidies and later having to repay a credit they were not eligible to receive. Congressional proposals aimed at simplifying federal reporting requirements for employers include prospective reporting systems. But those proposals would only require general information to be shared with the employee — information that is insufficient to accurately determine PTC eligibility for an individual employee.[39] Future proposals should instead seek to collect information from employers that is reliable and specific so that the employee can use it to understand whether they are eligible for marketplace subsidies instead. The Employer Coverage Tool could be a useful starting point, if employers were required to complete it and provide it to workers.

Administration Actions Threaten to Raise Costs, Reduce Benefits for Workers

Some low-income workers will likely face increased affordability challenges as a result of recent Trump Administration actions that will increase employees' costs, reduce their benefits, or make it harder for them to access marketplace coverage when they lose employer coverage.

- *Expanding the use of HRAs.* A rule from the Departments of Treasury, Labor, and Health and Human Services permits employers to replace traditional group coverage for all or some workers with a dollar contribution that could be combined with individual market coverage. The rule could exacerbate the affordability challenges of low-income workers. If employers that don't offer coverage begin to do so using an HRA, as the Administration expects, some low-income workers who currently get a PTC could become firewalled by their new coverage offer. Even if those workers use their new HRA offer in the marketplace to enroll in the exact same plan, they'd likely need to pay much more — as much as 10 percent of income for single coverage versus a sliding-scale expected contribution for family coverage. Having more low-income workers with coverage offers could also exacerbate the problems caused by the family glitch.
- *Increasing workers' out-of-pocket costs.* The Centers for Medicare and Medicaid Services finalized a rule that raises the limit on total out-of-pocket costs for many people with employer coverage, meaning families that experience costly illnesses or injuries would face an additional $400 a year in medical bills. The Administration finalized the policy even though,

[39] Senators Mark Warner and Rob Portman and Representatives Mike Thompson and Adrian Smith introduced S. 2366 and H.R. 4070, the Commonsense Reporting Act of 2019, to establish prospective employer reporting to the Data Services Hub that the marketplace could access at the time of enrollment.

as the final rule itself notes, "all commenters on this topic expressed opposition to or concerns about the proposed change."[40]

- *Requiring verification of job loss to enroll in marketplace coverage.* A person can enroll in marketplace coverage outside the annual open enrollment period if they lose qualifying coverage, often because of job loss or a reduction in work hours. The Administration made it more difficult to access this special enrollment period by requiring pre-enrollment verification. Documentation can be difficult for people to produce in a timely way given other urgent concerns people have when they leave a job or experience a significant reduction in income.
- *Approving new association health plans (AHPs).* The Administration opened a new gateway for employers to form private associations to provide health insurance that is exempt from some consumer protections found in the small group market. For example, AHPs could effectively discriminate based on health conditions by excluding certain essential health benefits required under other plans, like coverage of mental health treatment and prescription medications for costly conditions, since people who need those benefits would not sign up. In addition, an AHP could structure its membership rules and marketing tactics in ways more likely to attract healthier people and groups, while charging far more to others, such as small groups that are made up of women or older people, that work in professions deemed high risk, or that live in areas classified as higher cost. Portions of the rule were struck down in the U.S. District Court for the District of Columbia, but the Administration has appealed.

[40] Aviva Aron-Dine and Matt Broaddus, "Changes 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.

COMMENTARY Health Care Reform

Americans Get More for Their Health Care Dollars, but We Can Do Better

Dec 2nd, 2019 3 min read

Robert E. Moffit, Ph.D.
Senior Fellow
Moffit specializes in health care and entitlement programs, especially Medicare.

KEY TAKEAWAYS

The latest report on health care from the OECD shows that, in many ways, we're getting a pretty good return on investment.

In evaluating health systems, what matters most are the medical results they deliver.

When it comes to the big-ticket items—combatting cancer, heart disease, and stroke—America is getting superior results.

"The U.S. spends more than other countries on health care and gets worse results." You hear that argument a lot—especially from those pushing for Medicare for All or some other government-run health system. But is it true?

Certainly Americans spend more on health than other nations. But the latest report on health care from the Organization for Economic Cooperation and Development (OECD) shows that, in many ways, we're getting a pretty good return on that investment.

In evaluating health systems, what matters most are the medical results they deliver. And the OECD report shows that, when it comes to the big-ticket items—combatting cancer, heart disease, and stroke—America is getting superior results.

For example, 90 percent of American breast cancer patients lived at least five years after treatment, compared to a survival rate of only 85 percent in the rest of the OECD countries. Indeed, the report confirmed a "clear positive association" between per capita health spending and breast cancer survival—suggesting that spending more on health is not necessarily a bad thing.

Part of that is due to early dete tion. For example, the resear hers found that 80 per ent of American women received “timely” cervical cancer screening, compared to only 73 percent of women in other OECD countries.

America’s superior performance on cancer care has been documented before. A 2017 study in Epidemiology and Health found that, compared to Britain, Canada and France, the U.S. delivered better survival rates for prostate and stomach cancer, as well as breast cancer. In 2015 the Centers for Disease Control and Prevention reported that, among seven leading countries, the U.S. had the highest five-year survival rates for breast, colon, lung and prostate cancer.

This year’s OECD report also found that the American mortality rates 30 days following a heart attack or stroke were significantly lower than those of most other OECD states. Again, the stroke findings echo those of an international study reported last year in the Journal of the American Medical Association.

This is not to say that the OECD report contained no surprises. While it’s common knowledge that the United States spends more on health, in the aggregate and per capita, than any other OECD country, this month’s report showed that seven advanced countries actually pay more for the same medical goods and services. For example, prices are 10 percent higher in Sweden, 20 percent higher in Norway, and a stunning 39 percent higher in Switzerland.

There are, however, tremendous pressures on American health care financing and delivery. For instance, it costs more to deliver timely cancer screenings than to put people on screening waitlists. Then, again, timely screenings save lives.

And there are limitations inherent in any country-to-country comparisons. For example, our population at large is notoriously overweight. The U.S. obesity rate is third highest among the 36 member OECD nations.

Obesity poses a high risk for chronic illnesses, particularly diabetes. More than one in 10 Americans now suffer from diabetes—a situation that, by itself, puts great stress on the health care system. Yet the prevalence of obesity and diabetes in no way impeaches our system—unless your “solution” is to stop treating so many diabetics.

Does our health care system work well across the board? Of course not. The OECD report shows that all 36 countries, including the United States, have mixed results on a wide variety of health care metrics. That’s because there are wide differences among countries in lifestyles, genetics and environmental factors and well as the systems—many of them highly complex—through which treatments are offered and funded. |

In short, the OECD report annot and does not "make the ase" for anyone type of health system over another. Both Left and Right can cherry-pick from among its numerous findings to coat their silly slogans and bumper-sticker health policy recommendations with the patina of RESEARCH. But that's taking the study way too far.

As the OECD researchers note, their far-ranging statistical review should be used as the "groundwork for deeper policy analysis."

Exactly.

This piece originally appeared in The National Interest |

Making California's Voices Heard on Health

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CHIS Making an Impact — 2019

The California Health Interview Survey (CHIS) is the largest state health survey and one of the largest health surveys in the nation.

Conducted by the UCLA Center for Health Policy Research (Center), CHIS interviews more than 20,000 households each year and collects health data on adults, teenagers and children to construct a detailed picture of California's diverse popu on.

CHIS data is used by state and local legislators and policymakers, academic researchers, advocacy groups, edu nal in hospital groups, media, and others who value working with credible data.

Highlights of CHIS in 2019 include:

METHODOLOGY UPDATE

CHIS completed a survey redesign for its 2019-2020 cycle, evolving to both improve survey science and cover emerging health topics. The American Asso on for Public Opinion Research (AAPOR) included the redesign in a recent report, *Transitions from Telephone Surveys to Self-Administered and Mixed-Mode Surveys*. For methodology presen ons at AAPOR and the European Survey Research Asso on (ESRA), see "Presen ons and trainings" se n.

"It becomes like the Bible. It came out of UCLA; it came out of CHIS — you know it's reliable."

– **Richard Figueroa,** ac ng director of the California Department of Health Care Services, on how data from the California Health Interview Survey is used in reports, analysis, and brie ngs for elected officials for policymakers.

HEALTH IMPACT AWARD

Ponce

AcademyHealth awarded it ious 2019 Health Services Research Impact Award to Center Director Ninez A. Ponce and the California Health Interview Survey for research that has had sign impact on health and health care.

CHIS INFORMING LEGISLATION

The California legislature funded CHIS qu ns in 2019-2020 to assess the extent of need for long-term services and supports (LTSS) for eligible older adults and individuals with physical and mental disabil es. Center Research Sci st Kathryn Kietzman and Associate Center Director Steven P. Wallace presented CHIS LTSS survey data at a bri ng in Sacramento on Dec. 4.

California Simu on of Insurance Markets (CalSIM) projec ons, which use CHIS data, were cited in a Legi ve Analyst report about Gov. Newsom's a rdability proposals for the individual health insurance market and at a Feb. 12, 2019, state inform onal hearing on the same topic.

CalSIM mates were recently used to gauge the impact of rein g the "individual

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Continued from page 1

mandate" and of expanding eligibility for Medi-Cal coverage for undocumented young adults.

The California Health Bene ts Review Program (CHBRP), which provides the state legislature with independent analysis of the medical, nancial, and public health impacts of proposed health insurance bene t mandates and repeals, uses CHIS in cost models and cites CHIS data in their analyses.

(ACR1-Rob Bonta) The state resolu condemning rule changes to the public charge design on was chaptered by the California state secretary in September. Bonta used Center research in statements and es about the harmful health and economic impacts of the rule change.

(AB 766-David Chiu) The bill would ban retailers' use of 16-oz. beverage cups and cites a 2016 Center report that uses CHIS data on prediabetes and diabetes.

(SB347-William Monning) The bill would require safety warnings on sealed containers of sugar-sweetened beverages and included CHIS data on diabetes.

PROJECT FOR LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH

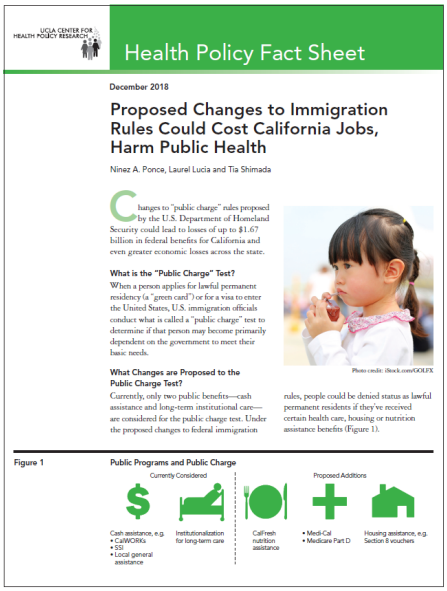
A Health DATA evalu on launched in 2019 assesses tenant and landlord experiences with secondhand smoke and tudes toward smoke-free housing policy in Los Angeles. The project used data from the California Health Interview Survey to assess tobacco-related health dispari ong the city's residents. Findings will be available spring 2020.

USE IN RESEARCH AND ADVOCACY

Fi y-one percent of respondents surveyed about their use of CHIS data said they use it for policy analysis at the state and local level; the same propo on use the data for advocacy work. Chronic diseases, gender, health insurance, and poverty are the most queried topics, but researchers also seek CHIS data on unique topics and for underrepresented popu ons, to uncover trends — and dispari — in health.

About 75 academ cles, reports or briefs using CHIS data have been published so far in 2019. *Note: An asterisk (*) indicates Center-published research or journal articles authored or co-authored by Center researchers.*

Many of the journ cles on public charge cited CHIS data from the 2018 Center fact sheet **Proposed Changes to Immigration Rules Could Cost California Jobs, Harm Public Health* by Ninez A. Ponce, Laurel Lucia, and Tia Shimada.


UCLA CENTER FOR HEALTH POLICY RESEARCH

Health Policy Fact Sheet

December 2018

Proposed Changes to Immigration Rules Could Cost California Jobs, Harm Public Health

Ninez A. Ponce, Laurel Lucia and Tia Shimada

Changes to "public charge" rules proposed by the U.S. Department of Homeland Security could lead to losses of up to $1.67 billion in federal benefits for California and even greater economic losses across the state.

What is the "Public Charge" Test?

When a person applies for lawful permanent residency (a "green card") or for a visa to enter the United States, U.S. immigration officials conduct what is called a "public charge" test to determine if that person may become primarily dependent on the government to meet their basic needs.

What Changes are Proposed to the Public Charge Test?

Currently, only two public benefits—cash assistance and long-term institutional care—are considered for the public charge test. Under the proposed changes to federal immigration rules, people could be denied status as lawful permanent residents if they've received certain health care, housing or nutrition assistance benefits (Figure 1).

Photo credit: iStock.com/GOLFX

Figure 1

Public Programs and Public Charge

Currently Considered

Proposed Additions

Cash assistance, e.g.
• CalWORKs
• SSI
• Local general assistance

Institutionalization for long-term care

CalFresh nutrition assistance

• Medi-Cal
• Medicare Part D

Housing assistance, e.g. Section 8 vouchers

Public charge

New Evidence Demonstrates That The Public Charge Rule Will Harm Immigrant Families and Others (Health s Blog)

Finalized Federal Rule Could Increase the Number of Uninsured in California (Insured the Uninsured Project, Aug. 14 blog post)

Public Charge: Reducing the Chilling Effect on MediCal Participation Due to the 2018 Proposed Public Charge (UCLA Luskin School of Public s and California Immigrant Policy Center)

The Trump Administration's New "Public Charge" Immigration Rule Will Push Thousands of Californians Into Poverty and Hurt the State's Health and Economy (California Budget & Policy Center)

Implications of Changing Public Charge Immigration Rules for Children Who Need Medical Care (JAMA Pediatrics)

Health insurance

**Californians Maintain Health Insurance Coverage Despite National Trends* (Center policy brief by Tara Becker, Ninez A. Ponce)

**Reducing Access Disparities in California by Insuring Low-Income Undocumented Adults* (Center policy brief by Nadereh Pourat, Ana Ma nez)

**The State of Health Insurance in California: Findings from the 2015-2016 California Health Interview Survey* (Center report by Shana Alex Charles et al)

**California's Steps to Expand Health Coverage and Improve Affordability: Who Gains and Who Will Be Uninsured?* (UC Berkeley-UCLA report by Miranda Dietz, Laurel Lucia, Xiao Chen et al)

Continued...

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*[Source of Success in California's Individual Marketplace] (by Petra Rasmussen, Gerald Kominski in Journal of Health Poli s, Policy and Law)

Immigration

[Uncertainty About DACA May Undermine Its Positive Impact on Health for Recipients and Their Children] (Health s)

*[Worse Mental Health Among More-Acculturated and Younger Immigrants Experiencing Discrimination: California Health Interview Survey, 2015–2016] (Altaf Saadi, Ninez A. Ponce in Journal of General Internal Medicine)

[Relevance of the "Immigrant Health Paradox" for the Health of Arab Americans in California] (American Journal of Public Health)

Chronic diseases

[California Health Care Almanac 2019 Edition — Quality of Care and Chronic Conditions] (California Health Care Found on)

[Role of Food Insecurity in Prescription Delay Among Adults with Asthma: Results from the California Health Interview Survey] (Journal of Asthma)

[Diabetes and Diabetes Care among Nonobese Japanese-Americans: Findings from a Population-Based Study] (Advances in Prev ve Medicine)

[Climate Change and Health in California] (N onal Resources Defense Council)

Smoking and e-cigarettes

[Flavored Tobacco Products: An Educational Roundtable] (UC Davis Health Comprehensive Cancer Center)

[California Tobacco Facts and Figures 2019] (The California Department of Public Health, California Tobacco Control Program)

[Race, Educational Attainment, and E-Cigarette Use] (Journal of Medical Research and Innov on)

Mental health

[Monitoring Californians' Mental Health: Population Surveillance Reveals Gender, Racial/Ethnic, Age, and Regional Disparities] (Rand Health Quarterly)

[Weekly Working Hours and Mental Health Status in Different Occupations: Evidence From the 2015–2016 California Health Interview Survey] (Journal of Occup onal and Environmental Medicine)

[Association Between Rural Residence and Nonfatal Suicidal Behavior Among California Adults: A Population-Based Study] (The Journal of Rural Health)

Women, teen, child health

[Disparities in Health Care Utilization Between Asian Immigrant Women and Non-Hispanic White Women in the United States] (Journal of Women's Health)

*[School Discipline Practices Associated with Adolescent School Connectedness and Engagement] (Center policy brief by Susan H. Babey et al)

[Young Children Whose Parents Read with Them] *(Kidsdata, Lucile Packard Foundation)*

Underrepresented populations

[Transgender and Alternative Gender Measurement on the 2018 General Social Survey] (N onal Opinion Research Center at the University of Chicago)

[Impact of Perceived Racism on Healthcare Access Among Older Minority Adults] (American Journal of Preven Medicine)

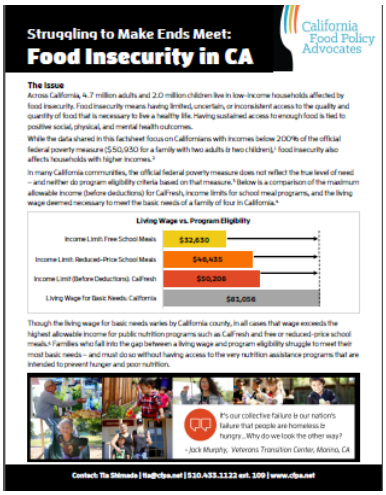
[2017-2018 Border Health Status Report to the Legislature] (California Department of Public Health, Office of Bin onal Border Health)

Hunger

[Struggling to Make Ends Meet: Food Insecurity in California] (California Food Policy Advocates)

[Hunger in San Diego Snapshot: 2017 Food Insecurity Data Release] (Hunger Free San Diego, San Diego Hunger Coali)

["This is one dot and it represents one person struggling with food insecurity"] (LA County Food Bank)



USE IN HOSPITAL COMMUNITY HEALTH NEEDS ASSESSMENTS

CHIS data are used in dozens of community health needs assessments, which give inform on on

Continued...

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what programs they can provide to meet the health needs of their commun es. Some hospital systems using CHIS in their assessments include: UC San Diego Health; Kaiser Found on Hospitals, Anaheim and Irvine; Cedars-Sinai; UCI Health; Dignity Health, California Hospital Medical Center; Memorial Care, Orange Coast; UCSF Benio Children's Hospital, Oakland; St. Francis Medical Center; Riverside University Health System; and Keck Hospital of USC.

OTHER WEB DATABASES THAT INCLUDE CHIS DATA

California Breathing County Asthma Data Tool
(California Department of Public Health)

of Health Equity *Ask*CHIS NE Dashboard
(California Department of Public Health)

The California Healthy Places Index
(Public Health Alliance of Southern California)

Presentations and trainings

Center s shared a wealth of CHIS data at various local, state, n onal and intern onal conferences, seminars, and workshops.

Feb. 1: Center Director Ninez A. Ponce, "The California Health Interview Survey - Monitoring Universal Health Coverage in California" (2019 Annual Symposium of the China-USA Research Center for Life Sciences on Interdisciplinary Research with Global Public Health, hosted by the UCLA Fielding School of Public Health).

Feb. 5: Ponce, "Mapping the Future of Health Reform: What's Next?" at the Insure the Uninsured Project conference in Sacramento, CA.

Feb. 6: Health DATA Director Peggy Toy, "How to teach and empower diverse commun es to access and use health data to develop health programs," a career services presen on at the UCLA Fielding School of Public Health.

Feb. 19: Associate Center Director Nadereh Pourat and Emmeline Chuang, "Reducing Access Dispari in California by Insuring Low-income Undocumented Immigrants" for a Center Health Policy Seminar.

March 7 and 12: Toy and student researcher Melissa Chimwaza taught Building Healthy Commun es partners how to generate CHIS data and create graphics spe c to their neighborhood in an online workshop.

March 22: Ponce, "The role the California Health Interview Survey has in informing health policies that improve health and health equity among Californians" at a public lecture at the University of the Philippines Manila's College of Public Health.

April 17: Linda Diem Tran, Center associate and post-doctoral fellow, Department of Veteran and Stanford University, "The Impact of Gentri on on Adult Mental Health," hosted by the UCLA Ziman Center for Real Estate at the UCLA Anderson School of Management.

April 30: Ponce, "Hidden Id dden Lives: When Data Obscures Health Dispari at the Jacob Marschak Interdisciplinary Colloquium on Mathem cs in the Behavioral Sciences at UCLA.

May 14-15: CHIS Director Todd Hughes, "Using ACS Data to Construct and Visualize Small Area E mates for the California Health Interview Survey" at the 2019 ACS Data Users Conference.

May 16-19: Five presen ons at American Asso on for Public Opinion Research (AAPOR) by Hughes, CHIS Methodology Manager Brian M. Wells, and CHIS Assistant Director Royce Park in Toronto, Canada:

- "Can mixed mode replace CATI RDD for complex surveys of diverse popu ons? Results from eld experiment of the California Health Interview Survey"
- "'Responda hoy': An experiment in recru ng Spanish speakers for an ABS web survey"
- "The importance of leveraging a parent's in uence in an ABS push-to-web survey of teenagers"
- "No child behind: Advantages of asking about children before adults in a household web survey"
- "Respondent accountability versus task complexity: A comparison of three within-household selec on in ons for a web- rst survey"

"The information you put together is such a driving force in how we can get to the ultimate goal to get health coverage for everyone in California.

Thank you for the information that you generate, for your work. It's incredibly valuable to us."

Jim Wood, (D-Santa Rosa),
Chair of the Assembly Health Co ee

Continued...

Continued from page 4

July 18: Hughes, "Finding e ve ways to encourage teens to cipate in a web-push survey" and "Innov ng a mu -mode design for a diverse, mu lingual popu on: Results from a eld experiment of the California Health Interview Survey" at the European Survey Research Asso on.

Oct. 16: Ponce, "Workshop on Aging & Health: How to Use Data to Find Stories," hosted by the Asso on for Health Care Journalists, Los Angeles, CA.

Oct. 24: Ponce and Hughes, "California Health Interview Survey 2018 Data Release" for a Center Health Policy Seminar.

Nov. 2-6: Fi een papers and sessions that featured CHIS data were presented by researchers at the American Public Health Asso on 2019 annual mee g. Copies of more than 400 cles and publi ns CHIS data were disseminated to me g a endees at the Center's exhibit booth.

External CHIS presentation

April 16: The Stanford Maternal & Child Health Research In te (MCHRI) seminar, "The Health and Well-being of Children in Immigrant Families: Understanding the Impact of N onal Immig on Policy"

MEDIA COVERAGE

About 60 media stories featured CHIS research this year. A sampling:

"'Pit of In on': A Border Town's Crisis Has Nothing to Do With Migrants" (The New York Times)

"Diab mpu ns A 'Shameful Metric' of Inadequate Care" (Health Leaders Media)

"College students, seniors and immigrants miss out on food stamps. Here's why." s)

"Diabetes nearly double for Japanese Americans" (EurekAlert!)

"Winters mom struggles to maintain her food supply" (Daily Democrat)

"Emo onal Support May Help Reduce Health Dispari es, Says Study of Valley Cancer Survivors" (Valley Public Radio)

"California woman is unable to get insurance – so she took her health into her own hands" (Fresno Bee)

" er Losing a Partner, a Search for Companionship" (CALm ers, KPBS, KPCC, KQED and Capital Public Radio-California Dream Series)

"California Becomes First State to Require Healthy Drinks on Kids' Restaurant Menus" (Moms Rising)

*Ask*CHIS©

More than 1.43 million queries have been made using the web query tool *Ask*CHIS© since 2003.

Lifetime queries 1,425,903
Total indicators queried (12 months)*: 82,607

Top indicators:

1. Current Smoking Status – Adults
2. Ever diagnosed with diabetes
3. Body Mass Index – 4 level (adult only)
4. Currently insured
5. Ever diagnosed with asthma
6. Likely has had serious psychological distress during past year
7. Ever told has pre- or borderline diabetes
8. Time since last dental visit
9. Ever diagnosed with heart disease
10. Ever diagnosed with high blood pressure
11. Health status
12. Food insecurity (ability to a rd enough food)
13. Poverty level
14. Covered by Medi-Cal
15. Smoked e-cig e in past 30 days
16. Type of current health insurance coverage – all ages
17. Saw any health care provider for emo -mental and/or alcohol-drug issues in past year
18. Overweight for age (does not factor height)
19. Ever seriously thought about comm suicide
20. Have usual place to go to when sick or need health advice

*Ask*CHIS Neighborhood Edition©

Lifetime queries: 122,239
Total indicators queried (12 months)*: 24,753
Total geographies queried: 165,842
12-month geographies queries: 35,844

Top indicators:

1. Adult Diabetes
2. Adult Asthma
3. Currently Smoking Status – Adults
4. Adult Obesity
5. Adult Food Insecurity

*Period from Dec. 1, 2018 to Dec. 1, 2019

By Abigail R. Barker

Effect Of Population Size On Rural Health Insurance Premiums In The Federal Employees Health Benefits Program

DOI: 10.1377/hlthaff.2019.00912
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ABSTRACT **In the study of health insurance access and affordability in rural areas, a recurring issue is to understand the challenges that programs based upon the competitive market model, such as the Affordable Care Act's Marketplaces, may experience in less populated areas. This article analyzes data for 2013–16 from the Federal Employees Health Benefits Program, focusing on premium and enrollment data for "state-specific" plans—which offer insurance policies and set premiums at the regional level. In nonmetropolitan counties, each additional plan enrollee was associated with a $0.10 lower per capita biweekly premium, whereas this effect was trivial in metropolitan counties. Low health care provider counts were not associated with higher premiums in nonmetropolitan areas, nor was the degree of insurer competition an important predictor of premiums. However, there was substantial correlation over time, which suggests that some variables may be viewed less as sources of premium variation and more as influencing long-term premium levels. These findings suggest that small risk pools may contribute to the challenges faced by private plans in rural areas, in which case risk reinsurance is a potential policy solution.**

The Federal Employees Health Benefits (FEHB) Program, which began in 1960,[1] was the first publicly funded health insurance program to explicitly feature a competitive marketlike structure to provide a variety of coverage options to consumers while controlling costs. While the program is limited to federal employees, retirees, and their families, other programs such as Medicare Advantage and the Affordable Care Act (ACA) Marketplaces have since expanded the concept's reach. In 2018 more than forty-one million Americans obtained health insurance coverage through one of these three markets that are regulated and, in many cases, subsidized by the federal government.[1–3]

While popular for the promised advantages that competition may bring, marketlike mechanisms also create challenges in less populated coverage areas. Evidence from the federally facilitated and state-based Marketplaces suggests that premiums in rural counties are higher and have grown faster over time than those in urban areas.[4,5] In the Medicare Advantage program, urban premiums are lower, on average, and 95 percent of urban enrollees have access to a zero-premium plan, while only 73 percent of rural enrollees do.[6] The lower population densities of rural counties may be problematic for insurers because the original function of any insurance—to smooth risk—may be hindered by having small numbers of covered lives over which risk can be spread. In addition, there is often a provider shortage in places with low population density,[7] which makes the formation of adequate networks more difficult and perhaps more costly.

This may be further exacerbated by the limited scale of operations that characterizes many rural providers.[8,9] All of these effects contribute to the observed patterns of low health insurance plan participation and higher average premiums in many rural areas.

Thus, an important policy question from a rural perspective is how to define network adequacy standards that are neither so stringent that plans cannot comply, given the availability of providers, nor so relaxed that plans can satisfy the standards even while bypassing local providers who may be preferred by consumers. A related point is that payment methodologies might not adequately reflect the additional cost of network formation in some rural areas, or the possibility that rural providers operating below what may be termed "efficient scale" must charge more to cover their total costs. In this article I examine the relationship between FEHB Program premiums and several county-level population-related measures, to provide empirical evidence on these questions.

Study Data And Methods

DATA SOURCES AND DEFINITIONS I obtained FEHB Program premium and enrollment data for 2013–16 from the Office of Personnel Management (OPM), which administers the program, via a Freedom of Information Act request. I focused on the full (employer plus employee) biweekly premiums charged for individuals and families. I calculated total enrollment as a weighted average of individual and family enrollment, using OPM files on average family size, and created an effective per capita premium for each plan-county-year.

I used enrollment data to calculate the Herfindahl-Hirschman Index (HHI), a common measure of market concentration that accounts for the relative size distribution of firms in a market, approaching 0 when a market consists of a large number of firms of roughly equal size and reaching a maximum of 10,000 when a market is controlled by a single firm.[10] The HHI increases both as the number of firms in the market decreases and as the disparity in size among those firms increases. Thus, it rises as markets become less competitive. After computing the HHI with all (parent) issuers included, I removed several large "national" plans from the study because they set premiums at a nationwide level and must offer coverage in every US county. This allowed me to examine firms' behavior in rural areas in contrast to urban areas.

I focused on the behavior of the 173 "state-specific" plans offered by fifty-six parent companies, each of which can choose its service area (the set of counties within a state in which an insurance company offers a particular health plan)[11] and set premiums accordingly. Note that this means that the plans in this study were making pricing and other decisions in markets that may have been dominated by one or two national plans[12] or in markets with substantial state-specific plan activity. The data were analyzed at the plan-county level because rural counties are often marginal when a plan is determining its service area, and county-level characteristics and expected enrollment in an included county may influence premiums charged throughout the service area.[13]

Several population-related measures, at both the county level and the plan's service-area level, were calculated from data for 2015–16 from the Area Health Resources Files, maintained by the Health Resources and Services Administration. Service-area variables were summed or averaged over the counties in the same state where a given plan was offered. These measures included population; population density per square mile; and numbers of primary care physicians, specialists involved in patient care, and hospital beds. Other variables from the University of Wisconsin Population Health Institute's 2018 County Health Rankings[14] that controlled for health included the mortality rate (deaths per 1,000 population), percentage of the population in fair or poor health in 2016, and years of potential life lost due to health conditions in 2016.

MODEL DESIGN If the size of the risk pool is a contributing factor in explaining premium variation, I hypothesized that enrollment counts would be significant. If issues relating to scale of operations matter, then the county population per physician might be significant. If costs associated with forming networks are a contributing factor, then provider availability, measured by density per square mile, would be significant. Each of these variable combinations was calculated at the county and the service-area levels.

Service-area variables could particularly affect premiums in nonmetropolitan areas because service areas that include nonmetropolitan areas usually encompass nearby metropolitan areas.[15] Exhibit 1 shows the variable definitions chosen to reflect certain hypothesized relationships between enrollment counts and premiums.

Using 2013 Urban Influence Codes from the Department of Agriculture's Economic Research Service,[16] according to which counties are subdivided based on their population size and adjacency to other county types, I identified counties as metropolitan (code 1 or 2), corresponding to urbanized areas with at least 50,000 people; micropolitan (code 3, 5, or 8), corresponding to urbanized areas with at least 10,000 but fewer

EXHIBIT 1

Population and provider variables and their interpretations

Variable	Interpretation
Plan enrollment in county	Higher county enrollment means that the risk of high-cost enrollees can be shared across more consumers. Costs of providing adequate networks, which often require contracting with local primary care providers, also can be shared across more consumers, thus possibly lowering premiums.
Plan enrollment in service area	Higher service-area enrollment means that the risk of high-cost enrollees and network administrative costs can be spread out over more consumers, thus possibly lowering premiums.
Population in county or service area (thousands per primary care physician)	Higher values may indicate that providers can operate on more efficient scales, thus lowering per patient treatment costs—which in turn could mean lower premiums.
Primary care physicians per square mile in county or service area	Higher values mean more options for the plan to satisfy a given network adequacy criterion and thus could mean lower premiums.

SOURCE Author's analysis. **NOTE** The service area is the county or counties within a state in which an insurance company offers a particular health plan.

than 50,000 people; or rural noncore (code 4, 6, 7, or 9–12), areas that are neither metropolitan nor micropolitan and might or might not be adjacent to a more populated county. I controlled for metropolitan and micropolitan status as general indicators of economic activity beyond that captured by capacity variables specific to the health care industry (physician counts and number of hospital beds) or by volume variables (population counts and density, health measures, and per capita income) on the demand side. The reason for controlling for micropolitan status, given that these counties are typically categorized as rural, is that they are often hubs of health care access for residents of rural noncore counties. A descriptive analysis of premium and enrollment data was followed by a multivariate regression analysis using SAS PROC MIXED to analyze the panel data. (For technical details, see online appendix A.)[17] The natural log of the per capita premium was the dependent variable because premium data, like most cost data, tend to be skewed and non-normal. I began with a model that included all county descriptors and all primary care and specialist variables (with varying denominators), but after testing for multicollinearity, I removed some variables. I exponentiated the resulting estimates and evaluated the model at the means of all regressors to produce findings in standard dollar units. All analyses were conducted using SAS, version 9.4.

LIMITATIONS This analysis had some limitations. First, the FEHB Program is a unique market for several reasons: Federal employees might not be a representative group; the level of cost sharing is high and fairly uniform, and it does not depend on the subscriber's income; and the presence of national plans that must choose premiums at a national level of geography changes the landscape for all other plans in a manner that has no counterpart in other market-based programs such as Medicare Advantage and the Marketplaces.

Second, the data were extremely autocorrelated, meaning that each year's premium for each plan in each county depended heavily on the prior year's data. This model primarily addressed premium variation and thus was not able to explain long-term differences in premium levels.

Third, provider variables were not measured separately in each year, so the effect of long-term trends in terms of provider shortages might not be fully captured by this analysis.

Finally, I accounted only for physicians, not for other providers involved in primary care, because of licensing and practice variation across states and over time. Because nonphysician professionals are relied upon in many rural areas, this may have affected the magnitude of some findings.

Study Results

Among the 1,167 metropolitan counties, 1,055 (90.4 percent) had state-specific plans available in 2014–16, while 515 of 641 micropolitan counties (80.3 percent) and only 734 of 1,335 rural noncore counties (55.0 percent) did (exhibit 2). In 2016 metropolitan counties with state-specific plans had, on average, 9.66 participating plans, compared to 3.61 and 2.26 in micropolitan and rural noncore counties, respectively. This study did not model the choice to include or exclude a county in a service area, so all results should be interpreted on that basis. In general, both non-

EXHIBIT 2

Descriptive characteristics of US counties, by county geographic type, 2014–16

	County type		
	Metropolitan (*n* = 1,167)	**Micropolitan (*n* = 641)**	**Rural noncore (*n* = 1,335)**
Counties with state-specific plans	1,055	515	734
Average state-specific plans per county			
All counties	8.73	2.88	1.24
Counties with state-specific plans	9.66	3.61	2.26
Average FEHB Program state-specific enrollment in 2016	1,085.9	34.0	15.0
Average Herfindahl-Hirschman Index in 2016[a]	4,995	5,282	5,228
Average mortality (deaths per 1,000 population) in 2016	4.20	4.78	5.44
Average premature mortality (years of potential life lost) in 2016	7,092	7,924	8,571
Average percent of population in fair or poor health	15.8	17.3	17.3
Average county land area (square miles)	867	1,180	1,624
Average population density per square mile	683.5	76.1	35.3
Average number of:			
Primary care physicians	203.9	28.9	8.8
Patient care specialists	276.2	20.1	3.1
Primary care physicians per square mile	0.65	0.05	0.01
Hospital beds	758.5	142.6	44.5
Average per capita income ($)	41,660	38,062	37,201
Average per capita biweekly premium in 2016 ($)	220.76	218.49	215.69

SOURCE Author's analysis of Federal Employees Health Benefits (FEHB) Program 2016 premium and enrollment data, Area Health Resources Files (2015–16) data, and 2018 County Health Rankings data. **NOTE** County types are defined in the text. [a]The Herfindahl-Hirschman Index (0–10,000) is a measure of market concentration that accounts for the relative size distribution of firms in a market; see the text for details.

metropolitan county types had worse health indicators, lower incomes, and larger land areas than metropolitan counties did. In terms of population and provider measures, metropolitan counties had significantly higher population density and numbers of primary care providers, specialists, and hospital beds. The HHI was somewhat lower in metropolitan counties (4,995) than in micropolitan and rural noncore counties (5,282 and 5,228, respectively), which indicates slightly more competition in metropolitan counties. Average per capita premiums were similar: $220.76 in metropolitan counties, compared to $218.49 in micropolitan and $215.69 in rural noncore counties. Average state-specific FEHB Program enrollment (summed over all plans within a county) across county types was dramatically different, with 1,085.9 people covered in metropolitan counties[18] compared to 34.0 and 15.0 in micropolitan and rural noncore counties, respectively.

Several variables were significant, although many had a trivial impact on the dollar value of the per capita premium. First, the average biweekly baseline premiums were very similar in the three types of counties, as noted above, and compared to rural noncore counties, micropolitan status made no significant difference in the average premium (exhibit 3). Mortality was significant in both sets of counties, with each additional death per 1,000 population being associated with a $2.62 (metropolitan counties) or $2.67 (nonmetropolitan counties) increase in premiums.

Market concentration, measured by the HHI, was statistically significant but trivial ($0.00, rounded off to the nearest cent) in association with the per capita premium in metropolitan counties and was not associated with the nonmetropolitan per capita premium. There was a significant negative relationship between a plan's enrollment in a nonmetropolitan county and the premium charged. Each additional enrollee in a nonmetropolitan county was associated with a $0.10 reduction in the average biweekly premium, whereas this relationship was trivial in metropolitan counties. Meanwhile, one additional primary care physician per square mile in a nonmetropolitan county was associated with a biweekly premium that was higher by almost $42, while for the metropolitan-county model this effect was estimated at –$0.11. The absolute size of these estimates is misleading, however, since 95 percent of nonmetropolitan counties have 0.0–0.11 primary care physicians per capita—which means that a one-unit increase is not realistic. The important point is that geographic density of providers played a far greater

EXHIBIT 3

Marginal effects of selected variables on average per capita biweekly premiums in the Federal Employees Health Benefits Program, 2013–16

	Metropolitan counties		Nonmetropolitan counties	
Variable	Marginal effect ($)	*p* value	Marginal effect ($)	*p* value
Baseline (intercept)	168.75	<0.0001	168.10	<0.0001
Micropolitan status	—[a]	—[a]	−2.34	0.0606
Deaths per 1,000 population	2.62	<0.0001	2.67	<0.0001
Per capita income (thousands)	0.14	0.0005	0.10	0.1544
Percent of the population in fair or poor health (range is 0–100%)	0.16	0.1741	0.23	0.1250
Herfindahl-Hirschman Index (range is 0–10,000)[a]	0.00	<0.0001	0.00	0.5646
Plan enrollees in:				
County	0.00	<0.0029	−0.10	<0.0001
Service area	0.00	<0.0001	0.00	<0.0001
Primary care physicians per square mile in:				
County	−0.11	<0.0001	41.71	0.0298
Service area	0.45	<0.0001	9.61	<0.0001
Population (1,000s) per primary care physician in:				
County	0.32	0.3166	0.44	0.1675
Service area	0.76	0.4795	1.37	0.1242
Hospital beds per 1,000 population in:				
County	−1.34	<0.0001	−0.20	0.3926
Service area	−1.73	<0.0001	−1.73	0.0002

SOURCE Author's analysis of Federal Employees Health Benefits (FEHB) Program 2016 premium and enrollment data, Area Health Resources Files (2015–16) data, and 2018 County Health Rankings data. **NOTES** "Service area" is defined in the notes to exhibit 1. "Metropolitan counties" are defined in the text. "Nonmetropolitan counties" are either micropolitan or rural noncore counties (also defined in the text). The marginal effect is derived by exponentiating the raw (logged) estimates from the regression analysis evaluated at variable means. The Herfindahl-Hirschman Index is explained in the text. [a]Excluded from this model.

role in explaining premium variation in nonmetropolitan counties than in metropolitan counties. Furthermore, the effect for nonmetropolitan counties was positive, which suggests that the presence of more providers in a geographic area was associated with higher premiums. The estimated coefficients pertaining to physicians in exhibit 3 cannot be directly compared to each other because the units of the explanatory variables differ, but an additional analysis that used standardized regressors showed that of the four physician supply variables included, the two most influential in the nonmetropolitan model were primary care physicians per square mile in the county and in the service area (see appendix B).[17] Physician variables were of trivial importance in the metropolitan model relative to nonphysician variables, such as hospital beds. The results for primary care physicians only are reported in exhibit 3; using the sum of primary care and specialist physicians did not alter any findings.

The autoregressive parameter estimate was approximately 0.73 (with a possible range from 0 to 1, with 1 indicating perfect year-to-year correlation), which means that average per capita premiums were highly correlated with those in previous years (data not shown).[19] Furthermore, there was some endogeneity in the model because of the interaction between premium and enrollment, although the reduced form was still appropriate given the research objective. Also, because enrollees pay only 25–28 percent of the premium themselves,[1] this effect is diminished as enrollees worry less about price than they otherwise would.[20] Moreover, a per capita average premium was used, which is not the same as the advertised premium to which each consumer responds.

Discussion

This article identified several sources of FEHB Program premium variation in rural areas, including mortality rates, number of plan enrollees, primary care physician density, and number of hospital beds. The number of plan enrollees and primary care physician density were much more important in the nonmetropolitan model than in the metropolitan model. The hypothesis that greater market concentration would be associated with higher premiums was not sup-

ported by this analysis. This is likely due in part to the fact that the state-specific plans in the FEHB Program market must be responsive to premiums set by the nationwide plans. This could help explain the relationship between mortality and premiums, since national plans set premiums based upon national data, while state-specific plans can incorporate local or regional mortality data to determine optimal premiums. However, the degree to which they can do this depends upon how dominant the national plans are in an area.

Of the physician supply variables, the measure of primary care physicians per square mile in a nonmetropolitan county (exhibit 3) was significant and the most sizable. The corresponding variable at the service-area level was also significant but much smaller in size. However, the positive coefficients in the nonmetropolitan model did not support the hypothesis that adding primary care providers per square mile would make it easier for plans to satisfy network adequacy, which might in turn translate to lower premiums. It may be that a significant difference in physician density sometimes occurs as a result of proximity to a larger urban area with higher average prices, although versions of the model that used additional interaction effects did not identify the mechanism. Other possibilities are that there is some supply-induced demand, or conversely that lack of easy access inhibits patients from using care. It is possible that FEHB Program plans add available physicians to their networks when possible and factor this additional cost into the premium as an attribute FEHB Program consumers may prefer. The nonsignificant effects of the county and service-area population per physician variables failed to support the notion that a lack of efficient scale for providers leads to premium increases.

The fact that a plan's enrollment in a nonmetropolitan county was associated with a reduced premium provides evidence that insurers increase the price of a plan to account for the risk of outliers in a group of enrollees, so that in small geographic areas with few enrollees, the average effect is higher. In fact, the coefficient for this variable was much larger in the nonmetropolitan model than in the metropolitan model, which corroborates this hypothesis. Because plans decide on including counties in their service area at this level, it is likely that counties with too-small potential enrollment are excluded from the service area altogether. Estimates at the service-area level, where network administration costs might be more likely to be spread over enrollment, were significant but trivial, which suggests that these costs might not be a significant factor in premium variation.

Even though fluctuations in market concentration were not important in predicting year-to-year premiums, persistent market concentration could create consistently high premiums. This could explain the trivial findings for the HHI variable in this analysis. Persistent market concentration on the health care delivery side—for example, among hospital systems—is also likely a contributing explanation.[21] In general, because market-based insurance implicitly assumes a dynamic environment, policy makers may view this as cautionary evidence.

Conclusion

The strong association of the county enrollment variable with the premium suggests that a useful policy for promoting affordable insurance in rural areas is reinsurance, which could help mitigate the risk of high-cost outliers in small geographic areas.

Although I did not detect the expected relationship between low total population per provider (a proxy for a smaller-scale provider) and higher premiums, this may be due to the exclusion of such providers from networks instead of including them at higher cost. Changes to payment policy (across government programs) could help rural providers cover fixed costs such as rent, equipment, and electronic medical record software. While premium variability is fairly limited within the FEHB Program, for reasons discussed above, it is a much more prevalent issue in Medicare Advantage and the ACA Marketplaces.[5,22] All of these markets could benefit from additional policies that support the rural health care workforce. Ensuring that there is a sufficient number of providers is a necessary step in building a market-based health insurance program that will function well in rural areas. Many of the 601 rural noncore counties with no state-specific plans—which also have few Marketplace issuers—have severe provider shortages.

While this analysis did not control for network adequacy standards, which differ by state, the idea that complying with such standards represents an increased cost for plans was not supported. Generally, this suggests that there may be room to strengthen adequacy standards. However, it is possible that the challenge of complying with the standards could be one reason why many rural counties have no state-specific plan offerings. In many of those counties, the number of potential enrollees is quite small, making the cost high relative to potential gains. Further research to better quantify the standards and their enforcement is needed to better understand their full impact. ■

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NOTES

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11 Some plans are offered in contiguous states; others are not. Although some metropolitan areas cross state lines, to construct meaningful "service area" variables that capture supply-side measures in a proximate county, I defined *service area* as the set of counties within a state in which an insurance company offers a particular health plan.

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17 To access the appendix, click on the Details tab of the article online.

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Health Insurance and Mortality: Experimental Evidence from Taxpayer Outreach
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ABSTRACT

We evaluate a randomized pilot study in which the IRS sent informational letters to 3.9 million taxpayers who paid a tax penalty for lacking health insurance coverage under the Affordable Care Act. Drawing on administrative data, we study the effect of the intervention on taxpayers' subsequent health insurance enrollment and mortality. We find the intervention led to increased coverage in the two years following treatment and that this additional coverage reduced mortality among middle-aged adults over the same time period. Our results provide the first experimental evidence that health insurance reduces mortality.

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1 Introduction

Near the beginning of 2017, the Internal Revenue Service (IRS) sent informational letters to taxpayers who had previously paid an income tax penalty for lacking health insurance coverage under the so-called individual mandate provision of the Affordable Care Act (ACA).[1] Of the 4.5 million households who met the criteria for inclusion in this pilot program, 3.9 million were randomly selected to receive the intervention. In this paper, we exploit the pilot's randomized design to study the operation of tax-based incentives for promoting health insurance take-up. Because the pilot led to increased coverage, we also use it to explore the causal relationship between health insurance and mortality.

Reducing the share of uninsured Americans has been an important goal of U.S. domestic policy for decades, but substantial controversy still exists over which policies are effective at achieving this objective. For example, some have criticized the individual mandate as being too small or too non-salient to effectively induce taxpayers to increase their coverage (Auerbach et al., 2010). Partly in response to such concerns, the federal government, states, and non-profits spend hundreds of millions of dollars each year on outreach efforts to bolster the incentive effect of policies like the individual mandate.[2] By linking the IRS pilot to administrative micro-data on health insurance coverage, we can shed light on these concerns and on the potential for outreach programs to alleviate them. Although the individual mandate was effectively repealed at the federal level, exploring these issues is important for assessing proposals to impose (or re-impose) an individual mandate at the state or federal level (Levitis, 2018) and for informing outreach efforts (Dorn, 2019).

The second question we use the pilot to investigate is the effect of health insurance on mortality. Although this question is among the most widely studied questions in health economics, it is notoriously difficult to answer in credible ways.[3] Theoretically, the magnitude and even existence of an effect is ambiguous – for example, uninsured individuals with acute life-threatening conditions may still seek and obtain emergency care, which most hospitals in the United States are legally required to provide (Newhouse et al., 1993; Finkelstein and McKnight, 2008; Black et al., 2019). Similarly, because of adverse selection, individuals who choose to forego coverage to which they have access may be particularly unlikely to benefit if induced to enroll. Empirically, a growing number of well-designed quasi-experimental studies suggest that health insurance does substantially

[1] From 2014 to 2018, if federal law required most individuals to enroll in health insurance coverage or pay a tax penalty. As with other taxes, the Internal Revenue Service (IRS) played a central role in administering this provision, including explaining its operation to taxpayers.

[2] Federal funding for ACA-related outreach has fluctuated in recent years, with the budgeted amount for ACA advertising declining from $100 million in 2017 to $10 million in 2018. However, states and non-profits have continued to fund coverage-related outreach efforts at high levels – e.g., California's 2018 budget for Navigator programs was $111 million (Commonwealth Fund, 2017).

[3] The issue is also disputed among policymakers, some of whom have expressed skepticism about whether health insurance reduces mortality (Phillips, 2017).

reduce adult mortality in certain contexts (Card, Dobkin and Maestas, 2009; Sommers, Baicker and Epstein, 2012; Sommers, Long and Baicker, 2014; Swaminathan et al., 2018; Khatana et al., 2019; Borgschulte and Vogler, 2019; Miller et al., 2019),[4] but the results that emerge from these studies rely on unverifiable and sometimes controversial assumptions (Levy and Meltzer, 2008; Wolhandler and Himmelstein, 2017; Black et al., 2019). Prior randomized studies on this question are rare and inconclusive, both in the United States (Finkelstein et al. 2012 ("the Oregon study"); Weathers and Stegman 2012) and worldwide. [5] In addition, prior research – whether observational or experimental – focuses on the health effects from expanded access to coverage, not from changes in enrollment behavior with respect to coverage that was already available. Understanding the effects of the latter type of intervention – our focus here – is important for assessing the health benefits from outreach efforts of the type commonly undertaken by governments and non-profits.

Our results provide evidence that the intervention increased the likelihood of taxpayers obtaining coverage, and that this additional coverage reduced middle-age mortality during the two years following the intervention. Beginning with the effect on coverage, we find that among individuals who were uninsured for some portion of the prior year, those in the treatment group were 1.3 percentage points more likely to enroll in coverage in the year following the intervention than those in the control group, a 2.8% relative increase. On average, each letter increased coverage among this group by 0.14 months during 2017, or one additional year of coverage per 87 letters sent. We document larger effects among individuals who lacked any coverage during the prior year and among older non-elderly adults. The effect appears to operate through new enrollments in the individual marketplace as well as through Medicaid take-up. Although there is some attenuation, coverage rates remains higher in the treatment group than in the control group in the two years following the intervention.

In the second part of the paper, we study whether the additional coverage induced by the intervention reduced mortality among those who enrolled. We present evidence that it did. In the two years following the intervention, the rate of mortality among previously uninsured 45-64 year-olds was lower in the treatment group than in the control by approximately 0.06 percentage points, or one fewer death for every 1,648 individuals in this population who were sent a letter. We find no evidence that the intervention reduced mortality among children or younger adults over our sample period. Exploiting

[4] A separate body of quasi-experimental evidence finds that child health coverage yields health benefits (Currie and Gruber, 1996*a*,*b*; Meyer and Wherry, 2012; Goodman-Bacon, 2018; Brown, Kowalski and Lurie, Forthcoming).

[5] Newhouse et al. (1993) reports experimental evidence that health insurance can reduce mortality but the intervention they study consists of variation in cost-sharing rather than the presence or absence of coverage itself. Escobar, Griffin and Shaw (2011) and Giedion, Alfonso and Diaz (2013) survey international evidence on the link between health insurance and mortality and not report the existence of any randomized studies.

treatmentfgroupfassignmentfasfanfinstrumentfforfcoverage,fwefestimatefthatfthefaveragefi er-monthfeffectfoffthefcoveragefinducedfbyfthefinterventionfonftwo-yearfmortalityfiwasfi approximatelyfi-0.17fi ercentagefi oints.fiWefcaution,fhowever,fthatfthefmagnitudefoffthefi mortalityfeffectfisfimpreciselyfestimated;fourfconfidencefintervalfisfconsistentfiwithfbothfi moderatefandfilargefieffectsfoffcoveragefonfmortality.fi Atfthefsamefitime,fourfestimatedfi confidencefintervalfisfsufficientlyfpreciseftofrulefoutfi er-monthfeffectsfsmallerfinfmagnitudefi thanfi-0.03fi ercentagefi oints,fincludingfthefestimatefromfthefOLSfregressionfoffmortalityfi onfcoveragefacrossfindividuals.fi Wefviewfthefieffectsfatftheflower-magnitudefiendfoffourfi confidencefintervalfasfmostfplausible,fgivenfthefitreatmentfeffectfmagnitudesfreportedfinfi priorfresearchfi(seefBlackfetfal.,f2019,ffforfafreview).fiWefalsofpresentfsuggestivefevidencefi thatfthefisteady-statefieffectfoffiannfialfcoveragefonfmortalityfiisfilessfithanfi12fitimesfourfi estimatedfi er-monthfieffectfduefitofconcavityfinfithefirelationshipfibetweenfcoveragefiandfi mortality.fi Withfthesefcaveats,fourfresultsfprovidefthe firstfexperimentalfevidencefthatfi healthfinsurancefreducesfmortality.fi

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[6] For(two(prominent((xamples,(compare(the(findings(of(the(Institute(of(Medicine's(2002(Consensus(Report(with(Kronick (2009).(

concern' for both' experimental' and' non-experimental' analyses' of' the' topic.' The' size' of' our'sample permits'us'to'restrict'our'main'mortality analysis'to'older'adults, a population' for' whic' the' protective' effects' of' coverage' on' mortality' is' more' likely' to' be' detectable.' In'addition,'the'group'for'whic' we'identify'the' ealth' effect'of'coverage'–'i.e.,'those'who' already' have' access' to' coverage' but' for' whom' misperceptions' or' other' frictions' prevent' take-up –' is' particularly' policy' relevant,' since' suc' individuals' coverage' decisions' can' be'shaped'through'outreac' efforts'of'the'type'commonly'employed'by'governments'and' non-profits.' Indeed,' our' experimental' sample' represents' the' near-universe' of' uninsured' individuals'who'are'the'typical'targets'of'suc' policy'efforts.'

Methodologically,'our'analysis'illustrates'how large-scale'field'experiments'can'provide' information' not' only' about' the' intervention' being' studied,' but' also' about' downstream' effects' of' the' behavior' that' the' intervention' induces.' In' particular,' ealth' insurance' access'is'expensive'to'provide,'but'absent'randomization,'credible'estimates'of'the'effect' of' ealth' insurance' on' ealth' are' difficult' to' obtain.' By' exploiting' a' pilot' study' that' randomly'encouraged'individuals'to'take'up'coverage'that'was'already'available'to'them,' our' approac' represents' a' cost-effective' and' ethical' method' for' studying' the' effect' of' coverage'on'subsequent' ealth' outcomes.'

Finally, we'ighligh' t a new'resource'for'studying' ealth' insurance'in'the'United'States:' information'returns'about'individual'coverage'reported'to'the'IRS.'Prior'researc' on'this' topic'has'mostly'relied'on'self-reported'survey'data'for a'small'fraction'of'the population' or'administrative'coverage'data'obtained'from'a'single'insurer.' Our'dataset'offer'several' important advantages.' First,'it'covers'the'near-universe'of'individuals'living'in'the'United' States,'whic' limits'concerns'about'selection'and'endogenous'sample'retention.' Second,' because' the' data' contain' individual-level' coverage' information' from' multiple' insurers,' it' allows' us' to' observe' flows' between' insurance' providers' or' types' of' insurance.' Third,' the' monthly' frequency' of' our' data' allows' us' to' more' precisely' quantify' the' first-stage' effects'of'interventions'like'the'one'we'study'and'the'dynamics'of'treatment'effects'over' time.' Because' most' prior' studies' have' lacked' suc' precise' measures' of' coverage,' they' have typically'focused'on a'binary'indicator'for being'enrolled'in'any'coverage'at a'single' point'in'time,'whic' can'bias'instrumental variable'estimation'when'the'treatment'affects' coverage'on'other'margins.'

The' remainder' of' the' article' proceeds' as' follows.' Section' 2' provides' institutional' background' on' ealth' insurance' coverage' in' the' United' States' and' the' federal' individ-' ual' mandate.' Section' 3' describes' our' researc' design' and' provides' information' about' our' data,' the' pilot' study,' and' summary' statistics.' Section' 4' analyzes' the' effect' of' the' intervention'on'coverage.'Section'5'contains'the'mortality'analysis.'Section'6'concludes.'

2 Institutional Background

2.1 Health Insurance Coverage in the United States

Most people in the United States with health insurance have coverage from their employer (employer-sponsored insurance, or ESI). The second largest source of health insurance is through a government program such as Medicaid, Medicare, or the Veteran's Administration. Individuals who do not receive health insurance from one of these sources may enroll in an "Exchange" plan, purchased through their state's health insurance marketplace, or in an "Off-Exchange" plan.

To understand how the pilot affected coverage decisions, it is helpful to understand the regulatory constraints on the timing of health insurance enrollment. Unless special circumstances apply,[7] one may enroll in Exchange coverage for the year only during the year's open enrollment period. For 2017 Exchange coverage, the open enrollment window was from November 1, 2016 to January 31, 2017. In addition, individuals are required to apply for Exchange coverage by the 15th day of the month prior to the month in which coverage is to begin. Thus, to obtain coverage for January 2017, individuals must have applied by December 15, 2016; to obtain coverage for February 2017, individuals must have applied by January 15, 2017. Most employer-sponsored plans also have an annual open enrollment period to enroll in coverage for the year, often ending a month or two prior to the end of the calendar year (although the timing varies). In contrast, individuals can obtain Medicaid coverage at any time during the year (e.g., during a hospitalization), and Medicaid coverage can apply retroactively for up to three months prior to the month of application.

Most individuals apply for Exchange coverage through an online portal. States may rely on the federal marketplace or operate their own state-based marketplace. Individuals who visit the federal online portal, healthcare.gov, are routed to the applicable marketplace based on their location. To determine the after-subsidy cost of Exchange coverage, individuals who visit the Exchange input information about their family size and income. If the household qualifies for Medicaid, they can enroll in that coverage through the website as well.

In recent years, the share of Americans under the age of 65 who lack health insurance coverage for the entire year is approximately 9%-13%, depending on the source of the estimate.[8] The share of Americans who lack coverage for one month or more during the year is much higher, approximately 21% to 26%, depending on the estimate. Among those with full-year coverage in 2016, 65% received at least one month of coverage from

[7] Examples of life events that qualify an individual to enroll in coverage outside of the standard open enrollment window include losing health coverage (e.g., by losing one's job), getting married or divorced, or the birth of a new child.

[8] The statistics cited in this paragraph are reported in Lurie and Pearce (2019).

their employer. An additional 35% received at least one month of government-provided coverage (e.g., Medicaid or coverage provided by the Veteran's Administration). Finally, 10% of those with full-year coverage were enrolled in at least one month of non-group coverage (i.e., from an Exchange or off-Exchange plan).

Increasing the share of Americans with health insurance coverage has been a long-term policy goal of U.S. tax and health policy-making. A range of tax provisions support this objective, such as the income and payroll tax exclusion for employer-provided health insurance, the premium tax credit, the employer mandate, and the individual mandate – the policy that is the focus of our intervention.

2.2 The Individual Mandate

The Shared Responsibility Payment provision of the Patient Protection and Affordable Care Act (ACA), for the individual mandate, as it is commonly referred to, requires most individuals to obtain health insurance coverage for themselves and their dependents or pay a penalty in the form of a tax. The goal of the provision was to reduce the rate of uninsured Americans and reduce adverse selection in the Exchanges. Preventing adverse selection is particularly important for the viability of the Exchanges because the ACA prohibited insurers from denying or limiting coverage based on preexisting conditions.

Individuals who lack qualifying health insurance coverage for themselves or a dependent for one or more months during the year we an additional amount on their annual income tax return – the so-called penalty – unless an exemption applies. Exemptions are available under a range of circumstances; they include: unaffordability of the available coverage to the individual, income below the income tax filing threshold, general hardship, individuals living abroad, gaps in coverage of three months or less, and religious objections.[9]

The amount of the annual penalty ed by a taxpayer depends on the taxpayer's income, family size, and number of months without coverage. The specific parameters vary by ear, but in 2017 (our first ear of focus), the penalty for taxpayer i for month m, P_{im}, is given by:

$$P_{im} = \frac{1}{12} \max \left\{ \min \left\{ 695\, A_i + 347.5\, C_i\,,\ 2085 \right\}\ ,\ 0.025\ (I_i - F_i) \right\}$$

where A_i is the number of adults in i's return, C_i is the number of children, F_i is the applicable filing threshold for taxpayer i, and I_i is a measure of i's income during the tax ear.[10] In turn, i's annual penalty , P_i, is the sum of i's monthly penalties, limited by the early premium for the national average low-cost bronze plan that would be available

[9] For additional details, refer to Lurie and McCubbin (2016).

[10] Specifically, I_i refers to modified adjusted gross income, which for purposes of the individual mandate is defined as adjusted gross income plus untaxed foreign income and tax-exempt interest.

to i's household ($LCBP_i$:

$$P_i = \min \left\{ \Sigma_{m=1}^{12} P_{im} \, , \, LCBP_i \right\}$$

In December of 2017, the President signed the Tax Cuts and Jobs Act, which among other changes to the tax code, effectively eliminated the individual mandate for 2019 and onward. In response, a number of states have enacted, or are considering enacting, legislation at the state-level that would resemble the operation of the federal individual mandate. To date, California, New Jersey, Rhode Island, and Washington, D.C. have already enacted such legislation. In addition, Massachusetts adopted an individual mandate as part of its 2006 health reform, and it remains in effect today (see Levitis, 2018).

Even while the federal mandate was in effect, a number of elements in its design may have limited its effect on individuals' coverage decisions.[11] First, some individuals may have neglected to consider the penalty when deciding whether to enroll in coverage, either because the penalty was not salient or because they lacked knowledge of its existence (Chetty, Looney, and Kroft, 2009). Because the penalty appears as a single line on one's tax return, even those who paid it may not have learned of its existence, especially if they used software or a third party to prepare their tax return. Second, the penalty formula is quite complex (as described above, it is the minimum of a maximum of a minimum). Complex incentives may yield weaker behavioral effects than when the incentive is simple (Abeler and Jäger, 2015). Third, the timing of the mandate's penalty may render it less effective (Gallagher and Muehlegger, 2011). Even if the penalty is salient to individuals when they pay their taxes (typically February through April), they may forget about it by the close of the calendar year when the next open enrollment window begins. These elements of the mandate's design motivated the IRS pilot study.

3 Data and Research Design

This section describes our data, the experimental sample, the intervention we study, and provides summary statistics and balance checks relating to our sample population.

3.1 Data Sources

For our analysis, we rely on administrative records from population files housed at the Internal Revenue Service (IRS). These data include annual information on the universe of individuals who file or are listed on individual tax returns, as well as annual and sub-annual information on the universe of individuals listed on information returns.

[11] Separately some have suggested that the penalty amount was too low to motivate individuals to obtain coverage.

Our health insurance coverage data are derived from information returns (Form 1095-A/B/C), which provide monthly coverage information at the individual level. The forms are provided annually to the IRS by private and public insurers, self-insured employers, and health insurance marketplaces. In addition to allowing us to identify whether an individual is covered during a particular month, the data provide information about the type of coverage which the individual is enrolled (e.g., Medicaid, Employer-Sponsored Insurance (ESI), or individual coverage purchased through an Exchange).

Only certain forms of health insurance, referred to as minimum essential coverage (MEC), satisfy the individual mandate. These are the only forms of coverage reported on the Form 1095's. Examples of health insurance plans that do not constitute MEC include plans limited to vision or dental care, workers' compensation, or coverage that is limited to a specific disease or condition. For additional details about the coverage data on which we rely, refer to Lurie and Pearce (2019).

Our measure of health insurance coverage is available monthly from January 2015 through December 2018. We assume that individuals for whom no Form 1095 is received for a year are uninsured during each month of that year.

Our data on mortality comes from the Social Security Death File, which records the universe of U.S. deaths along with the date at which the death occurred. Our analysis includes deaths that occurred through December 2018. Unfortunately, the data do not contain information about the cause of death.

3.2 Sample Construction

To construct our sample, we first identified tax returns for 2015 that reported owing a positive penalty under the individual mandate. Approximately 6.1 million 2015 tax returns fell to this category.[12] For context, the same year, the total number of tax returns filed was approximately 140 million, of which 22.8 million did not indicate full-year coverage for each household member (i.e., each individual listed on the tax return).[13]

We next excluded returns that satisfied one or more of the following conditions: the tax payer was claimed as a dependent; the filing address was not from one of the 50 U.S. states or D.C.; the tax payer filed multiple (non-amended) 2015 returns; the filing address listed a second address line (typically "C/O"); the return listed an Individual Taxpayer Identification Number for a tax payer or dependent; the tax payer was over age 64 or under

[12] This figure refers to the 2015 tax returns that had been filed and posted on the IRS system as of October 2016 when the sample was constructed. Some additional 2015 tax returns were filed after that date and other previously filed 2015 returns were amended.

[13] Among those tax returns that did not indicate full-year coverage or each household member and that did not report owing a penalty approximately 11.3 million claimed an exemption for one or more months of the year. Among the remaining approximately 5.4 million returns some reported a penalty but filed after our sample was constructed whereas others failed to either claim an exemption or report a penalty.

age 18 at the start of 2017; the taxpayer was observed to die prior to the date of sample construction; the taxpayer's account was subject to certain audit examination codes; and a household member listed on the return was observed to have enrolled in Exchange coverage either in 2015 or in 2016 prior to our sample being finalized. As discussed further below, every individual listed on a return is included in our analysis: the primary taxpayer, the spouse if married and filing jointly, as well as up to four dependents. The final sample consists of 4.5 million returns, corresponding to 8.9 million individuals.

3.3 Pilot Study

The pilot intervention we study took the form of an informational letter sent to taxpayers from the IRS. The letter informed recipients that they had paid a penalty in 2015; provided information about the penalty and plan costs for 2017; and provided instructions for recipients to investigate the availability of Exchange and Medicaid coverage through healthcare.gov. A sample letter is provided in Appendix Figure A.1. Individuals in the sample were randomly assigned to receive a letter (86%) or to a control group (14%). One letter, addressed to the taxpayer(s), was sent per return. Hence, randomization was conducted at the household level.[14]

The treatment arms varied in either the content or the timing of the intervention. Households selected to receive a letter were randomly assigned across several treatment arms. We explore differences in coverage effects across treatment variants in a companion paper, so provide only a high-level overview here. The baseline treatment contained a personalized estimate of the taxpayer's potential 2017 penalty (based on 2015 income and household composition) and was mailed in mid-January 2017, approximately two weeks before the close of the open enrollment period. A "non-personalized" treatment variant was identical to the baseline treatment except that the letter provided generic information about the 2017 penalty formula rather than a personalized estimate. An "exemption information" treatment variant was identical to the baseline treatment, but included additional information about penalty exemptions for which the taxpayer might apply. An "early mailing" treatment variant was identical in content to the baseline treatment but was mailed in late November 2016, near the start of the open enrollment period. Based on operational considerations, approximately 21 percent of the treatment sample was assigned to the early mailing variant. The remainder of the treatment sample was randomly divided among the baseline treatment and the other two variants in equal proportions. Finally, the baseline treatment and each of the three variants were randomly divided into two even-size groups, one of which had a Spanish-language translation printed on the reverse side of the letter and one of which did not. Appendix Table A.1 summarizes

[14] Households' ere 'block-randomized' based 'on' age 'and' gender 'of' primary 'filer,' marital 'status,' number' of' dependents,' income,' the' presence' of' self-employment' income,' 2014' penalty' status,' and' hether' the' taxpayer's' state' expanded' Medicaid' and/or' participated' in' the' federal' marketplace' during' 2017.'

the(allocation(of(the(sample(across(the various(treatment((groups.(

3.4 Summary Statistics and Balance Checks

Table(1(contains(individual-level(summary(statistics(for(the(experimental(sample(and(information(about(covariate(balance.(As benchmarks,(Columns 1(and(2(provide(summary(statistics(for(a(random(1%(sample(of(the(overall(population(of(tax(returns (Column(1)(as(well(as(for(the(full population(of(returns(that(did(not(indicate(full-year(coverage(for(2015 (Column(2).[15] Relative(to(these(baseline(populations,(individuals(in(our(sample (Column(3)(are(younger,(more(likely(to(be(male,(and(less(likely(to(be(married.(Notably,(although(our(sample(is(much(lower(income(than(the(overall(population,(it(is(higher(income(on(average(than(the population(without(full-year coverage,(many of(whom(qualified(for an(income-based(exemption(from(the(penalty.(

Although a household being(included(in(our(sample(implies(that(at(least(one(individual(in(the(household(lacked(coverage(for(one(or(more(months(during(the(year,(that(individual(may(have(had(coverage(for(other(months(during(the(year,(and(other(individuals(in(the(household(may(have(been(enrolled(in(coverage(during(every(month(of(the(year.(In(particular,(Table(1(shows(that(over(half (58%)(of(the(individuals(in(our(sample(had(coverage(in(at(least(one(month(in(2015,(and(a(substantial(minority (28%)(had(coverage(in(every(month(of(2015.(Along(both(of(these(measures,(the(raction(of(our(sample(with(coverage(rose(from(2015(to(2016.(Finally,(note(that(in(both(2015(and(2016,(most(individuals(had(either(full-year(coverage(or(zero(months(of(coverage.(

Columns(4-6(of(Table(1(investigate(covariate(balance(between(the(treatment((and(control(groups.(Consistent((with(the(randomized(design(and(large(sample(sizes,(the(treatment((and(control(groups(are(quite(similar(in(most(respects.([16]

4 Coverage ects

This(section(investigates(the(effect(of(the(treatment((on(individuals'(subsequent((coverage(decisions.(We(first(present((results(relating(to(coverage(in(the(year(following(the(intervention.(Next,(we(turn(to(longer-term(coverage(outcomes.(Finally,(we(explore(the(total(

[15] The4latter4category4contains4taxpayers4who4claimed4an4exemption4and4taxpayers4who4incorrectly4failed4to4report4a4penalty.4

[16] The4two4characteristics4in4which4differences4between4the4treatment4and4control4groups4are4statistically4significant4are4whether4the4individual's4household4claimed4a42014 exemption4(0.24percentage4point4difference)4and4whether4the4individual4was4enrolled4in4full-year42016 coverage4(0.14percentage4point4difference).4In4both4of4these4cases,4the4magnitude4of4the4difference4is4quite4small,4and4our4results4are4not4sensitive4to4controlling4for4these4two4other4observable4characteristics.4For4both4of4these4variables,4it4is4also4conceivable4that4the4difference4reflects4an4effect4of4the4treatment,4since4receiving4the4letter4may4have4prompted4individuals4to4file4an4amended42014 return4to4avoid4the penalty,4or4may4have4corrected4an4error4on4the4part4of4their4insurer4or4employer4that4otherwise would have4resulted in4them4appearing4to4lack42016 coverage.4

additional coverage induced by the pilot among those whose coverage decisions were affected.

4.1 First-Year Coverage Effects

We first investigate how the treatment affected the likelihood of obtaining coverage in 2017, the first year following the intervention. Under our randomized design, this effect is identified by comparing the means of the coverage outcomes across the treatment and control groups. Because individuals listed on the same tax return were assigned to the same treatment group, we present standard errors clustered at the household level.

Column 1 of Table 2 presents the results of this analysis for the full experimental sample. The treatment (i.e., receiving any letter) increased the probability of obtaining at least one month of 2017 coverage by 0.85 percentage points, a 1.2% increase relative to the control group mean of 69%. Put differently, the treatment reduced the share of the sample without any 2017 coverage by 2.7%. The treatment effect is precisely estimated; the 95% confidence interval ranges from 0.74 to 0.96 percentage points.

As indicated by the control group mean, approximately two-thirds of the overall sample would have enrolled in at least some coverage even absent the intervention. Although we cannot identify which individuals fall into this category, one proxy might be the number of months of 2016 coverage in which the individual enrolled. Columns 2 through 5 of Table 2 investigate the effect of the treatment on the probability of obtaining any 2017 coverage, broken out by months of 2016 coverage. Because the intervention may have affected coverage decisions for December 2016, we restrict our focus to the first 11 months of 2016. Among individuals who lacked any 2016 coverage, only 27% of the control group obtained any coverage in 2017. For this group, the treatment increased the probability of 2017 coverage by 1.8 percentage points, a 6.7% increase relative to the control. Columns 3-4 show that as months of 2016 coverage increase, the fraction of the sample that would obtain 2017 coverage increases as well and the magnitude of the treatment effect declines monotonically.[17]

Column 5 of Table 2 investigates the treatment effect for individuals with full-year coverage in 2016 – a group constituting 42% of our sample. The control group mean (97%) indicates that the vast majority of individuals in this group are likely to obtain at least some 2017 coverage as well, even absent the intervention. Hence, there is little scope for the intervention to increase the probability of obtaining 2017 coverage. Consistent with this fact pattern, the estimated treatment effect among individuals with full-year coverage in 2016 is only slightly positive (0.08 percentage points). In Column 6, and in subsequent specifications, we exclude this group from our analysis. Among individuals

[17] Appendix Table A.2 investigates the role of 2015 coverage in predicting how the treatment affects an individual's 2017 coverage decision. The results suggest that individuals who lacked 2015 coverage are more likely to respond to the intervention, but that 2016 coverage plays a more important role.

who lacked coverage in at least one month during 2016, the treatment increased the probability of 2017 coverage by 1.3 percentage points, a 2.8% increase relative to the control.

We next investigate the form of coverage induced by the intervention. As described in Section 2, the individual penalty can be avoided by enrolling in one of various forms of coverage. Table 3 analyzes the effect of the treatment on the likelihood of obtaining one or more months of 2017 coverage, by type of coverage. The largest effect is on Exchange coverage: the treatment increases the probability of having any 2017 coverage by 1.02 percentage points, a 30% increase relative to the control group mean. The effect on Medicaid coverage is just under half as large in absolute terms, 0.45 percentage points, but constitutes only a 2.4% increase relative to the control group mean. We observe a small and statistically insignificant increase in employer-sponsored coverage, which is not surprising given the letters were received too late to participate in most employers' open enrollment windows. We also observe near-zero effects on off-exchange individual coverage as well as coverage provided by the Veterans Administration. Finally, as a placebo check, we confirm that we observe no effect on the likelihood of Medicare coverage during the year.[18]

We next explore treatment effect heterogeneity based on age and income. Table 4 estimates the treatment effect separately by age category. Recall that our sample popu-lation over-represents younger individuals, since older adults were less likely to pay the penalty for lacking coverage. Interestingly, up through age 64, the probability of having 2017 coverage in the control group declines monotonically with age, whereas the treat-ment effect mostly increases. Taken together, these results suggests that although older adults are more likely to obtain coverage, those who do not are particularly unlikely to do so absent the treatment, but also particularly responsive to the treatment. This pattern could emerge if some of those who lack coverage in the years prior to reaching Medicare eligibility are intentionally deferring their consumption of health services (Card, Dobkin and Maestas, 2008; Kreed, 2017), but, absent the treatment, are also over-estimating the net financial cost of coverage. Column 5 of Table 4 shows that the intervention appears to increase coverage for individuals aged 65 or older, although the smaller fraction of the sample in this age range means that the estimates are less precise than for other age groups.

Table 5 considers heterogeneity in the treatment effect by household income. The measure of household income we rely on is the ratio of the household's modified adjusted gross income in 2016 relative to the applicable federal poverty line (FPL). The treatment effect peaks among households in the 100%-138% FPL region, whose incomes are likely

[18] Note that summing the treatment effect across Columns 1-6 of Table 3 yields a larger effect (1.59 percentage points) than the total coverage effect (Column 6 of Table 2), suggesting that some individuals were induced to enroll in multiple forms of coverage during the year.

to qualify them for Medicaid in the states that adopted the ACA's Medicaid eligibility expansion, and declines in monotonically in both directions.[19] Appendix Tables A.3 and A.4 further investigate the effects by income on Medicaid and Exchange coverage, and by whether the individual's state expanded Medicaid eligibility. In expansion states, the intervention significantly increased the likelihood of obtaining Medicaid coverage, especially for individuals in the 100-138% FPL income range. Effects on Medicaid coverage were much smaller for non-existent in non-expansion states. In contrast, positive effects on Exchange coverage were present in both expansion and non-expansion states, although the effects were larger in the latter than in the former for low-income households.

4.2 Timing Coverage Effects

In this subsection we focus on the timing and duration of the intervention's effect on coverage. Figure 1a plots the raw coverage rates for the treatment and control groups by month, and Figure 1b plots the monthly difference in coverage rates. Consistent with the randomized design, the difference in coverage rates is approximately zero during 2016. Both treatment and control individuals enroll in coverage at a higher rate in January 2017, but the increase for the treatment group is larger than for the control. The difference in coverage rates between the treatment and control continues to grow in February 2017, and peaks at 1.51 percentage points in March 2017. Given the timing of the letter and the rules for beginning coverage described in Section 2, this pattern is consistent with most individuals signing up for coverage just before the open enrollment deadline and having March as their first effective month of Exchange coverage. Following March, we observe a gradual decline in the treatment effect over the course of the year.[20] Even in December 2017, however, the difference in coverage between the treatment and control groups is 1.06 percentage points and remains statistically significant.

Enrollment rates for both the treatment group and control increase between December 2017 and January 2018, but the magnitude of the increase is smaller for the treatment than the control. This may be because there was greater scope for increased 2018 coverage for the control group for three reasons: those induced by the intervention to enroll in 2017 failed to re-enroll in 2018. Nonetheless, the difference in coverage rates between

[19] In states that expanded Medicaid, most individuals with household income below 138% of the FPL qualify for Medicaid. In all states, individuals who qualify for Medicaid are not eligible for the premium tax credit that subsidizes Exchange coverage.

[20] Attrition appears to be driven by individuals who enrolled in Exchange coverage; we observe a more gradual decline over the course of 2017 in the effect of the treatment on Medicaid coverage (see Appendix Figure A.2). Interestingly, the drop-off in Exchange coverage appears to be steepest in the first few months following enrollment, in contrast to a flatter pattern for others who have identified in which individuals tend to opt coverage at the end of the year, potentially to take advantage of the short-term grace exemption (Diamond et al., 2018). The difference may be due to less strategic behavior among the individuals in our sample, as suggested by the fact that inclusion in our sample is based on having failed to avoid the penalty in a prior year.

the treatment and control groups remains positive and statistically significant throughout 2018, and declines only slightly over the course of the year.[21] Appendix Table A.5 shows that the types of coverage increased by the intervention in 2018 was similar to the types increased during the prior year. We thus conclude that much – but not all – of the effect of the intervention on coverage persists for the two years following treatment.

4.3 Intensive Margin Coverage Effects

Thus far our focus has been on the extensive margin of coverage decisions – i.e., the probability of obtaining positive months of coverage in the year or two years follow-ing treatment. In this subsection we consider how the treatment affected the number of months of coverage in which individuals enrolled. We also investigate the share of individuals who increased their months of coverage because of the treatment and the average coverage increase among this group. We explore these questions in some depth because answering them provides important context for interpreting the mortality effects we estimate in Section 5.

Let Z_i indicate whether individual i is in the treatment group and let $C_i(0)$ and $C_i(1)$ denote the months of coverage that i would obtain if assigned to the control and treatment group, respectively. Thus, i's observed coverage, C_i, is given by $C_i = C_i(0) + Z_i \cdot (C_i(1) - C_i(0))$. Random assignment guarantees the independence of treatment and the potential coverage outcomes, $Z_i \perp (C_i(0), C_i(1))$. Hence, the population average effect of the intervention on coverage is equal to the difference in mean coverage between treatment and control, $E[C_i(1) - C_i(0)] = E[C_i \mid Z_i = 1] - E[C_i \mid Z_i = 0]$.

Column 1 of Table 6 reports the sample mean difference in months of 2017 coverage between the treatment and control. On average, the treatment increases coverage by 0.14 months in 2017. Note that this effect potentially captures changes in behavior on both the extensive and intensive margins (i.e., any coverage and number of coverage months, respectively). At a combined printing and postage cost of approximately $0.49 per letter, this estimated effect implies an average outreach cost of less than $3.05 per year of new coverage.[22]

To shed more light on the change in coverage induced by the treatment, Figure 2 plots

[21] To the extent that the additional 2017 coverage induced by the treatment prevents 2017 mortality (as we explore in section 5), it could mechanically increase the observed treatment effect on 2018 coverage by increasing the share of the treatment group that is alive to purchase coverage in that year. Because the magnitude of the mortality effect we observe is so much smaller than the coverage effect, however, this mechanism is unlikely to play an important role in explaining the coverage results.

[22] This cost estimate overstates the number of letters sent per additional year of coverage induced because it does not account for the fact that only one letter was sent to each married couple filing jointly. Including individuals with full-year 2016 coverage yields a treatment effect of 0.094 months for 2017 coverage, which translates into an average cost of $62.90 per year of new coverage among the overall pilot population. Note that these estimates do not account for the cost of IRS, Treasury, or HHS staff time associated with the implementation or initial development of the intervention, or the budgetary cost of premium or cost-sharing subsidies.

the(difference(in(probability(mass(functions(of(2017(coverage(months(between(treatment(
and(control.(Treatment(group(members(are(less(likely to have 0(months of(2017(coverage,(
and(more(likely(to(have(10,(11,(or(12(months(of(2017(coverage.(One(ossibility(consistent(
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enrolled(in 0 months(of(coverage (absent(the(treatment)(to(instead(enroll(in(10-12(months(
of(coverage.(Alternatively,(the(Figure(is(also(consistent(with(the(treatment(increasing(
coverage (by(a(smaller(number(of(months)(among(individuals(who(would(have(enrolled(in(
some(non-zero(amount(of(coverage(even(absent(the(treatment.(

Without(additional(assumptions,(we(annot(identify(the(share(of(individuals(who(
hanged(their behavior because(of(the(treatment(or(the average(coverage(increase(among(
this(group.(To(derive(bounds(on(these(parameters,(we(assume(the(effect(of(the(treatment(
is(weakly(monotonic,[23] $C_i(1) \geq C_i(0)$,(which(allows(us(to(write:(

$$E\left[C_i(1) - C_i(0)\right] = Pr\left(C_i(1) > C_i(0)\right)\, E\left[C_i(1) - C_i(0) \,|\, C_i(1) > C_i(0)\right] \qquad (1)($$

To(estimate(a(sharp(lower(bound(on(the(share(of(individuals(who(respond(to(the(
treatment ("the(responders"),($Pr\left(C_i(1) > C_i(0)\right)$, we follow Borusyak (2015)(and(ompute(
the(total(variation(distance(between(the(treatment(and(control(coverage(distributions(for(
2017:(

$$d_{TV} = 1 - \sum_{m=0}^{12} \min\left\{f^0(m),\, f^1(m)\right\}$$

where($f^j(m)$ denotes(the(probability mass(function(of(coverage(month(m for(the(treatment(
group(orresp(onding(to($Z = j$.(Column(2(of(Table(6 estimates(d_{TV} in(our(setting;(we(
find(that(at(least(1.4%(of(our(sample(opulation(enrolled(in(additional(coverage(because(
of(the(ilot.(Substituting(this(result(into (1)(and(using(the(estimated(mean(treatment(
effect(from(Column(1(yields(an(upper(bound(for(the(coverage(increase(among(those(who(
respond(of(10.0(months.[24]

To(estimate(an(upper(bound(on(the(share(of(responders,(we(take(advantage(of(the(
discrete(nature(of(the(coverage(decision.(From (1),($Pr\left(C_i(1) > C_i(0)\right)$ is(maximized(when(
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1,(and(therefore(that($Pr\left(C_i(1) > C_i(0)\right) \leq E\left[C_i(1) - C_i(0)\right]$.(Inspection(of(the(coverage(
distribution(confirms(this(ossibility(is(feasible (see(Appendix(Table(A.6)(and(therefore(
that(the(bound(is(sharp.(The(results(of(this(exercise(are(summarized(in(Column(3(of(
Table(6.(Summarizing(the(results(of(this(analysis,(the(intervention(caused(between(1.4%(
and(14.0%(of(the(sample(to(increase(their(coverage(during(2017.(Columns(4-6 repeat(this(
exercise(for(total(coverage(during(2017(and(2018.(

[23] We discuss this assumption in greater detail in Section 5.2.

[24] Appendix Table A.6 presents the aggregated data underlying these calculations.

5 Mortality Effects

In this section, we exploit the exogenous variation in health insurance induced by the pilot to estimate the effect of the newly added coverage on mortality. To increase statistical power, we restrict most of the analyses in this section to previously uninsured individuals between the ages of 45-64 – a group for whom death is less rare compared to younger individuals and a group for whom the effect of our intervention on coverage is relatively large (see Table 4).[25] We consider the robustness of our results to other sample populations below.

5.1 The Effect of the Outreach Intervention on Mortality

Panel A of Figure 3 presents the cumulative mortality rate over time for our sample, broken out by treatment group assignment, and Panel B plots the difference between the treatment groups in cumulative mortality over time. The mortality rates for the two groups appear similar during 2016 but diverge over the 2 years following the pilot intervention. The figure thus provides preliminary evidence that the intervention reduced mortality in the treatment group relative to the control.[26]

Table 7 presents regression estimates for the effect of the intervention on 2-year mortality (i.e., deaths that occurred in 2017 or 2018). The overall mortality rate for the control group during this period was approximately 1%. Given the randomized design, the difference in the mortality rate between the treatment and control groups (i.e., the intent-to-treat) captures the causal effect of the intervention on mortality. We estimate that the intervention reduced mortality by 6.3 basis points during the 2-year sample period (Column 1). The p-value associated with this estimate is approximately $p = 0.01$; a permutation test yields similar results (Appendix Figure A.5). The estimated effect is similar, but slightly smaller in magnitude (6.1 basis points), when individual- and household-level controls are included in the regression (Column 2). Focusing on this more conservative result, we estimate that one fewer death occurred during our sample period for every 1,648 individuals in this population that were sent a letter. Note that

[25] Studies of health insurance on mortality typically restrict the sample population to older adults, but the specific age range varies by study (compare Baker et al., 2006; Sommers, Baicker and Epstein, 2012; Khatana et al., 2019; Miller et al., 2019). In our setting, the age range we consider shapes the power of our analysis by affecting the strength of the first stage (increasing in the minimum age included), the baseline mortality rate (increasing in the minimum age included), and the sample size (decreasing in the minimum age included). To consider these factors together, we simulate the effect of the pilot on mortality under a range of assumptions about the magnitude of the effect and the baseline mortality of the compliers. For 8 of the 12 combinations of parameter values we consider, the 45-64 year-old age range maximizes the likelihood of detecting an effect of the treatment on mortality. See Appendix Figure A.3 for details. As in our coverage analyses, we focus on individuals who lacked coverage at some point during the prior year because the effects of the pilot on coverage appear to be limited to this group (see Table 2).

[26] The same pattern is also present (but noisier) in Appendix Figure A.4, which plots new deaths (rather than cumulative mortality) over time by treatment and control group assignment.

this result speaks to the average number of life-years saved during the sample period but not to their distribution; that is, we cannot separately identify how many lives were extended from the average length of extension.[27]

To interpret our results, we adopt the assumption that the intervention did not affect mortality through channels other than inducing taxpayers to enroll in additional coverage. This exclusion restriction might be violated, for example, if receiving letters from the IRS directly contributes to mortality by causing health- or financial-related stress on the part of recipients. Of course, we cannot entirely rule out such possibilities, but it is difficult to conceive of plausible mechanisms by which the assumption would be violated in our setting.[28] Indeed, because our intervention does not provide individuals with newly available coverage, it avoids potential concerns that is present in lottery-based evaluations, i.e., that the effect of coverage on health outcomes is conflated with the psychological effects of "winning" a lottery to obtain coverage (a possibility discussed in Finkelstein et al., 2012). Under the exclusion restriction, our results provides evidence that the coverage induced by the intervention reduced taxpayers' mortality.

We conduct two placebo checks to assess the assumptions underlying our interpretation of the mortality results. First, to investigate the possibility that the observed mortality difference in treatments and controls resulted from preexisting health differences or changes in reporting behavior, Column 3 of Table 7 presents the effects of the treatment on 2016 mortality (before the intervention occurred); the estimated effect is near-zero and not statistically significant. The second placebo focuses on the exclusion restriction – i.e., the assumption that the intervention affected mortality only through the change in coverage it induced. To test this assumption, Column 4 of Table 7 presents the effect of the treatment on mortality for a subset of the population for which the intervention was significantly less likely to induce new coverage: individuals who were enrolled in full-year coverage during 2016. If the intervention affected mortality through channels other than inducing new coverage, we might observe its effects here as well. Instead, we estimate the effect of the intervention on mortality for this group to be much smaller (1 basis point) and not statistically significant.

We consider several other robustness checks as well. Appendix Table A.7 shows that the presence (but not the magnitude) of the mortality effect is reasonably robust to adopt-

[27] For example, the following two cases would contribute equally to our observed effect: (1) the intervention causes one person to die on 1/1/2019 instead of 1/1/2017; and, (2) the intervention causes one person to die on 1/1/2018 instead of 1/1/2017 and a different person to die on 1/1/2019 instead of 1/1/2018.

[28] One possibility is that some of the individuals induced to apply for coverage are subsequently recruited to participate in safety net programs like SNAP or TANF, and it is participation in these programs, rather than health insurance, that reduces mortality. However, our finding that the mortality effects are primarily concentrated among individuals in households above the Medicaid income threshold (discussed below) provides evidence against this hypothesis. Our results are consistent with the possibility that mortality is reduced via financial rather than medical effects of coverage, but the medical mechanism strikes us as more plausible, especially over the relatively short time period we observe.

ing(alternative(age(cutoffs(for(defining(the(sample.(Appendix(Table(A.8(includes(in(the(analysis(individuals(who(were(already(fully(insured(in(the(year(prior(to(the(intervention,(and(who(therefore(lacked a(substantial(first-stage(effect.(As(expected,(the(estimated(effect(of(the(intervention(is(attenuated(for(this(sample (4.5(basis(points),(but(remains(statistically(significant.(Finally,(Appendix Table(A.9(shows(that(the(presence(of a(mortality(effect(is(not(sensitive(to(estimating(a(non-linear(limited(dependent(ariable(or(duration(model;(for(example,(a(log-rank(test(rejects(the null hypothesis(of(equality between(the(treatment(and(control(group(survival(urves.(

To(further(investigate(ariation(in(the(observed(mortality(effect by(age,(Figure 4(plots(the(estimated(effect(of(the(intervention(by(10-year(age(bin.(The(figure(provides(evidence(that(the(coverage(induced(by(the(pilot(reduced(mortality(even(among(the(younger(group(of(middle-aged(adults(we(consider (45-54(year-olds).(The(estimated(mortality(reduction(for(55-64(year-olds(is(of(similar(magnitude(but(is(less(precisely(estimated.(In(contrast,(we(observe(no(reductions(in(mortality(among(age(groups(younger(than(45,(consistent(with(the(prior(quasi-experimental(findings(reported(in(Sommers,(Baicker(and(Epstein (2012)(and(Miller(et(al. (2019).(

Appendix Table(A.10(presents(several(additional(analyses(to better(understand(the(primary(mortality(results.(Columns 1(and 2(estimate(the(effect(of(the(intervention(on(mortality(separately(for(men(and(women;(the(estimated(effect(for(women(is(somewhat(larger(in(both(absolute(magnitude(and(percentage(terms,(but(the(difference(is(not(statistically(significant.(We(next(investigate(whether(the(observed(mortality(effect(is(driven(by(Medicaid(or(Exchange(enrollment.(To(do(so,(we(exploit(the(fact(that(most(of(the(observed(increase(in(Medicaid(enrollment(comes(from(individuals(whose(2016(household(income(is(below(the(Medicaid(threshold (see(Table(A.3).(Columns(3(and(4(show(that(the(estimated(mortality(reduction(is(larger(for(those(whose(incomes(exceed(the(Medicaid(threshold,(consistent(with(the(observed(reduction(in(mortality(being(primarily(driven(by(enrollment(in(Exchange(coverage.(

Turning(to(the(mechanism(by(which(coverage(reduces(mortality,(a(limitation(of(our(analysis(is(that(we(lack(data(on(cause(of(death.(However,(the(fact(that(we(observe(a(mortality(effect(within(the(initial(1-2(years(after(the(intervention(narrows(the(range(of(possibilities.(For(coverage(to(reduce(mortality(over(this(time(horizon,(it(must(affect(conditions(that: (1)(cause(death(quickly(if(left(untreated(or(unmanaged,(and (2)(for(which(treatment(or(management(can(prevent(or(delay(mortality.(For(example,(individuals(lacking(health(insurance(may(delay(seeking(care(when(experiencing(symptoms(of(acute(conditions (e.g.,(heart(attack(or(stroke),(and(such(delays(increase(the(likelihood(of(short-term(mortality (Smolderen(et(al.,(2010;(Medford-Davis(et(al.,(2016).(Consistent(with(this hypothesis,(recall(that(our(observed(mortality(effect(is(concentrated(among(individuals(with(incomes(too(high(to(qualify(for(Medicaid (including(retroactive(coverage),(and(who(may(therefore(expect(a(larger(bill(from(an(emergency(room(visit.(In(addition,(

prior research suggests women are more likely to delay obtaining emergency care than men (Safdar, Lic tman and D'Onofrio, 2012), which may explain why we observe comparable mortality effects for women and men despite the latter's higher baseline mortality risk. Separately, obtaining coverage may reduce mortality by causing the diagnosis of certain chronic conditions for which treatment has rapid protective effects. For example, cardiovascular drugs have been observed to reduce mortality from heart disease within months of beginning treatment (Aronow et al., 2001; Cannon et al., 2004), and Khatana et al. (2019) report reductions in mortality from cardiovascular disease in the initial years following state Medicaid expansions. In contrast, coverage would not be expected to drive such rapid mortality effects by inducing diagnosis of chronic conditions that are susceptible to early- but not late-stage treatment, such as certain forms of cancer (Sommers, Long and Baicker, 2014).

5.2 The Effect of Outreach-Induced Coverage on Mortality

The results in the prior sub-section provide evidence that the coverage induced by the intervention reduced mortality, but do not directly speak to the magnitude of this effect. In this sub-section, we exploit treatment group assignment as an instrument for coverage to better understand the relationship between coverage and mortality.

5.2.1 Empirical Framework

As above, let Z_i indicate whether individual i was assigned to the treatment group. C_i denotes the months of coverage in which i was enrolled during 2017 and 2018, and $C_i(Z)$ denotes the months of coverage over the same time period in which i would have enrolled had i been assigned to treatment group Z. Let Y_i indicate whether i died in either 2017 or 2018 and $Y_i(C)$ indicate whether i would have died during this period had i enrolled in C months of coverage. Note that because treatment group status was randomly assigned, the potential outcomes $Y_i(C)$ and $C_i(Z)$ are jointly independent of Z_i, for each value of C and Z.

We assume that the effect of the intervention on coverage is monotonic: each individual obtains (weakly) more coverage when assigned to the treatment group rather than the control, $C_i(1) \geq C_i(0)\ \forall i$. Because we observe coverage decisions under either the treatment or the control (but not both), monotonicity is not directly verifiable. However, a necessary condition for monotonicity to hold in our setting is that the CDFs of coverage for the treatment and control groups do not cross one another, $Pr\left(C_i(1) \leq m\right) \leq Pr\left(C_i(0) \leq m\right)\ \forall m \in \{0, 1, ..., 24\}$ (Angrist and Imbens, 1995). Appendix Figure A.6 establishes that this condition is satisfied in our data. In addition, because monotonicity must hold for each individual, the assumption also implies that the cumulative distributions should not cross among any subset of the sample (at least)

in-expectation).- Appendix-Figure-A.7-presents-evidence-consistent-with-this hyp-thesis-from-various-demographic-subgroups.-

When- monotonicity,- independence,- and- the- exclusion- restriction- (described- ab- ve)- are-satisfied,-the-two-stage-least-squares-estimator-identifies-the- *average causal resp onse* (ACR)-of a-treatment –i.e.,-the-treatment's per-unit-effect, averaged- ver-the-additional-units-of-treatment-that-are-due-to-the-instrument-(Angrist-and-Imbens,-1995):-

$$\frac{E[Y_i|Z_i=1]-E[Y_i|Z_i=0]}{E[C_i|Z_i=1]-E[C_i|Z_i=0]} = \sum_{m=1}^{12} w_m \, E\left[Y_i(m)-Y_i(m-1) \,|\, C_i(1)\geq m > C_i(0)\right] \quad (2).$$

where.

$$w_m = \frac{Pr\left(C_i(1)\geq m > C_i(0)\right)}{\sum_{j=1}^{24} Pr\left(C_i(1)\geq j > C_i(0)\right)}$$

In.our.setting,.the ACR.corresponds.to.the per-month.effect.of.coverage. mortality,. averaged. ver.the.additional.months.of.coverage.that.individuals.enrolled.in.because. f. the.pilot.

5.2.2 Instrumental Variable Results

Table.8.presents.results.for.the.instrumental variables.analysis. As a benchmark,.Column. 1.presents.the.results.from.an.OLS.regression.of.mortality. coverage. Each.additional. month.of.coverage.is.associated.with.a.small.(2.6.basis.p.in.ts).but.statistically.signif-. icant.reduction.in.the.probability.of.dying. However,.the.OLS.estimates.may.conflate. differences.in.mortality.with.differences.in.the.health.of.those.who.select.into.coverage.

Column.2.of Table.8.presents.the.first.stage.effect.of.the.intervention. months.of.cov-. erage.[29] Among.the.45-64 year-old ppulation. used.in.the.mortality.analysis,.the average. effect.of.the.intervention. coverage.is.an.increase.of.0.36.months. Scaling.the.estimated. reduced.form.effect.of.the.intervention.(Column.1.of Table.7) by.the.first.stage.coefficient. yields.our.two-stage.least.squares.estimate.of.-0.18.percentage.p.in.ts.(Column.3). Un-. der.the.independence,.monotonicity,.and.the.exclusion.restriction.assumptions.described. ab. ve,.this.coefficient estimates.the average.causal.resp.se. of.coverage. mortality – i.e.,. the.average.per-month.effect.of.the.extra.coverage-months.induced.by.the.intervention.[30] The.95%.confidence.interval.extends.from.-0.31.to.-0.04 percentage.p.in.ts. It.is.striking.

[29] We focus on on ths of coverage enrolled in during the sample period rather than a binary indicator for having any coverage; using the latter would violate the exclusion restriction if some individuals, who would have enrolled in positive on ths of coverage even absen the intervention, enroll in ore on hs of coverage because of the intervention and these additional coverage-months conribute o the observed ortalit y effect.

[30] Below, we presen suggestive evidence hat enrolling in an additional year of coverage reduces ortality by less than 12 imes this per-month effect.

toInoteIthatItheIOLSIandI2SLSIconfidenceIintervalsIdoInot overlap,IconsistentIwithItheI possibility that adverseIselection into coverage attenuatesIcross-sectionalIestimates of theI effectIofIcoverageIonImortality.I

To increase theIprecision of the IVIanalysis, we experimentedIwith two additional spec-Ifications.I Column 4IreplicatesIthe two-stageIleast-squares specificationIbutIadditionallyIincludesIdemographicIandIgeographicIcontrols.I TheIresultsIareIsimilar toIthe specificationIwithoutIcontrols.I Column 5IexpandsItheIsample toIincludeItheIfull population ofI45-64Iyear-olds,IincludingIthoseIwho wereIfullyIinsuredIinIthe yearIpriorItoItheIintervention.IBecauseIthisIgroup hadIa muchIsmallerIfirst-stageIthan the overall population, toIincreaseIpower weIinclude an interaction betweenItheItreatmentIandIanIindicatorIfor having cov-IerageIinIeach monthIofI2016.I TheIresultingIpointIestimateIisInearlyIidenticalItoIthatIobtainedIfromIourImain IV specification.

InterpretingIthe averageIcausalIresponse (ACR) of coverage onImortalityIrequiresIun-IderstandingIwhichItaxpayersIenrolledIinIadditionalIcoverage becauseIofItheIintervention,Ias wellIasItheInatureIofItheIadditionalIcoverage-monthsIenrolledIin byIthisIgroup.I TheIremainder ofIthisIsectionIprovidesIsuggestiveIevidence onItheseIissues.I

First,ItoIshedIlightIonItheIdistributionIofInewIcoverage-monthsIinducedIbyItheItreat-Iment, weIestimate,IforIeachIm:I

$$C_i^m = \alpha + \beta_m Z_i + \varepsilon \tag{3}$$I

whereIC_i^m indicatesIwhetherIi attainsIatIleastIm monthsIofIcoverage,I$C_i \geq m$.I TheIβ_m coefficientsIidentifyIthe weightsI(w_m) fromIEquationI(2)IthatIaggregateIthe per-monthIef-Ifects of coverage intoIthe ACR.[31] AppendixIFigure A.8Idisplays theIresults ofIthisIanalysis.ITheIinterventionIaddedImoreIinitialIcoverage-monthsIthanIsubsequentIcoverage-months;IforIexample,I15.2 percentIof the coverage-monthsIaddedIby the interventionIconstitutedItheIfirst,Isecond,IorIthirdImonthIofIcoverageIinIwhichItheIindividual wasIenrolledIuringI2017-18, asIcomparedItoI6.7 percent of coverage-monthsIthatIconstitutedItheI22nd,I23rd,IorI24thImonthIofIcoverageIforItheIindividualIuringI theIsameItime perioI.I ThisIsug-IgestsIthe ACR isIdisproportionatelyIweightedItowardsIthe per-monthIeffect of coverageIofIinitialIcoverage-months.I AnIimportantIimplicationIisIthatIifItheIrelationship betweenIcoverageIandImortality isIconcave,Isimply multiplyingIthe ACR by 12 wouldIover-estimateItheIeffectIofI*annual* coverageIonImortality.I SuchIconcavityImightIarise,IforIexample,IifIindividualsIcanIobtainImanyIofItheIhealth benefitsIofIfull-yearIcoverage byIfittingItheirIhealthIserviceIconsumptionIintoItheImonthsIinIwhichItheyIdoIhaveIcoverageI(DiamondIetIal.,I2018).I Similarly,IforIindividualsIwhoIpreviouslyIlackedIcoverage,IpurchasingIevenIaIfewImonthsIofIcoverageImay beIenoughItoIinduceIindividualsItoIvisit aIdoctor,IandI

[31] In particular, under independence and monotonicity, β_m identifies $Pr(C_i(1) \geq m > C_i(0))$, which implies $w_m = \frac{\beta_m}{\Sigma_m \beta_m}$.

some fraction of those that do so obtain treatment for a life-threatening, but previously undiagnosed, condition.

A second, and related, point is that the ACR may exceed the steady-state effects of coverage on mortality of the extensive margin identified from new coverage-months enrolled in by the recently uninsured. Without insurance, individuals may avoid or delay beneficial health services, especially when they expect to qualify for Medicare coverage in a few years' time (Card, Dobkin and Maestas, 2008; Alpert, Lakdawalla and Sood, 2016; Freed, 2017). Because the health benefits of the services consumed by the newly insured will be higher than the long-term insured, the first year of coverage may have a larger effect on health than subsequent years of coverage.[32] To shed light on this hypothesis, Table 9 describes characteristics of individuals who enroll in any 2017 coverage because of the treatment ("the compliers").[33] We find strong evidence that compliers are in fact less likely to be insured in prior years than the others in our sample. Hence, the coverage-months that denify the ACR disproportionately constitute coverage for the recently uninsured.

Third, as a benchmark for interpreting the magnitude of the estimated effect, recall that the average mortality rate among the control group over the two-year outcome period is approximately 1.0%. However, the baseline mortality rate (i.e., the mortality rate without any insurance) for those who are induced to increase coverage by the treatment may exceed the average mortality rate among the overall control group, potentially by a significant margin (Miller et al., 2019). Identifying the baseline mortality rate among those who increased coverage because of the intervention requires additional structure in IV settings like ours in which the endogenous variable is non-binary. In an Appendix, we show that a sufficient condition to identify this parameter is that everyone who responds to the intervention does so exclusively along the extensive margin – i.e., $Pr\left(C_i(1) > C_i(0) > 0\right) = 0$. This assumption strikes us as plausible when C_i is defined in terms of 2017 coverage, given the timing of the intervention and the annual nature of the enrollment window, but not for 2017-18 coverage, since the intervention likely caused some individuals to enroll in 2017 coverage who would have enrolled in 2018 coverage

[32] Although the ACA may over-state the steady-state effect of coverage, it may simultaneously under-state the longer-term mortality benefits. For example, if obtaining 2017 coverage extends one's life from 2019 to 2020, that effect will not be reflected in the ACR. With only two years of outcome data, our analysis is not well-suited to study these longer-term effects or to disentangle the contemporaneous versus long-term effects of coverage.

[33] In settings with a binary instrument and binary endogenous variable, it is common to report characteristics of the compliers (Abadie, 2002). In our setting, because coverage is non-binary, the group we label as the compliers corresponds to a subset of all those who respond to the instrument – specifically, those for whom the instrument affects the number of months of 2017 coverage in which they enroll. This analysis therefore omits individuals who respond with respect to two other margins: (1) those for whom the instrument affects their 2018 – but not 2017 – coverage (e.g., because they miss the 2017 open enrollment deadline), and (2) those who increase their 2017 coverage in response to the instrument but only on the intensive margin. The results are similar when we define compliers in related ways, such as those who enroll in any 2017 or 2018 coverage because of the instrument.

absent(treatment.(34 Imposing(this(assumption(that(the(2017(coverage(response occurred(exclusively(along(the(extensive(margin,(we(estimate(a(baseline(one-year(mortality(rate(among(the(compliers(of(0.7% (Table(9).(Multiplying(this(estimated(rate(by(two(yields(an(estimated(baseline(mortality(rate(among(compliers(of(1.4%(during(our(two-year(sample(period,(approximately(40%(higher(than(the overall(control(group(mean.(Hence,(our point(estimate(implies(that(each(month(of(coverage(induced(by(the(intervention(reduced(mortality by(approximately(11.9%(during(our(sample period.(Note(that(the(magnitude(of(this(estimate(constitutes(additional(evidence(against(a(linear(dose-response(relationship(between(coverage(and(mortality;(if(the(relationship was(linear,(12(months(of(coverage would(translate(into(an(over(100%(decline(in(mortality(during(the(sample(period,(which(is(of(course(larger(than(what(is possible.(However,(as(discussed(above,(this point(estimate(is(consistent(with(a(range(of(effect(sizes;(the(upper(bound(of(our(confidence(interval(implies(that(each(month(of(coverage (on(average)(reduces(baseline(mortality(among(those(who(enroll(in(coverage(by(approximately(2.4%,(which(is(consistent(with(a(linear(relationship(between(coverage(and(mortality(

Finally,(there(are(at(least two possible(reasons(why(our(estimated(ACR(may be(biased(upward(in(magnitude.(The(first(concerns(a(failure(of(the(monotonicity(assumption.(f(some(individuals(are("nudge(averse,"(receiving(the(IRS(letter(could(cause(them(to(enroll(in(less(coverage(than(they(would(otherwise(obtain (Gill,(2018).(f(the(protective(effect(of(coverage(on(mortality(is(lower(than(average(for(this(group,(our(first-stage(would(underestimate(the(true(effect(of(the(intervention(on(coverage(and(bias(the(2SLS(estimate(away(from(zero.(The(second(possibility(is(that(the(health(benefits(of(coverage(are(not(limited(to(the(individuals(who(enroll,(but(also(spill(over(to(others(in(the(same(household(or(community(35 f(so,(this(would(also(bias(the(2SLS(estimate(upwards(in(magnitude.(Although(we(cannot(rule(out(these(possibilities,(we(note(that(neither(would(predict(our(observing(an(effect(of(the(intervention(on(mortality (i.e.,(a(non-zero(intent-to-treat)(if(none(was(present.(

5.3 Comparison to Findings from Other Research

With(respect(to(our(mortality(analysis,(the(previous(study(closest(to(ours(in(design(is(the(Oregon(Health(nsurance(Study (Finkelstein(et(al.,(2012),(which(randomized(access(to(Medicaid(among(a(low-income(population(of(applicants.(The(Oregon(study(did(not(find a statistically(significant effect(of(coverage(on(mortality;(however,(our(95%(confidence(interval(substantially overlaps(with(theirs,(with both(including average(causal(responses(of(

[34] Appendix Figure A.9 provides additional evidence that is consistent with the assumption holding for 2017 coverage: $Pr(C_i(1) = 0) < Pr(C_i(0) = 0)$ and for each $m \in \{1, 2, ...12\}$, either $Pr(C_i(1) = m) > Pr(C_i(0) = m)$ or else the difference is not statistically significant.

[35] On this point, we refer readers to the discussion and literature review in Borgschulte and Vogler (2019), who argue that such spillover effects may explain why studies in this literature tend to observe very large effects of coverage among the treated.

coverage)on)mortality between)-0.032)and)-0.101 percen)age poin)s)(see)Appendix Table) A.11,)Column)1).[36] In)addition,)the average)age)in)the)Oregon)study population)was) 41,)compared)to)53)among) he) iddle-aged) adults)included)in)our)mortali)y)analysis.) If)the)protective)effect)of)coverage)on)mortali)y)increases)(in)absolute)terms) in)age,)as) suggested)by)Figure)4,)it)may)be)hat) differences)in)the)age)distribu)on)of) he) wo)study) populations)con)ributes) o)the)difference)in)poin) estimates.)[37] Indeed,)re-weigh)ing) he) Oregon)analysis)to)reflect)the)age)distribu)on)of)our)iddle-age) sample)increases) he) poin) estimate)for)the)effect)of)coverage)on)mortali)y)by)almost)60%)and)increases) he) range)of overlap)in)the)estimated)confidence)in)ervals)(Appendix)Table)A.11,)Column) 2).[38]

Turning) o)the)non-experimen)al)literature,)our)abili)y)to)compare)our)estimates) o) the)results)from)the)quasi-experimen)al)studies)referenced)above)is)limited because) ost) of)these)studies)report)mortali)y)and)coverage)effects)only)over)a)4-)or)5-year)time)hori-) zon.) If)the)relationship)be)ween)coverage)and)mortali)y)is)concave)(as)discussed)in) he) prior)subsection),)the average per-mon)h) effect)of)coverage)estimated)in)such)studies)is) not)comparable)to)ours.)Luckily,)although)Miller)et)al.)(2019) primarily)focus)on)4-year) mortali)y)in)their)study)of)the)effect)of)the)ACA)Medicaid)expansions,)they)also)report) estimates)for) he) mortali)y)and)coverage)effects)in)the)first) wo)years)following)the)ex-) pansion.[39] These)estimates)imply)an)ACR)of)coverage)on)2-year)mortali)y) hat) is)similar) o)the)one we)estimate)(Appendix Table)A.11,)Column)3).)

Finally,)although)our)results)are)qualitatively)consisten) with) uch)of)the)prior)ev-) idence) hat) health)insurance)coverage)reduces)adult)mortali)y,)an)importan) difference) from)the)prior)literature)is) he) ype)of variation)in)coverage) hat) we)study.)Whereas)ost) prior)literature)studies)expanded)access)to)free)coverage)among)those)previously)ineligi-)

[36] In this section y e focus on y he confidence interval y derived from y our 2SLS y specification y with y controls y (Column y 4 y of y Table y 8). y

[37] Consistent y with y his hypy othesis, y Miller y et y al. y (2019) py int y out y that y he y estimated y mortality effecty from y he y Oregon y Study for y older y individuals y is y substantially larger y in y magnitude y han y for y its y erally sampley pypulation. y A differenty pyssibility is y that y he y discrepancy bety een y our y results y and y hose y obtained y in y he y Oregon y Study are y driven by differences y in y he y effectiveness y of y preventing y mortality bety een y Medicaid y and y Exchange y coverage. y Whereas y he y entire y coverage y effect y studied y by Finkelstein y et y al. y as y due y to y increased y Medicaid y coverage, y our y first y stage y is y due y to y increased y enrollment in b y h y Medicaid y and y Exchange y coverage. y If y only Exchange y coverage y reduces y mortality, y hat y fact y might y explain y h y e y observe y ay mortality effecty here as y hey do not. y However, y his y hypy thesis y is y not y consistent y with y findings y from y Sommers, y Baicker y and y Epstein y (2012) y and y Miller y et y al. y (2019) y hat y expanded y Medicaid y access y did y reduce y mortality. y

[38] The y SSDI y Accelerated y Benefits y demonstration y project y (Michalopy ulos y et y al., y 2011; y Weathers y and Stegman, y 2012) y – y he y only o her y randomized y study of y health y insurance y access y on y mortalit of y which y e y are ay are – y also y failed to y detect a beneficial y effect y of coverage y on y mortality. y Like y he y Oregon y study, y its y pypulation, y which y as y limited y to y 18-54 y ear-olds, y as y substantially younger y han y our y mortality analysis y sample. y In y addition, y Weathers y and y Stegman y (2012) y repor y hat y he y estimated y effect y of y coverage y on y mortality for y he y study pypulation y may have y been y confounded y by baseline y differences y in y he y prevalence y of y early-stage y cancers y among y reatment y and y control y group y members. y

[39] Even y for y using y on ay 2-year y outcome period, y the ACR y derived from y he y Miller y et y al. y estimates y is y not y directly comparable y to y ours because y hat y study measures y uninsurance y at ay single py int y in y time y each y ear y rather y han y on ay ay monthly basis y (see y he y discussion y in y Section y 5.2.2, y ab y ve). y In y addition, y Miller y et y al. y focus y exclusively on y Medicaid y coverage y here as y e y focus y on y having y any form y of y insurance. y

blez forzit, zourz intervention zlidz notz alterz thez coveragez ourz samplez populationz couldz access.z Rather, zitz inducedz morez individualsz tozenrollz inz coveragez that waszalreadyz availablez toz them.z In azstandardz adversez selectionz model, zonez mightz expectz thatz individualsz whoz electz notz tozenrollz in availablez coveragez arez unlikelyz to benefitz fromz suchz coverage –zotherwise, z they wouldz have chosenz tozsignz up.z Inz contrast, zourz findingz thatz thez interventionz reducedz mortalityz forz thisz groupz suggestsz thatz the behavioralz frictionsz thatz reducez coveragez take-z upz mayz bez particularlyz concentratedz amongz thosez individualsz whoz wouldz benefitz fromz enrolling.z

6 Conclusion

Drawing on a randomizedz pilot intervention, zwe examinedz thez effect ofz outreach aboutz taxz incentivesz tozenrollz inz healthz insurancez coveragez amongz taxpayersz whoz hadz previouslyz paidz a penalty forz lackingz coverage.z We found positive effectsz ofz thez interventionz onz subsequentz coveragez enrollmentz decisions, zparticularlyz forz taxpayersz whoz werez uninsuredz inz thez yearz priorz toz thez intervention.z Wez alsoz foundz thatz thez interventionz reducedz mortalityz amongz middle-agedz adultsz inz thez subsequent two years, zwhich wez attributez toz thez additionalz coveragez thez interventionz induced.z Ourz findingsz thusz providez strongz empiricalz support, z andz thez firstz experimentalz evidence, zforz the hypothesisz thatz healthz insurancez coveragez reducesz mortality.z

Ourz resultsz alsoz speakz toz importantz policyz questionsz surroundingz thez usez ofz outreachz strategiesz toz increasez healthz insurancez coverage.z Exz ante, zonez mightz predictz thatz thez individualsz who choosez tozforegoz coveragez (absentz outreach) would bez thosez forzwhomz thez health benefitsz ofz coveragez tendz to bez small, zespeciallyz whenz thez outreachz concernsz financial penaltiesz forz remainingz uninsured.z However, zthisz isz preciselyz thez groupz thatz identifiesz ourz estimatedz effectz ofz coveragez onz mortality.z Ourz resultsz therefore, zsuggestz that behavioralz frictionsz like salience, zorz inattentionz shape how taxz incentivesz interactz withz adversez selectionz inz healthz insurancez markets.z Inz additionz toz reducingz adversez selectionz (their typicalz rationale), zoutreach effortsz ofz the type we studyz may yieldz substantialz healthz benefits.z

Although wez providez evidencez thatz thez pilotz interventionz reducedz mortalityz thez confi-z dencez intervalz fromz the two-stagez least-squaresz estimatez isz consistentz with bothz moderatez and veryz largez effects.z Combiningz ourz findingsz withz resultsz fromz otherz researchz onz thisz topicz throughz meta-analyses, zaszproposed byz Suttonz andz Abramsz (2001), zisz onez pathz throughz whichz futurez researchz mayz succeedz inz morez preciselyz estimatingz thez causalz rela-z tionship betweenz coveragez andz mortality.z

Anz importantz limitationz ofz ourz analysisz isz thatz ourz samplez periodz coversz only twoz yearsz ofz outcomez data post-intervention.z As az result, zourz resultsz speakz onlyz toz thez short-z termz effectsz ofz coveragez onz mortality.z Longer-termz mortalityz effectsz mayz bez presentz asz

well. For example, coverage may induce treatment for chronic conditions that would otherwise hasten, but not immediately cause, mortality. Similarly, additional years of outcome data would shed light on the longer-term survival prospects of those whose lives were extended because of the new coverage. Depending on the persistence of the coverage effect, additional years of data could also shed light on the steady-state effects of the new coverage on mortality, as well as on the curvature of the relationship. Although we hope to study these questions in future work as additional data become available, we note that the effective repeal of the individual mandate in 2019 may limit the effect of the pilot on coverage to 2017 and 2018.

Finally, although mortality is an important input into welfare, we lack data on many of the other factors that would enter careful cost-benefit of outreach, such as financial well-being and health outcomes other than mortality. Along the same lines, because we lack data on health expenditures, we are unable to investigate how the intervention shaped adverse selection in health insurance markets. In future research, we hope to link the pilot study to data that would permit consideration of these questions.

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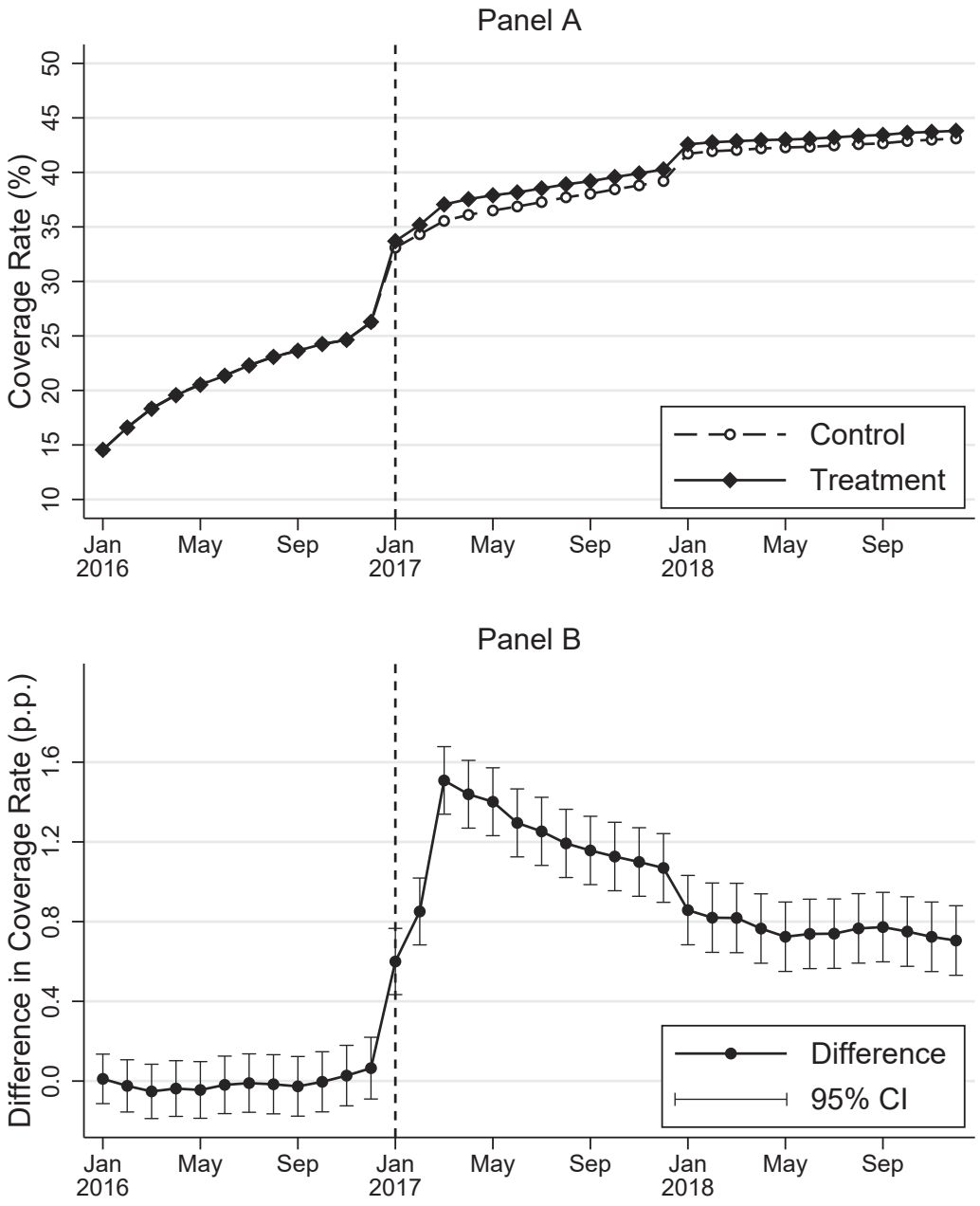
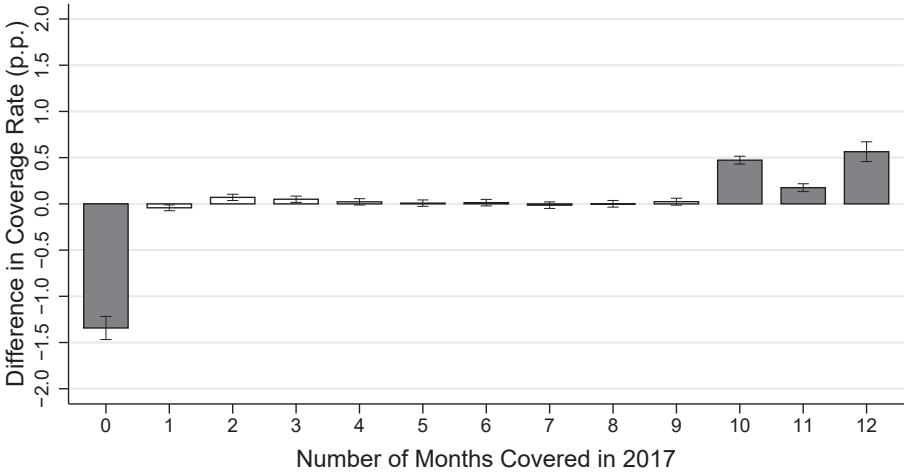
Figure 1: verage Rates by Month



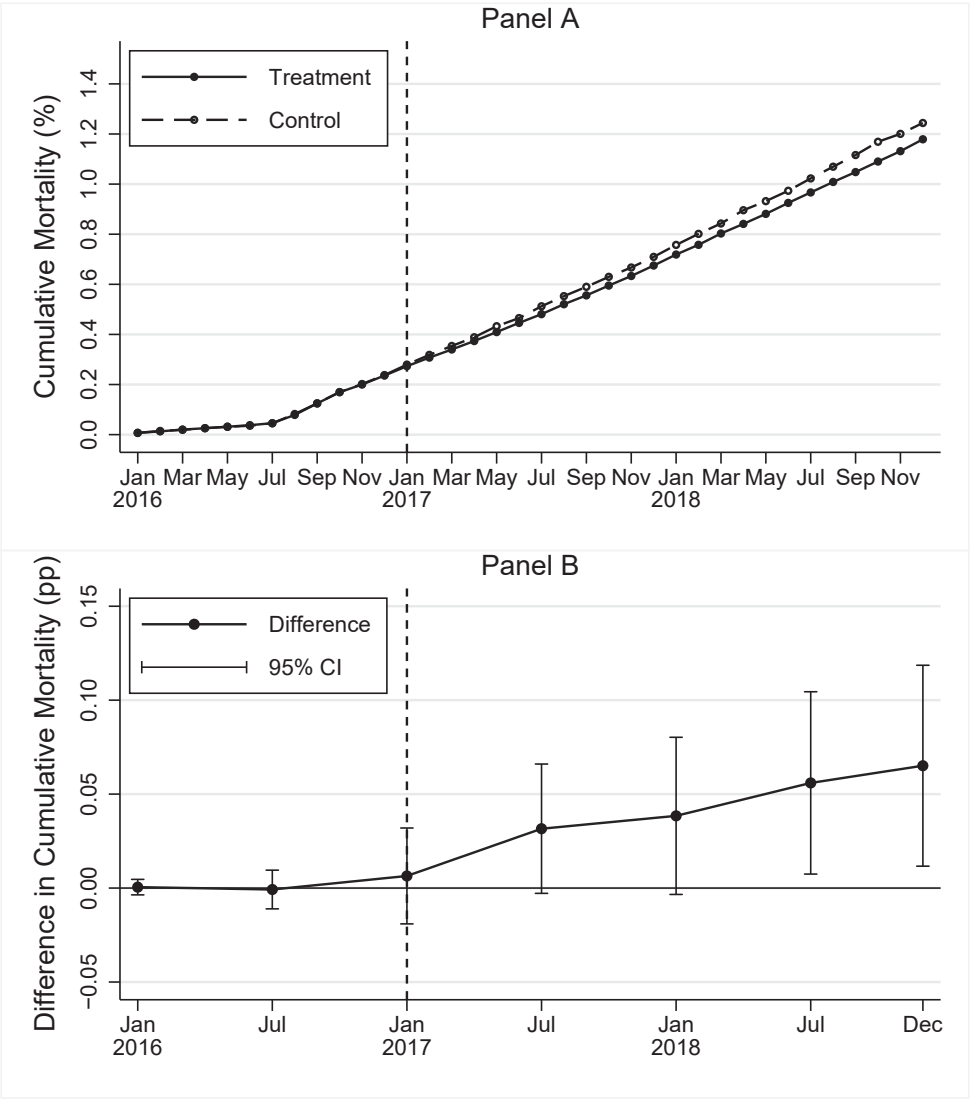
Notes: Panel A displays the shares of the treatment and control group enrolled in any coverage in the specified month. Panel B displays the difference in the share between the treatment and control groups enrolled in any coverage in the specified month. Units are percentage points (0−100). Both panels exclude individuals with full coverage in January through November of 2016. Brackets denote the 95% confidence interval based on standard errors that are clustered by household.

Figure 2: Effect of Intervention on Number of Covered Months in 2017



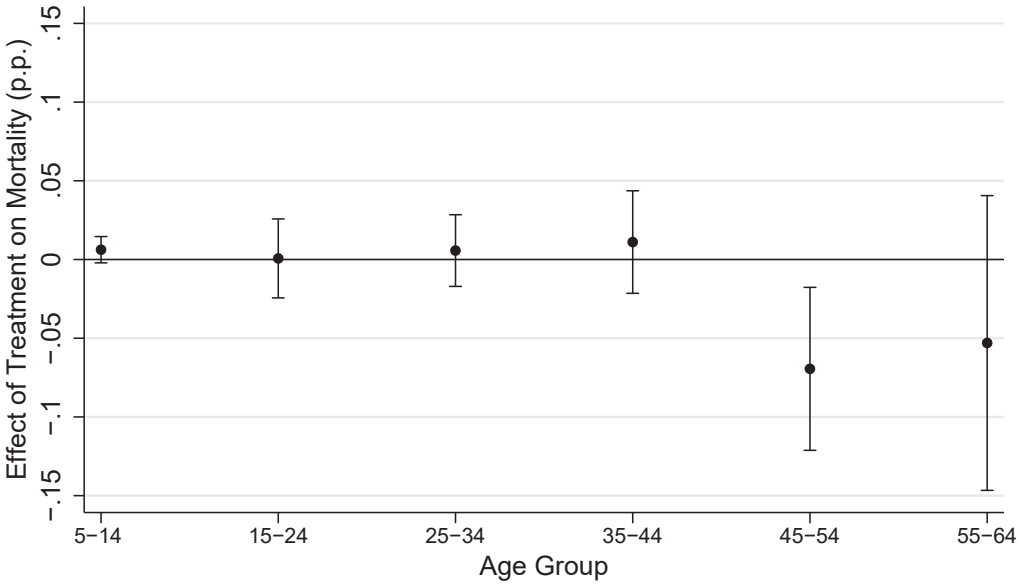
Notes: The figure denotes the difference between the treatment and control groups in the share of individuals who enroll in the specified number of months of 2017 coverage. The vertical axis units are percentage points (0−100). Positive values indicate more individuals were enrolled in the specified number of months of coverage in the treatment group relative to the control group. The analysis excludes individuals with full coverage in January through November of 2016. Brackets denote the 95% confidence interval based on standard errors that are clustered by. household.

Figure 3: Mortality Over Time by Treatment Group



Notes: Panel A displays the share of individuals that died during or prior to the specified date. Panel B displays the difference in the cumulative mortality rate between the control and treatment groups. Units are percentage points (0−100). The difference is calculated at six−month intervals that extend through the end of the specified month. Brackets denote the 95% confidence interval based on standard errors that are clustered by household. Both panels are limited to individuals between the ages of 45−64 at the start of 2017 and exclude individuals with full coverage in January through November of 2016.

Figure 4: Mortality Effect by Age



Notes: The figure displays the estimated effect of the intervention on 2017−18 mortality for individual in the specified age ranges. Units are percentage points (0−100). Ages are calculated at the start of 2017. Brackets denote the 95% confidence interval based on standard errors that are clustered by household. The analysis excludes individuals with full coverage in January through November of 2016.

Table 1: Summary Statistics and Balance Checks

	(1)	(2)	(3)	(4)	(5)	(6)
		Not Full-	Experimental Sample			
	Taxpayers	Year Coverage		Treatment	Control	Difference p-value
Individual characteristics						
Female	0.511	0.478	0.451	0.450	0.451	0.669
age	38.6	34.5	31.1	31.1	31.1	0.395
0–18	0.239	0.265	0.271	0.271	0.271	0.374
19–26	0.111	0.128	0.136	0.136	0.136	0.756
27–45	0.242	0.290	0.349	0.349	0.349	0.681
45–64	0.261	0.230	0.230	0.230	0.230	0.977
65 or older	0.147	0.087	0.015	0.015	0.014	0.510
Household characteristics						
Married	0.554	0.450	0.414	0.414	0.414	0.860
Household Income	78,534	30,159	42,710	42,699	42,783	0.349
Income/Federal Poverty Line	4.16	1.61	2.35	2.35	2.36	0.523
< 1.38	0.366	0.657	0.267	0.267	0.266	0.143
1.38–4.00	0.276	0.228	0.629	0.629	0.630	0.429
≥ 4.00	0.358	0.115	0.104	0.103	0.104	0.313
Household Size	2.81	2.86	2.74	2.74	2.74	0.725
Local characteristics						
High school degree or higher	0.866	0.835	0.835	0.835	0.835	0.546
BA degree or higher	0.299	0.264	0.249	0.249	0.249	0.331
Expansion State	0.618	0.523	0.560	0.560	0.560	0.819
State-based marketplace	0.344	0.288	0.222	0.222	0.222	0.637
Penalty						
Claimed 2014 exemption	0.088	0.307	0.175	0.176	0.174	0.010
Paid 2014 penalty	0.055	0.196	0.425	0.425	0.425	0.765
2014 penalty if penalized	247	246	257	257	258	0.182
Claimed 2015 exemption	0.076	0.443	0.063	0.063	0.063	0.138
Paid 2015 penalty	0.048	0.300	1.000	1.000	1.000	.
2015 penalty if penalized	545	546	528	528	529	0.268
Projected 2017 annualized penalty	2,109	1,599	1,526	1,526	1,526	0.944
2015 coverage						
Any coverage	0.863	0.594	0.583	0.583	0.583	0.287
Covered months	9.80	5.88	5.28	5.28	5.27	0.340
Full-year coverage	0.745	0.356	0.282	0.282	0.281	0.677
2016 coverage						
Any coverage	0.879	0.631	0.642	0.642	0.642	0.272
Covered months	10.23	6.94	6.62	6.62	6.61	0.101
Full-year coverage	0.778	0.457	0.419	0.419	0.418	0.049
Observations						
Individuals	2,893,655	45,472,192	8,897,821	7,651,401	1,246,420	
Households	1,398,008	22,778,960	4,526,719	3,892,849	633,870	

Notes: The table presents summary statistics for a 1% random sample of 2015 tax returns (column 1), the set of 2015 tax returns that did not report full-year coverage (column 2), and the experimental sample (columns 3-5). Column 6 reports the p-value for the test of equality between the treatment and control groups, with standard errors clustered by household. All statistics are calculated at the individual level. Local characteristics are imputed based on the zip code corresponding to the individual's 2015 tax return. Households correspond to the individuals listed on a tax return.

Table 2: Coverage Effects by Prior-Year Coverage

	(1)	(2)	(3)	(4)	(5)	(6)
	Full	Months of 2016 coverage				
	Sample	0	1-5	6-10	11	< 11
Treated	0.849	1.831	0.925	0.306	0.076	1.343
	(0.056)	(0.084)	(0.162)	(0.110)	(0.033)	(0.078)
Control mean	68.523	27.394	76.636	86.213	96.602	47.557
Observations	8,893,653	3,222,566	738,259	1,123,340	3,809,488	5,084,165

Notes: Outcome indicates any 2017 coverage. Units are percentage points (0-100). Months of 2016 coverage refers to the first 11 months of 2016. Standard errors, reported in parentheses, are clustered by household.

Table 3: Coverage Effects by Type of Coverage

	(1)	(2)	(3)	(4)	(5)	(6)
	Exchange	Medicaid	ESI	Off-Exchange	VA	Medicare
Treated	1.021	0.445	0.076	0.016	0.021	0.011
	(0.030)	(0.062)	(0.071)	(0.015)	(0.006)	(0.011)
Control mean	3.436	18.595	27.278	0.971	0.184	0.694
Observations	5,084,165	5,084,165	5,084,165	5,084,165	5,084,165	5,084,165

Notes: Outcome indicates enrollment in one month or more of the specified coverage during 2017. Units are percentage points (0-100). ESI refers to employer-sponsored coverage. Off-Exchange refers to individual coverage not purchased through the Exchange. VA refers to coverage provided through the Veterans Administration. All columns exclude individuals with full coverage in January through November of 2016. Standard errors, reported in parentheses, are clustered by household.

Table 4: Coverage Effects by Age

	(1)	(2)	(3)	(4)	(5)
	0-18	19-26	27-44	45-64	65+
Treated	0.843	1.174	1.154	2.063	0.622
	(0.207)	(0.170)	(0.106)	(0.131)	(0.640)
Control mean	59.705	51.706	47.692	37.528	52.378
Observations	817,915	753,088	2,094,777	1,358,983	59,365

Notes: Outcome indicates any 2017 coverage. Units are percentage points (0-100). Columns restrict to individuals with ages in the specified bins at the start of 2017. All columns exclude individuals with full coverage in January through November of 2016. Standard errors, reported in parentheses, are clustered by household.

Table-5:-Co-erage-Effect-by-Income-

	(1)-	(2)-	(3)-	(4)-
	Income/FPL-Percentage-			
	0-100-	100-138-	138-400-	400+-
Treated-	1.121-	2.287-	1.403-	0.391-
	(0.183)-	(0.219)-	(0.102)-	(0.225)-
Control-mean-	47.847-	48.510-	47.782-	45.382-
Observations-	879,457-	638,779-	2,934,527-	616,667-

Notes: Outcomefindicatesfanyff2017fcoverage.f Unitsfarefpercenfagef poinfsf(0-100).f Columnsfrestrictftofindividualsfbasedfonf2016f householdfincomefasfafpercenfagefof thef ederalfpovertyfline.f Allf columnsfexcludefindividualsfwith fullfcoveragefinfJanfiaryfthroughf Novemberfof 2016.f Standardferrors,freportedfinfparenfheses,faref clusteredfbyfhousehold.f

Table-6:-Bounds-on-Respnder-Share-and-Intensive-Margin-Treatment-Effect-

	(1)-	(2)-		(3)-	(4)-	(5)-		(6)-
		Lwer-Bound- for-Resp-nder- Share-		Upper-Bound- for-Resp-nder- Share-		Lwer-Bound- for-Resp-nder- Share-		Upper-Bound- for-Resp-nder- Share-
		2017-Co-erage-				2017-18-Co-erage-		
Overall-Effect,- $E[C_i(1) - C_i(0)]$	0.140-	0.140-		0.140-	0.232-	0.232-		0.232-
Share-Resp-nders,- $Pr[C_i(1) > C_i(0)]$		0.014-		0.140-		0.012-		0.232-
Effect-for-Resp-nders,- $E[C_i(1) - C_i(0) \mid C_i(1) > C_i(0)]$		10.001-		1.000-		19.672-		1.000-

Notes: Columnsf1-3fprovidefoutcomes forfcoveragefinf2017;fColumnsf4-6fprovidefoutcomes forfcoveragefduringf2017fandf2018.f Columnsf2fandf5fprovideflowerfbounds forfthefsharefof individualsfwhofincreasefcoveragefinfresponseftoftheftreatmenf followingf Borusyakf(2015),fandfcorrespondingfinfensivefmarginfeffects.f Columns 3fandf6fprovidefupper bounds forfthefsharefof respondenfsf andfcorrespondingfinfensivefmarginfeffects,fassumingfmonotonicityfand followingfthefmethof describedfinfthe boflyfof thefpaper.f Units forfRowsf1fandf3 arefmonfhsfof coverage.f Units forfRowf2farefpopulationfsharesf(0-1.00).f Allfcolumnsfexcludefindividualsf with fullfcoveragefinfJanfiaryfthroughfNovemberfof 2016.f

Table 7: Effect of Intervention on Mortality

	(1)	(2)	(3)	(4)
	Mortality	Mortality (Controls)	Prior-Year Mortality	Mortality Among Prior-Year Insured
Treated	-0.063	-0.061	-0.002	-0.010
	(0.025)	(0.025)	(0.012)	(0.037)
Control Mean	1.007	0.993	0.238	1.143
Observations	1,358,983	1,309,736	1,358,983	688,795

Notes: Outcome indicates whether an individual died during 2017-18. Units are percentage points (s (0-100). Columns 1-3 exclude individuals with full coverage in January through November of 2016. Column 4 is limited to individuals with full coverage in January through November of 2016. The specification reported in Column 2 controls for age fixed effects, gender, marital status, 2016 insurance coverage, 2016 household income relative to the federal poverty line, mean 2016 state-level mortality, and logged zipcode-level controls for median income, share of Spanish speakers, and share of college graduates. All columns are limited to individuals between the ages of 45-64 at the start of 2017. Standard errors, reported in parentheses, are clustered by household.

Table 8: Effect of Coverage on Mortality

	(1)	(2)	(3)	(4)	(5)
	Mortality (OLS)	Covered Months (First Stage)	Mortality (2SLS)	Mortality (2SLS)	Mortality (2SLS, no prior-year exclusion)
Covered Months	-0.026		-0.178	-0.166	-0.167
	(0.001)		(0.070)	(0.068)	(0.068)
Treated		0.358			
		(0.026)			
Controls				×	×
Control mean	1.007	7.795	1.007	0.993	1.040
Observations	1,358,983	1,358,983	1,358,983	1,309,736	1,983,167

Notes: Columns 1, 3, 4, and 5: outcome indicates whether an individual died during 2017-18; units are percentage points (s (0-100). Column 2: outcome is months (s of 2017-18 coverage. Columns 1-4 exclude individuals with full coverage in January through November of 2016. Columns 4 and 5 controls for age fixed effects, gender, marital status, no 2016 insurance coverage, 2016 household income relative to the federal poverty line, mean 2016 state-level mortality, and logged zipcode-level controls for median income, share of Spanish speakers, and share of college graduates. Column 5 additionally controls for having full coverage in January through November of 2016 and includes as an instrument an interaction of this variable with the treatment group indicator. All columns are limited to individuals between the ages of 45-64 at the start of 2017. Standard errors, reported in parentheses, are clustered by household.

Table 9: Characteristics by Complier Status

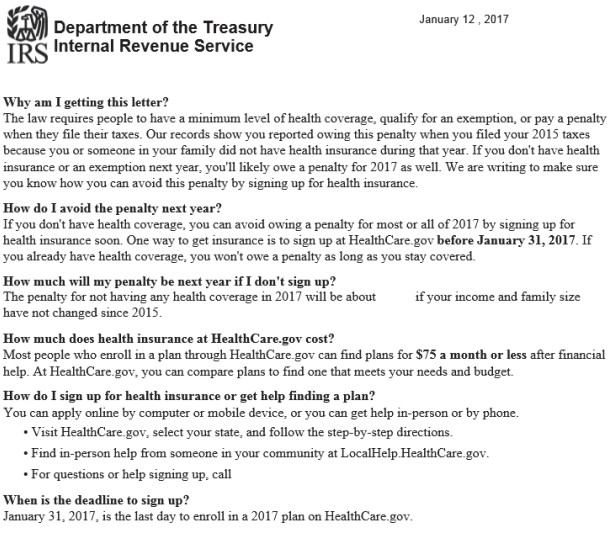
	(1)	(2)	(3)	(4)
	Overall	Compliers	Always-Takers	Never-Takers
Share of Population	1.000	0.021	0.375	0.604
Prior Coverage				
Any in 2015 in Coi erage	0.243	0.137	0.407	0.145
Months of in 2015 in Coi erage	1.596	1.035	2.736	0.907
Any in 2016 in Coi erage	0.262	0.078	0.576	0.074
Months of in 2016 in Coi erage	1.597	0.264	3.620	0.385
Demographic Characteristics				
Age	53.223	53.753	52.906	53.401
Male	0.577	0.556	0.552	0.593
Income	2.650	2.181	2.693	2.640
Baseline Mortality				
Baseline Mortality in 2017		0.007		0.004
Baseline Mortality in 2017-18		0.014		0.007

Notes: Compliers are defined as individuals who enroll in positive months of 2017 coverage when assigned to the treatment but not when assigned to the control. Always-takers enroll in positive months of 2017 coverage egardless of treatment assignment. Never-takers enroll in zero months of 2017 coverage egardless of treatment assignment. Coverage variables for 2016 refer to coverage during the first 11 months of 2016. Baseline mortality in 2017 refers to the mean 2017 death rate of individuals with zero months of 2017 coverage. Baseline mortality in 2017-18 is calculated as twice the baseline mortality in 2017. All columns are limited to individuals between the ages of 45-64 at the start of 2017 and exclude individuals with full coverage in January through November of 2016.

Appendix

Figure A.1: Letters

(a) Baseline



Department of the Treasury
Internal Revenue Service

January 12 , 2017

Why am I getting this letter?
The law requires people to have a minimum level of health coverage, qualify for an exemption, or pay a penalty when they file their taxes. Our records show you reported owing this penalty when you filed your 2015 taxes because you or someone in your family did not have health insurance during that year. If you don't have health insurance or an exemption next year, you'll likely owe a penalty for 2017 as well. We are writing to make sure you know how you can avoid this penalty by signing up for health insurance.

How do I avoid the penalty next year?
If you don't have health coverage, you can avoid owing a penalty for most or all of 2017 by signing up for health insurance soon. One way to get insurance is to sign up at HealthCare.gov **before January 31, 2017**. If you already have health coverage, you won't owe a penalty as long as you stay covered.

How much will my penalty be next year if I don't sign up?
The penalty for not having any health coverage in 2017 will be about if your income and family size have not changed since 2015.

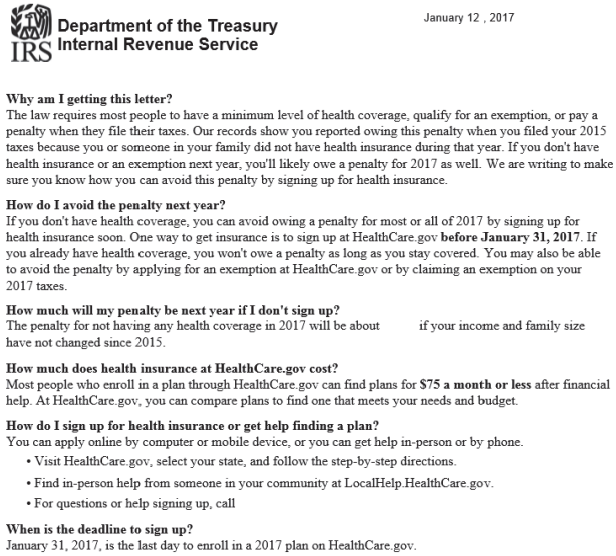
How much does health insurance at HealthCare.gov cost?
Most people who enroll in a plan through HealthCare.gov can find plans for **$75 a month or less** after financial help. At HealthCare.gov, you can compare plans to find one that meets your needs and budget.

How do I sign up for health insurance or get help finding a plan?
You can apply online by computer or mobile device, or you can get help in-person or by phone.

- Visit HealthCare.gov, select your state, and follow the step-by-step directions.
- Find in-person help from someone in your community at LocalHelp.HealthCare.gov.
- For questions or help signing up, call

When is the deadline to sign up?
January 31, 2017, is the last day to enroll in a 2017 plan on HealthCare.gov.

(b) Exemption Information



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How do I avoid the penalty next year?
If you don't have health coverage, you can avoid owing a penalty for most or all of 2017 by signing up for health insurance soon. One way to get insurance is to sign up at HealthCare.gov **before January 31, 2017**. If you already have health coverage, you won't owe a penalty as long as you stay covered. You may also be able to avoid the penalty by applying for an exemption at HealthCare.gov or by claiming an exemption on your 2017 taxes.

How much will my penalty be next year if I don't sign up?
The penalty for not having any health coverage in 2017 will be about if your income and family size have not changed since 2015.

How much does health insurance at HealthCare.gov cost?
Most people who enroll in a plan through HealthCare.gov can find plans for **$75 a month or less** after financial help. At HealthCare.gov, you can compare plans to find one that meets your needs and budget.

How do I sign up for health insurance or get help finding a plan?
You can apply online by computer or mobile device, or you can get help in-person or by phone.

- Visit HealthCare.gov, select your state, and follow the step-by-step directions.
- Find in-person help from someone in your community at LocalHelp.HealthCare.gov.
- For questions or help signing up, call

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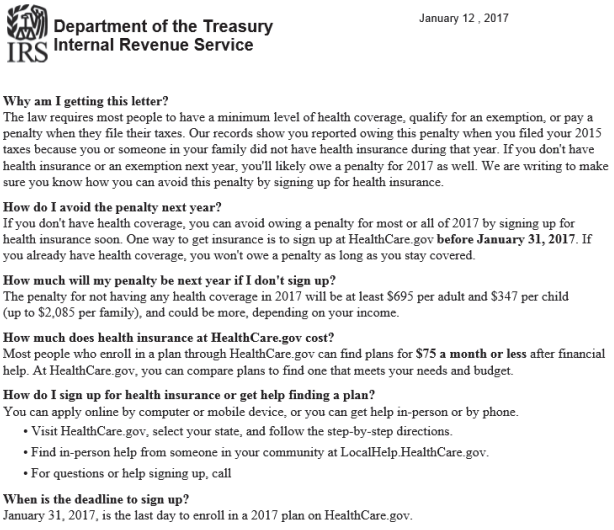
(c) Non-Personalized



Department of the Treasury
Internal Revenue Service

January 12 , 2017

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How do I avoid the penalty next year?
If you don't have health coverage, you can avoid owing a penalty for most or all of 2017 by signing up for health insurance soon. One way to get insurance is to sign up at HealthCare.gov **before January 31, 2017**. If you already have health coverage, you won't owe a penalty as long as you stay covered.

How much will my penalty be next year if I don't sign up?
The penalty for not having any health coverage in 2017 will be at least $695 per adult and $347 per child (up to $2,085 per family), and could be more, depending on your income.

How much does health insurance at HealthCare.gov cost?
Most people who enroll in a plan through HealthCare.gov can find plans for **$75 a month or less** after financial help. At HealthCare.gov, you can compare plans to find one that meets your needs and budget.

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When is the deadline to sign up?
January 31, 2017, is the last day to enroll in a 2017 plan on HealthCare.gov.

(d) Spanish

¿Por qué recibo esta carta?
La ley le requiere a la mayoría de las personas tener un nivel mínimo de cobertura médica, calificar para una exención o pagar una multa al presentar sus impuestos. Nuestros registros muestran que usted informó adeudar esta multa cuando presentó sus impuestos del año 2015, porque usted o alguien en su familia no tuvo el seguro médico durante ese año. Si usted no tiene el seguro médico o una exención el próximo año, es probable que también adeude una multa para 2017. Le escribimos para asegurar que usted sabe cómo puede evitar esta multa inscribiéndose a un seguro médico.

¿Cómo puedo evitar la multa el próximo año?
Si usted no tiene la cobertura médica, puede evitar adeudar una multa para la mayor parte o la totalidad del año 2017 inscribiéndose cuanto antes a un seguro médico. Una manera de obtener un seguro, es inscribirse en *CuidadoDeSalud.gov* **antes del 31 de enero de 2017**. Si ya tiene la cobertura médica, usted no adeudará una multa siempre y cuando mantenga su cobertura.

¿Cuánto será mi multa el próximo año si no me inscribo?
La multa en el año 2017 por no tener ninguna cobertura de salud, será aproximadamente si sus ingresos y el tamaño de su familia no han cambiado desde 2015.

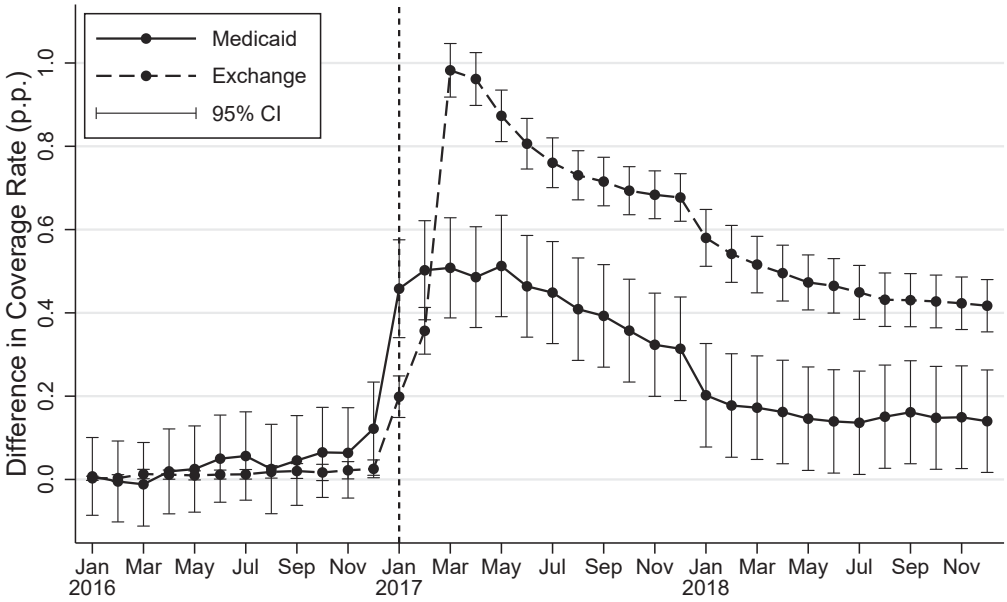
¿Cuánto cuesta el seguro médico en *CuidadoDeSalud.gov*?
La mayoría de las personas que se inscriben en un plan a través de *CuidadoDeSalud.gov*, pueden encontrar planes de **$75 o menos al mes**, después de la ayuda financiera. En *CuidadoDeSalud.gov*, puede comparar los planes para encontrar uno que se ajuste a sus necesidades y presupuesto.

¿Cómo me inscribo a un seguro médico u obtengo ayuda para encontrar un plan?
Puede solicitar en línea por computadora o un dispositivo móvil, o puede obtener ayuda en persona o por teléfono.

- Visite *CuidadoDeSalud.gov*, seleccione su estado y siga las instrucciones paso a paso.
- Encuentre ayuda en persona de alguien en su comunidad, en *LocalHelp.HealthCare.gov*.
- Para preguntas o ayuda para inscribirse, llame al (usuarios de *TTY*:)

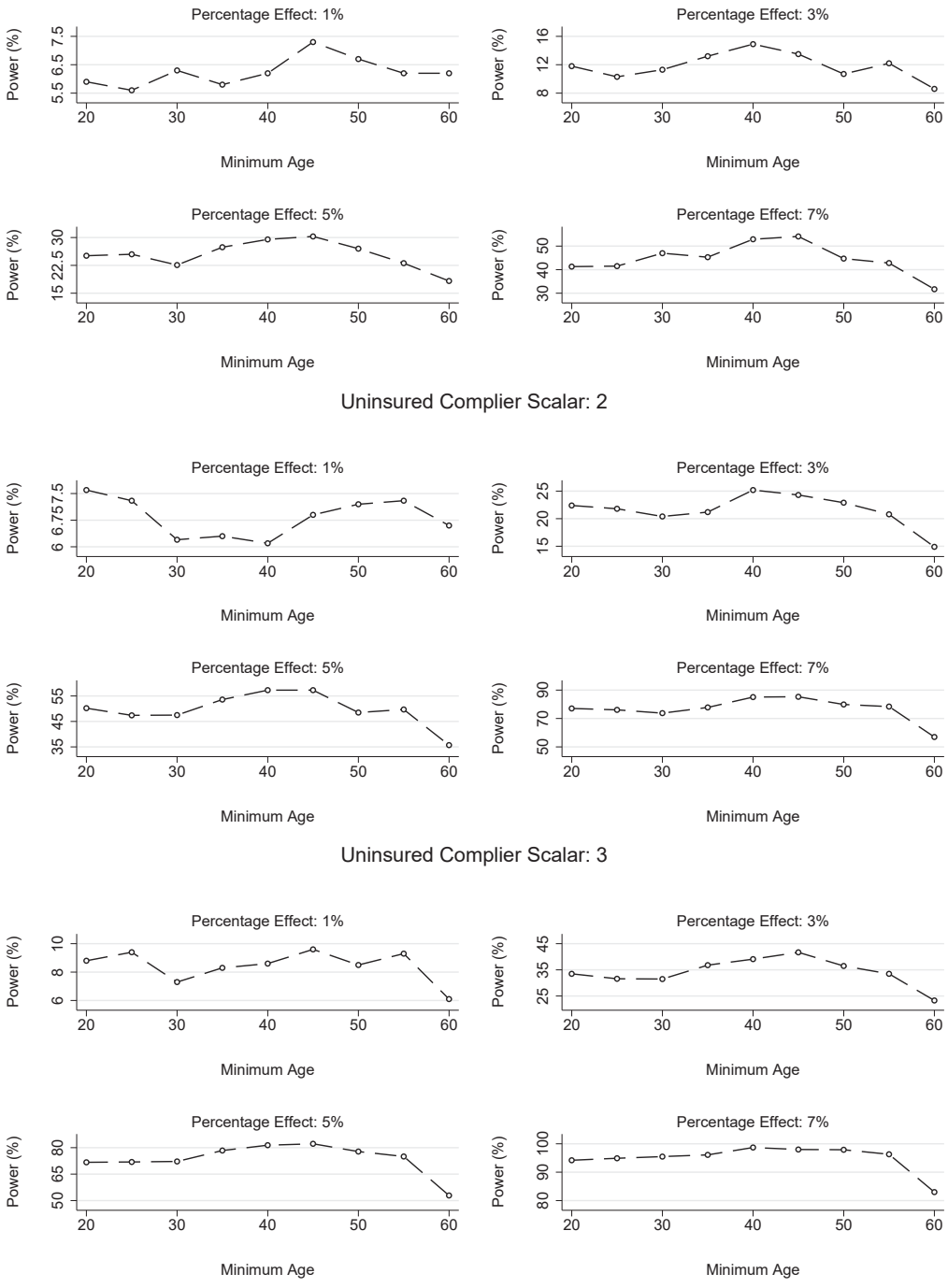
¿Cuándo es la fecha límite para inscribirse?
El 31 de enero de 2017 es el último día para inscribirse en un plan para 2017, en *CuidadoDeSalud.gov*.

Figure A.2: Coverage Rate Effect by Month by Coverage Type



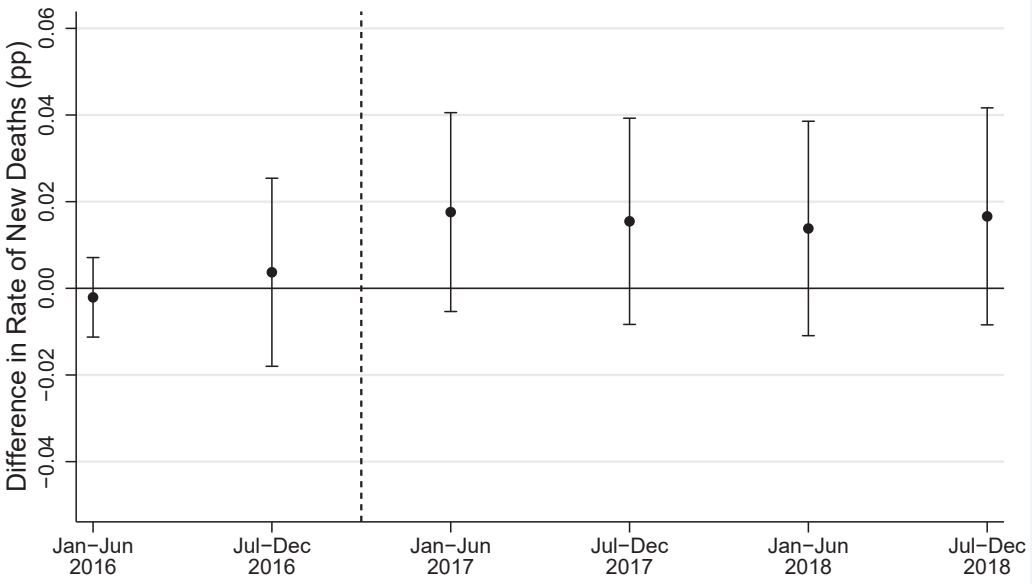
Notes: The figure displays the difference in the share of the treatment and control groups enrolled in Medicaid and Exchange coverage in the specified month. Units are percentage points (0−100). The figure excludes individuals with full coverage in January through November of 2016. Brackets denote the 95% confidence interval based on standard errors that are clustered by household.

Figure A.3: Probability of Detecting Mortality Effect by Age Range



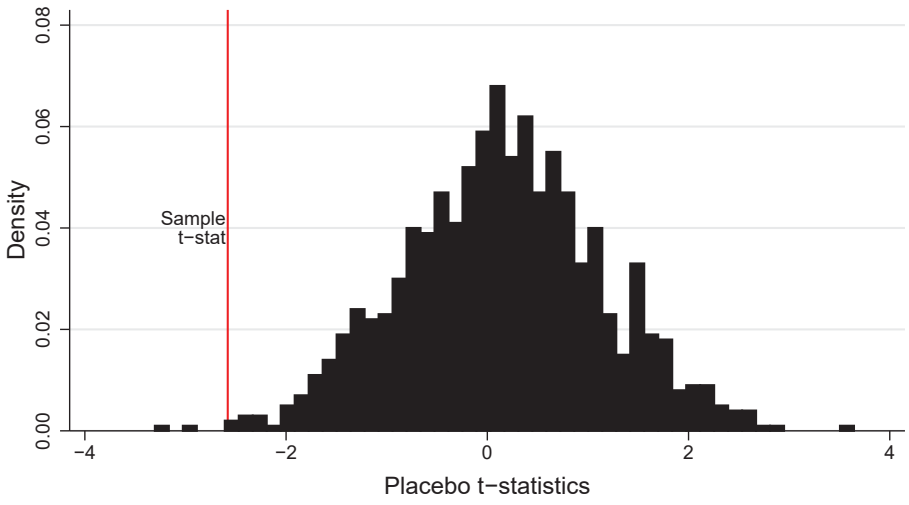
Notes: The figure displays the probability of detecting a difference between treatment and control group mortality at a 5% level of significance, for varying age ranges and effect sizes. Results are based on simulations with N=1000 random draws of treatment and control populations. Within a figure, the x−axis reflects the minimum age included in the analysis; the maximum age is held fixed at 64. The effect of the intervention on coverage for each age range comes from comparing average months of 2017−18 coverage in the treatment and control groups, for individuals with the specified ages that did not have coverage in each month of 2016. The effect of coverage on mortality is alternatively assumed to be a reduction in baseline complier mortality of 1, 3, 5, or 7%. Baseline mortality is estimated from population−level mortality rates for 2016 from the Social Security Death Index among individuals alive at the end of 2015, aggregated into 5−year age bins. The mortality rate for uninsured compliers, absent insurance is alternatively assumed to be 2, 3, or 4 times the average mortality rate for the general population.

Figure A.4: Effect of Intervention on Rate of New Deaths



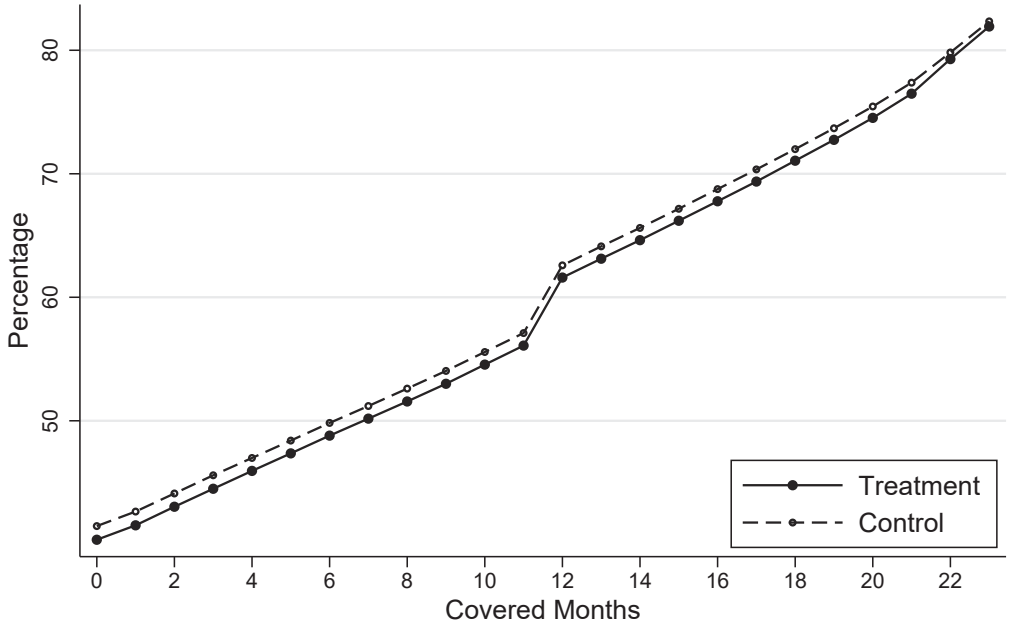
Notes: The figure displays the difference in the share of new deaths between the control and treatment groups during the six−month interval extending through the end of the specified month. Units are percentage points (0−100). Brackets denote the 95% confidence interval based on standard errors that are clustered by household. The analysis is limited to individuals between the ages of 45−64 at the start of 2017 and excludes individuals with full coverage in January through November of 2016.

Figure A.5: Permutation Test



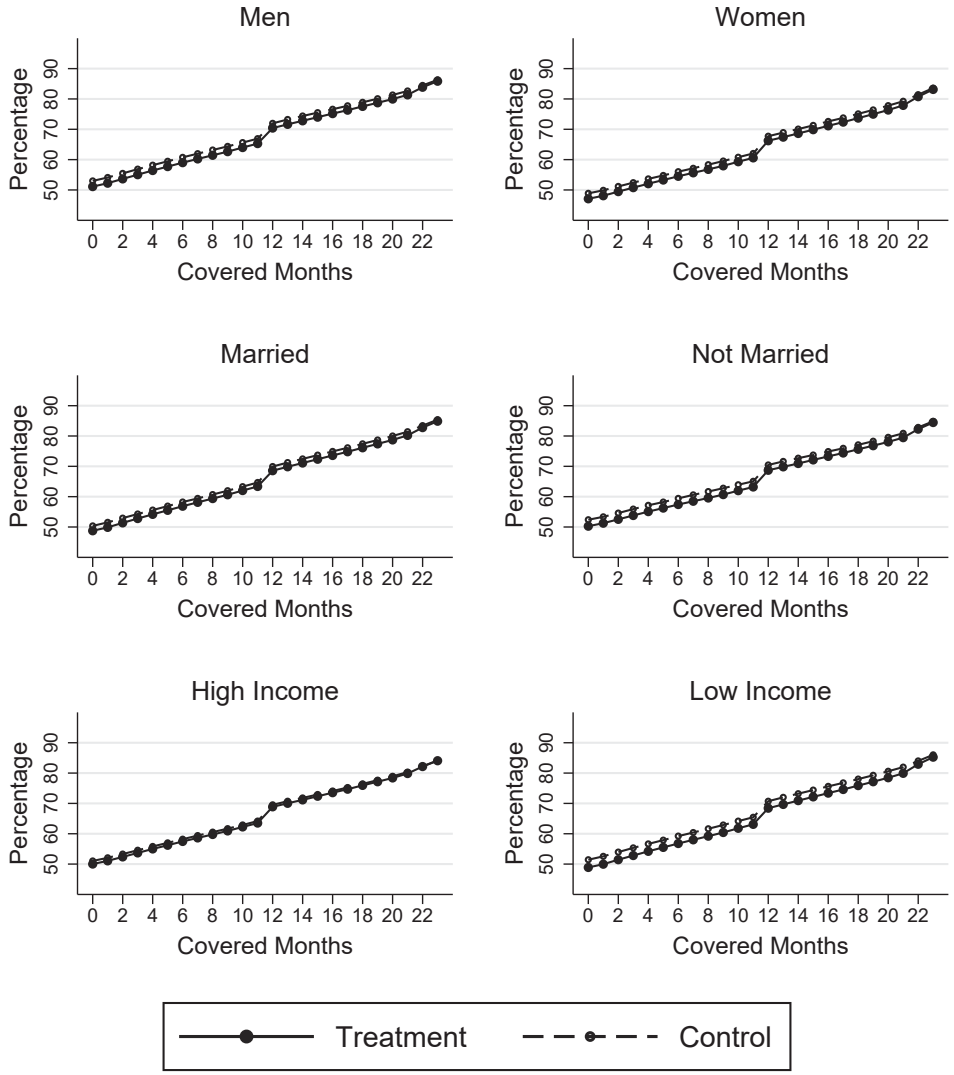
Notes: The figure plots the distribution of treatment effect t−statistics generated from 1000 random reassignments of the treatment variable across the households in the sample population. The estimated t−statistics correspond to the specification reported in Column 1 of Table 7. The vertical line denotes the t−statistic estimated using the actual sample population.

Figure A.6: Cumulative Distribution of Months of 2017-18 Coverage



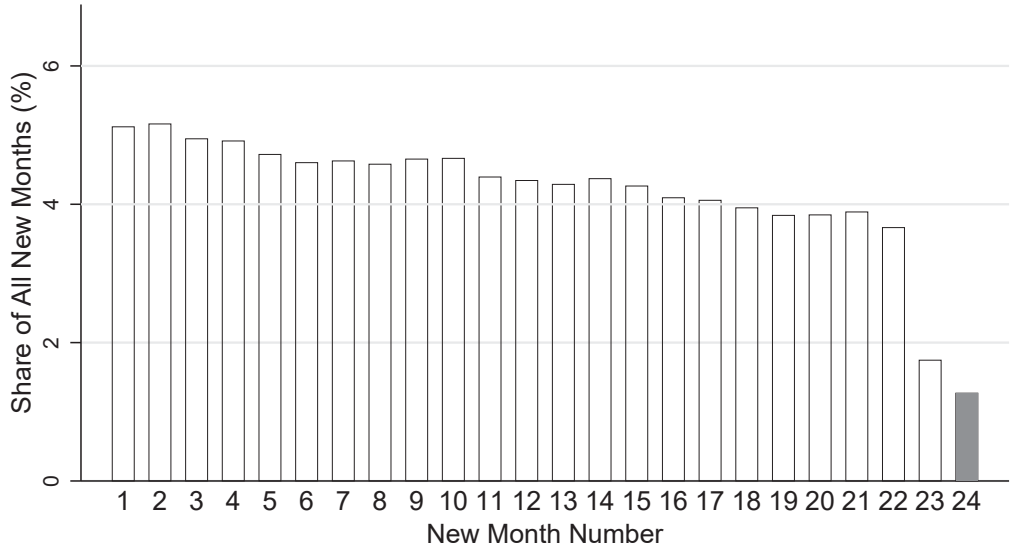
Notes: The figure displays the cumulative distribution function of the number of months of coverage during 2017 and 2018. The figure excludes individuals with full coverage in January through November of 2016.

Figure A.7: Coverage CDF by Demographic Subgroup



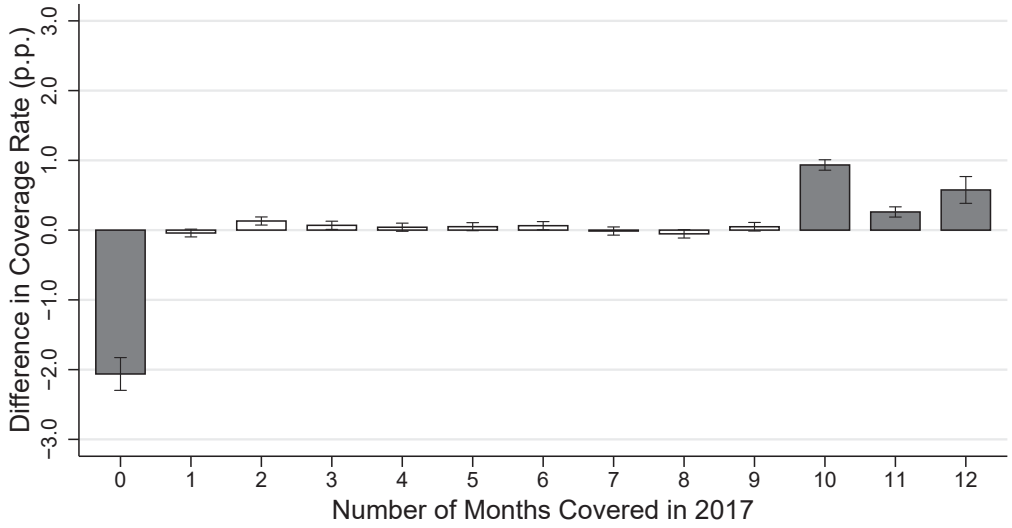
Notes: Each figure displays the cumulative distribution function of months of coverage in 2017 and 2018. High income is defined as having a ratio of household income to the federal poverty line above the sample median. The figure is limited to individuals between the ages ages of 45−64 at the start of 2017 and excludes those with full coverage in January through November of 2016.

Figure A.8: Distribution of New Coverage Months Induced by the Intervention



Notes: The figure displays the share of additional coverage months induced by the intervention that represent an individual's specified month of coverage. For example, the bar for month 3 indicates that approximately 5% of the additional months induced by the intervention represented the individual's third month of coverage during 2017. The figure is limited to individuals between the ages of 45−64 at the start of 2017 and excludes individuals with full coverage in January through November of 2016.

Figure A.9: Effect of Intervention on Number of Covered Months Among 45-64 Year-Olds



Notes: The figure denotes the difference between the treatment and control groups in the fraction of individuals who enroll in the specified number of months of 2017 coverage. The vertical axis units are percentage points (0−100). Positive values indicate more individuals were enrolled in the specified number of months of coverage in the treatment group relative to the control group. The analysis includes 45−64 year olds and excludes individuals with full coverage in January through November of 2016. Brackets denote the 95% confidence interval based on standard errors that are clustered by household.

Table 8A.1: Sample Allocation across Treatment Groups

	(1)	(2)	(3)
	Individuals	Households	hare
Overall	8,897,821	4,526,675	1.00
Treatment	7,651,401	3,892,807	0.86
Control	1,246,420	633,868	0.14
Treatment arm			
Base	2,020,465	1,027,859	0.23
Early	1,576,560	801,913	0.1
Non-Personalized	2,033,077	1,034,304	0.23
Exemption info	2,021,299	1,028,731	0.23
Language			
English only	3,819,261	1,943,194	0.43
English+panish	3,832,140	1,949,613	0.43

Notes: The table contains counts by treatment group assignment. The base treatment was personalized, did not include information about exemptions, and was sent during the January 2017 mailing. The shares reported in lumn 3 are calculated at the household-level. Households rresp ond to the individuals listed on a tax return.

Table A.2: Effect of Intervention by 2015 and 2016 Coverage

	(1)	(2)	(3)	(4)
Full 2015 Coverage:	Yes	Yes	No	No
Full 2016 Coverage:	Yes	No	Yes	No
Treated	0.063	0.951	0.096	1.375
	(0.038)	(0.253)	(0.054)	(0.080)
Control mean	97.342	71.142	95.63	5.746
Observations	2,156,674	362,371	1,652,81	,721,794

Notes: Outcome indicates any 2017 coverage. Units are percentage points (0-100). Full 2015 coverage indicates coverage for all months of 2015. Full 2016 coverage indicates coverage for the first 11 months of 2016. Standard errors, reported in parentheses, are clustered by household.

Table A.3: Medicaid Coverage Effect by Income and Expansion State Status

	(1)	(2)	(3)	(4)
	Income/FPL Percentage			
	0-100	100-138	138-400	400+
Treated × Expansion State	1.152	1.913	0.611	0.193
	(0.262)	(0.299)	(0.109)	(0.140)
Treated × Non-Expansion State	-0.21	0.375	-0.049	-0.106
	(0.225)	(0.246)	(0.096)	(0.113)
Expansion State	20.711	19.967	8.995	3.459
	(0.320)	(0.359)	(0.135)	(0.167)
Control mean	23.517	17.871	9.967	3.07
Observations	879,457	638,779	2,934,527	616,667

Notes: Outcome indicates one or more months of Medicaid coverage during 2017. Units are percentage points (0-100). Columns limit the sample based on 2016 household income as a percent of the federal poverty line. All columns exclude individuals with full coverage in January through November of 2016. Standard errors reported in parentheses, are clustered by household.

Table A.4: Exchange Coverage Effect by Income and Expansion State Status

	(1)	(2)	(3)	(4)
	Income/FPL Percentage			
	0-100	100-138	138-400	400+
Treated × Expansion State	0.588	1.027	.081	0.487
	(0.063)	(0.098)	(0.054)	(0.109)
Treated × Non-Expansion State	0.937	.776	1.203	0.396
	(0.095)	(0.140)	(0.063)	(0.1 7)
Expansion State	-1.602	-2.014	0.148	0.678
	(0.104)	(0.155)	(0.076)	(0.147)
Control mean	3.142	4.508	3.76	2.625
Observations	879,457	638,779	2,934,527	616,667

Notes: Outcome indicates one or more months of Exchange coverage during 2017. Units are percentage points (0-100). Columns limit the sample based on 2016 household income as a percentage of the federal poverty line. All columns exclude individuals with full coverage in January through November of 2016. Standard errors reported in parentheses, are clustered by household.

Table A.5: 2018 Coverage Effect by Type of Coverage

	(1)	(2)	(3)	(4)	(5)	(6)
	Exchange	Medicaid	SI	Off-Exchange	VA	Medicare
Treated	0.556	0.187	0.134	0.039	0.019	0.023
	(0.033)	(0.062)	(0.073)	(0.013)	(0.007)	(0.016)
Control mean	4.203	8.761	30.463	0.724	0.25	.436
Observations	5,084,165	5,084,165	5,084,165	5,084,165	5,084,165	5,084,165

Notes: Outcome indicates enrollment in one month or more of the specified coverage during 2018. Units are percentage points (0-100). All columns exclude individuals with full coverage in January through November of 2016. ESI refers to employer-sponsored coverage. Off-Exchange refers to individual coverage not purchased through the Exchange. VA refers to coverage provided through the Veterans Administration. Standard errors, reported in parentheses, are clustered by household.

Table A.6: Distribution of Covered Months by Treatment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Panel A: 2017 Coverage												
Months	0	1	2	3	4		6	7	8	9	10	11	12
Control	52.443	1.651	1.849	1.891	1.898	1.949	2.004	2.033	2.121	2.282	2.906	2.940	24.032
Treatment	1.100	1.608	1.920	1.941	1.920	1.957	2.017	2.019	2.122	2.306	3.379	3.116	24.597
	Panel B: 2017-18 Coverage												
Months	0	1	2	3	4		6	7	8	9	10	11	12
Control	41.475	1.175	1.464	1.472	1.402	1.410	1.430	1.367	1.410	1.434	1.532	1.533	5.481
Treatment	40.368	1.169	1.504	1.45	1.447	1.419	1.438	1.375	1.391	1.432	1.5 35	1.539	.509
Months	13	14	15	16	17	18	19	20	21	22	23	24	
Control	1.536	1.495	1.5 05	1.592	1.595	1.642	1.690	1.764	1.929	2.446	2.517	17.660	
Treatment	1.526	1.503	1.571	1.577	1.597	1.689	1.688	1.780	1.958	2.801	2.640	18.07	

Notes: Panel A denotes the share of treatment and control groups with the specified number of months of coverage during 2017. Panel B denotes the corresponding shares for months of coverage during 2017 and 2018. All columns exclude individuals with full coverage in January through November of 2016.

Table A.7: Effect of Intervention on Mortality - Alternate Age Cutoffs

	(1)	(2)	(3)	(4)	(5)	(6)
	35-64	40-64	45-64 (Main Sample)	0-64	5-64	All Ages
Treated	-0.031	-0.039	-0.061	-0.063	-0.049	-0.012
	(0.016)	(0.020)	(0.025)	(0.033)	(0.048)	(0.008)
p-value	0.05	0.050	0.015	0.057	0.307	0.146
Control Mean	0.708	0.827	0.993	1.202	1.472	0.422
Observations	2,242,570	1,728,577	1,309,736	902,273	30,371	4,908,521

Notes: Outcome indicates whether an individual died during 2017-18. Units are percentage point (0-100). The reported p-value corresponds to the null hypothesis that the effect of the intervention on mortality is zero. All columns exclude individuals with full coverage in January through November of 2016. All columns control for individual age fixed effects, gender, marital status, 2016 insurance coverage, 2016 household income relative to the federal poverty line, mean 2016 late-level mortality, and logged zipcode-level controls for median income, share of Spanish speakers, and share of college graduates. Standard errors, reported in parentheses, are clustered by household.

Table A.8: Effect of Intervention on Mortality: No Prior Year Exclusion

	(1)	(2)
	Mortality	Mortality (Controls)
Treated	-0.0452	-0.0442
	(0.021)	(0.021)
Control Mean	1.052	1.0402
Observations	2,047,778	1,983,167

Notes: Outcome indicates whether an individual died during 2017-18. The analysis includes all individuals between the ages of 45-64, including those with full-year coverage during January through November of 2016. The specification reported in Column 2 controls for individual age fixed effects, gender, marital status, 2016 insurance coverage, 2016 household income relative to the federal poverty line, mean 2016 state-level mortality, and logged zipcode-level controls for median income, share of Spanish speakers, and share of college graduates. Standard errors, reported in parentheses, are clustered by household.

TabledA.9:dEffectdofdInterventiondond2017-18dMortalityd(Non-LineardModels)d

	(1)d	(2)d	(3)d	(4)d	(5)d
	Logitd	Logitd	Coxd Proportional-d Hazard	Coxd Proportional-d Hazard	Log-Rankd Testd
Treated	-6.580d	-6.382d	-6.555d	-6.355d	
	(2.492)d	(2.561)d	(2.480)d	(2.541)d	
Marginaldffectd	-0.063d	-0.049d			
	(0.025)d	(0.020)d			
p-valued	0.008d	0.013d	0.008d	0.012d	0.008d
Controlsd		×		×	
Observationsd	1,358,983d	1,309,736d	1,355,773d	1,306,719d	1,355,773d

Notes:xOutcomexindicatesxwhetherxanxindividualxdiedxduringx2017-18.xUnitsxare percentagex pointsxx(0-100).xAllxcolumnsxexcludexindividualsxwithxfullxcoveragex Januaryxthroughx Novemberxofx2016xandxarexlimitedxtoxindividualsxbetweenxthexagesxofx45-64xatxthexstartx ofx2017.xColumnsx1xandx2xreportxthexresultsxofxaxlogitxmodel.xThexreportedxmarginalxeffectx isxcalculated at covariatexmeans.xColumns 3xandx4xreportxthexresults of a Cox Proportional-x Hazardxmodelxatxthexmonthlxlevel.xInxColumnsx1-4,xthexreportedxp-valuexcorrespondsxtoxthex ull hypothesisxthatxthextreatmentx variable doesxnot enterx toxthe model.xColumn 5 reportsx axlog-rankxtest;xthexp-valuexcorrespondsxtoxthex ull hypothesisxofxequality betweenxthex survivalxcurvesxforxdividualsx thextreatmentxxandxcontrolxgroups.xThexspecificationsx reportedx Columnx2xandx4xcontrolxforxindividualxagexfixedxeffects,xgender,xmaritalxstatus,x 2016xinsurancexcoverage,x2016xhouseholdxincomexrelativextoxthexfederalxpovertyxline,xmeanx2016x state-levelxmortality,xandxloggedxzipcode-levelxcontrolsxforxmedianxincome,xsharexofx Spanishxspeakers,xandxsharexofxcollegexgraduates.xStandardxerrors,xreportedx parentheses,x arexclusteredxbyxhousehold.x

Table A.10: Effect of Intervention on Mortality - Additional Analyses

	(1)	(2)	(3)	(4)
	Men	Women	FPL $\leq$ 138	FPL $>$ 138
Treated	-0.052	-0.080	-0.032	-0.066
	(0.035)	(0.032)	(0.055)	(0.027)
Control mean	1.204	.737	1.203	.929
Observations	783,582	575,199	325,270	1,016,402

Notes: Outcome indicates whether an individual died during 2017-18. Units are percentage points (0-100). Column 1 limits sample to men. Column 2 limits the sample to women. Column 3 limits the sample to individuals whose household income as a percent of the federal poverty line is less than 138%. Column 4 limits the sample to individuals whose household income as a percent of the federal poverty line exceeds 138%. All columns are limited to individuals between the ages of 45-64 and exclude individuals with full coverage in January through November of 2016. Standard errors, reported in parentheses, are clustered by household.

Table A.11: Comparison to Estimated Mortality Effects in Prior Research

	(1)	(2)	(3)	(4)
	Oregon	Oregon (Age-Weighted)	Miller et al. (2019)	ACA Penalty (This Study)
Intent-to-Treat	-0.106	-0.170	-0.208	-0.061
	(0.160)	(0.199)		(0.025)
First-Stage	2.726	2.728	1.092	0.358
	(0.187)	(0.194)		(0.026)
Average Causal Response	-0.026	-0.041	-0.190	-0.166
	(0.039)	(0.048)		(0.068)
Overlapping CI	[-0.101, 0.032]	[-0.135, 0.032]		

Notes: The table presents estimates derived from the Oregon health insurance study (Columns 1 and 2), Miller et al. (2019) (Column 3), and our study (Column 4). The Oregon results are calculated from the public-use replication data, downloaded from https://www.nber.org/oregon/4.data.html. We use the 20% subsample with survey data on coverage months, along with the corresponding survey weights. Column 2 adjusts the Oregon survey weights to reflect the age distribution of our mortality analysis sample. The standard errors reported in Columns 1 and 2 are clustered by household. The Miller et al. results are calculated from estimates reported in the draft dated July 10, 2019. The coverage and mortality effect estimates are calculated from their Table 1 (Columns 3 and 4) and reflect the event-study coefficients corresponding to Year 0 and Year 1 (post-expansion). We do not calculate standard errors or confidence intervals for the Miller et al. analysis because we lack the required microdata. The results from our study are drawn from the specifications with control variables.

The "Intent-to-Treat" row presents the intent-to-treat estimate of the intervention on 1.5-yr mortality (Columns 1 and 2) and 2-yr mortality (Column 3 and 4). The units are percentage points (0-100). The "First-Stage" row presents the effect of the intervention on months of coverage enrolled in during the first year post-intervention (Columns 1 and 2) and during the first 2 years post-intervention (Column 3 and 4). For Oregon, the first stage is calculated using survey data on the number of coverage months enrolled in by the treatment and control groups. For the Miller et al. study, the first stage is calculated from the change in the share of uninsured individuals, under the assumption that each individual who obtains coverage because of the treatment does so for each month during the year. The "Average Causal Response" row presents the average causal response of coverage on mortality, and is calculated by dividing the intent-to-treat by the first stage. Units are percentage points (0-100). For the Oregon results, the ITT is first scaled by 12/18 before dividing by the first stage so that both the ITT and first stage reflect a 12-month period. The "Overlapping CI" row presents the ACR values that are included in both our estimated confidence interval and the confidence interval associated with the Oregon ACR estimate.

Appendix: identifying Complier Baseline Mortality

This appendix section formalizes and proves the claim made in section 5.2 that the baseline mortality among individuals who respond to the intervention can be identified when the first-stage effect of the intervention on coverage is limited to the extensive margin. The result extends a similar proposition from Abadie (2002) to the case in which treatment is multi-valued.

Let $Z_i \in \{0, 1\}$ indicate whether individual i was assigned to the treatment group. Let $C_i(Z) \in \{0, 12\}$ denote the months of coverage in which i would enroll during 2017 if assigned to treatment group Z. Let $Y_i(C) \in \{0, 1\}$ indicate whether i would ie uring 2017 if i was enrolled in C months of coverage. Our goal is to estimate average mortality during 2017 among individuals who would enroll in additional coverage because of the intervention, in the state of the world in which they enroll in zero months of 2017 coverage, i.e., $E[Y_i(0) \mid C_i(1) > C_i(0)]$.

Claim: Suppose $Pr(C_i(1) > C_i(0) > 0) = 0$. Then, in conjunction with the standard IV assumptions described in section 5.2 (monotonicity, exclusion restriction, independence):

$$E[Y_i(0) \mid C_i(1) > C_i(0)] = \frac{\overline{Y}(0,0)\ \left(1 - \overline{C}(0)\right) - \overline{Y}(0,1)\ \left(1 - \overline{C}(1)\right)}{\overline{C}(1) - \overline{C}(0)}$$

where $\overline{Y}(c, z) = E[Y_i | C_i = c, Z_i = z]$ and $\overline{C}(z) = Pr\left(C_i > 0 | Z_i = z\right)$.

Pro : First, note that, $\overline{Y}(0,0) = E[Y_i(0) \mid C_i(0) = 0,\ Z_i = 0] = E[Y_i(0) \mid C_i(0) = 0]$, where the first equality follows from the exclusion restriction and the second follows from the independence assumption. By the law of iterated expectations, we can write this expression as

$$\begin{aligned} \overline{Y}(0,0) = \quad & E\left[Y_i(0) \mid C_i(0) = 0, C_i(1) = 0\right]\ Pr(C_i(1) = 0 \mid C_i(0) = 0) \\ & + E\left[Y_i(0) \mid C_i(0) = 0, C_i(1) > 0\right]\ Pr(C_i(1) > 0 \mid C_i(0) = 0) \end{aligned}$$

or, using the definition of conditional probability,

$$\begin{aligned} \overline{Y}(0,0) = \quad & E\left[Y_i(0) \mid C_i(0) = 0, C_i(1) = 0\right]\ \tfrac{Pr(C_i(1)=0, C_i(0)=0)}{Pr(C_i(0)=0)} \\ & + E\left[Y_i(0) \mid C_i(0) = 0, C_i(1) > 0\right]\ \tfrac{Pr(C_i(1)>0, C_i(0)=0)}{Pr(C_i(0)=0)} \end{aligned} \tag{4}$$

Next, under monotonicity, $(C_i(1) = 0 \implies C_i(0) = 0$, so $Pr(C_i(1) = 0, C_i(0) = 0) = Pr(C_i(1) = 0) = 1 - \overline{C}(1)$. In addition, monotonicity and the definition of $\overline{C}(Z)$ imply $\overline{C}(0) \equiv Pr(C_i(0) > 0) = Pr(C_i(0) > 0, C_i(1) > 0)$ and $\overline{C}(1) \equiv Pr(C_i(1) > 0) = Pr(C_i(1) > 0, C_i(0) = 0) + Pr(C_i(1) > 0, C_i(0) > 0)$. Subtracting $\overline{C}(0)$ from $\overline{C}(1)$ therefore yields $\overline{C}(1) - \overline{C}(0) = Pr(C_i(1) > 0, C_i(0) = 0)$.

Substituting these results into (4) and using the definition of $\overline{C}(Z)$ yields

$$\begin{aligned}\overline{Y}(0,0) = \quad & E\left[Y_i(0) \,|\, C_i(0)=0, C_i(1)=0\right] \tfrac{1-\overline{C}(1)}{1-\overline{C}(0)} \\ & + E\left[Y_i(0) \,|\, C_i(0)=0, C_i(1)>0\right] \tfrac{\overline{C}(1)-\overline{C}(0)}{1-\overline{C}(0)}\end{aligned} \tag{5}$$

Next, note that because $C_i(1) = 0$ implies $C_i(0) = 0$ under monotonicity, it follows that $E[Y_i(0) \,|\, C_i(0) = 0, C_i(1) = 0] = E[Y_i(0)|C_i(1) = 0] = E[Y_i|Z_i = 1, C_i = 0] \equiv \overline{Y}(0,1)$, where the second equality follows from independence and the third equality follows by definition. Substituting this result into (5) and rearranging yields

$$E\left[Y_i(0) \,|\, C_i(0)=0, C_i(1)>0\right] = \frac{\overline{Y}(0,0)\,\left(1-\overline{C}(0)\right) - \overline{Y}(0,1)\,\left(1-\overline{C}(1)\right)}{\overline{C}(1)-\overline{C}(0)}$$

Finally, using the law of iterated expectations, we can write

$$\begin{aligned}E\left[Y_i(0) \,|\, C_i(1) > C_i(0)\right] \quad & = E\left[Y_i(0) \,|\, C_i(1)>C_i(0), C_i(0)=0\right] Pr\left(C_i(0)=0 \,|\, C_i(1)>C_i(0)\right) \\ & \quad + E\left[Y_i(0) \,|\, C_i(1)>C_i(0), C_i(0)>0\right] Pr\left(C_i(0)>0 \,|\, C_i(1)>C_i(0)\right) \\ & = E\left[Y_i(0) \,|\, C_i(1)>C_i(0), C_i(0)=0\right] Pr\left(C_i(0)=0 \,|\, C_i(1)>C_i(0)\right)\end{aligned}$$

where the second equality follows from the assumption that $Pr\left(C_i(1) > C_i(0) > 0\right) = 0$. ■

By Gordon Gong, Scott G. Phillips, Catherine Hudson, Debra Curti, and Billy U. Philips

Higher US Rural Mortality Rates Linked To Socioeconomic Status, Physician Shortages, And Lack Of Health Insurance

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ABSTRACT **All-cause mortality rates in rural areas have exceeded those in urban areas of the US since the 1980s, and the gap continues to widen. Yet no definitive causes of this difference are known, and within-state differences that might be amenable to state-level policy have not been explored. An analysis of 2016 state-level data indicated that rural mortality exceeded urban mortality in all but three states, with substantial variability in both rates across states. Overall, higher rural mortality at the state level can be mainly explained by three factors: socioeconomic deprivation, physician shortages, and lack of health insurance. To a certain degree, these factors reflect a state's health policies, such as expansion of eligibility for Medicaid, health infrastructure, and socioeconomic conditions. Our findings suggest that state and federal policy efforts to address rural-urban disparities in these areas could alleviate the higher rates of all-cause mortality faced by rural US residents.**

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Since the mid-1980s all-cause mortality rates have been higher in rural than in urban areas of the US, and the gap has been widening.[1,2] Similarly, US life expectancy has been lower in rural than in urban areas during the same period.[3] The rural-urban difference in mortality does not seem to exist only in a few dominant US regions. Rather, higher rural mortality is observed in each of the nine US census divisions.[4]

No definitive causes of the rural-urban difference in mortality rates have been identified, however. Several findings suggest that mortality is to a large degree dictated by social determinants of health such as income, education, unemployment, race/ethnicity, and geographic location.[3,5] An increase in economic opportunity is associated with a decrease in mortality in the US.[6] People with lower educational attainment and lower incomes have higher rates of mortality caused by cardiovascular diseases and stroke.[7] Moreover, mortality differs across racial/ethnic groups.[8,9] For example, African Americans have a higher all-cause mortality rate than whites at ages younger than sixty-five.[8] These observations are consistent with the theory that sociodemographic factors are the fundamental causes of mortality disparities.[10,11] Thus, it is conceivable that any differences in socioeconomic factors or the racial/ethnic distribution between rural and urban areas could contribute to the observed difference between them in mortality rates.

However, features other than social factors associated with rural residence may be at play as well, because rural residence is a strong predictor of mortality independently of education, poverty, and race.[12] Of note, there is a severe shortage of primary care physicians in rural areas of the US.[13] Physician supply decreased from 2005 to 2016, with greater losses in rural than in urban areas.[14] Also, rural counties tend to have lower rates of health insurance coverage.[15] Additionally, rural counties tend to have lower

prevalence of healthy behaviors,[16] which may be responsible for higher rural mortality rates.

At the same time, US states differ significantly in several respects that would be expected to influence the nature and extent of disparities in mortality between their rural and urban counties, such as economic development, infrastructure, and racial/ethnic composition. States in the South tend to be more agricultural, while those in the Northeast are more industrial. Health care policies across states are also quite different. Some states have stringent eligibility requirements for Medicaid, and many did not expand Medicaid following passage of the Affordable Care Act.[17] Also, racial/ethnic distributions are vastly different across states.[18–20]

Indeed, a recent study found that mortality differs markedly across US states.[21] However, no reports have separated mortality rates in rural and urban areas at the state level and therefore permitted comparisons across states. Our study sought to determine whether mortality rates were higher in rural versus urban areas of each US state and, if so, whether the higher rural mortality rates might be attributed to socioeconomic deprivation, physician shortage, or higher rates of uninsured residents. To a certain degree, these factors reflect the impacts of states' health policies (for example, Medicaid expansion), health infrastructure (such as physician supply), and socioeconomic conditions (for example, as measured by a multifactorial indicator of socioeconomic well-being) on health. We chose to study all-cause mortality, as it is one of the most important measures of states' efforts to improve health.

Study Data And Methods

DATA SOURCES We obtained age-adjusted all-cause mortality rates and population sizes of rural and urban counties in the US in 2016 from the Compressed Mortality File from the Wide-ranging Online Data for Epidemiologic Research (WONDER) database of the Centers for Disease Control and Prevention (CDC).[22] Race/ethnicity is divided into four groups: Hispanic, non-Hispanic white, non-Hispanic African American, and other.

We used the 2013 Urban-Rural Classification Scheme for Counties of the National Center for Health Statistics to designate counties as urban or rural.[23] This scheme has six levels for counties: four metropolitan (large central metro, large fringe metro, medium metro, and small metro) and two nonmetropolitan (micropolitan and noncore). In this article the rural area of a state refers to the aggregate of all nonmetropolitan counties in that state, and the urban area refers to the aggregate of all metropolitan counties in the state (that is, data on both areas are pooled values).

From the Health Resources and Services Administration[24] we obtained numbers for 2016 of nonfederal practicing primary care physicians younger than age seventy-five and the percentages of people younger than age sixty-five without health insurance.

Data for the ten measures for socioeconomic deprivation that we used to build the Wellbeing Index[25] used in this study were drawn from the Census Bureau's 2016 five-year American Community Survey[18] and are listed in online appendix exhibit A1.[26] The ten Wellbeing Index categories we used were taken from the geographic Index of Relative Wellbeing that was created in 2004 by Jochen Albrecht and Laxmi Ramasubramanian.[25] The latter index focused on ten variables that provide an insight into the material and social status of the population based on census data.

STATISTICAL ANALYSIS We constructed the Wellbeing Index by principal component analysis according to the ten socioeconomic deprivation variables in rural and urban areas for each US state. We used the first principal component score as the Wellbeing Index (standard deviation: 1) to represent the level of socioeconomic deprivation.

We ran a general linear model with age-adjusted all-cause mortality rates as the response variable and state as the unit of observation. Explanatory variables included rural-urban residence (a binary variable), the Wellbeing Index, primary care physician supply, the percentage of uninsured residents, and the percentages of racial/ethnic groups.

To address the potential issue of place heterogeneity,[27,28] we performed a county-level analysis. Age-adjusted all-cause mortality rates in seventy-nine (2.5 percent) counties were suppressed because of their small populations and were excluded from our analysis. For accuracy, we did not estimate death counts for missing data.[29]

We used the SAS statistical package, version 9.4, for our analysis.

LIMITATIONS Our study had several limitations. First, a statistical association between mortality and its predictors does not necessarily indicate causation. We therefore advise caution in interpreting the results.

Second, we did not study all of the leading causes of death. Certain cause-specific mortality seems to be clustered in rural areas.[30] This was beyond the scope of our analysis.

Third, mortality may be partly, but not completely, explained by social factors, access to health care, or race/ethnicity—either alone or in

combination.[5] For example, unmeasured rural-urban differences in food security, obesity, and smoking may also play a role.[31]

Fourth, we did not perform an analysis by all six urbanization categories in the CDC WONDER database[22,32] to ascertain their unique associations with mortality.

Study Results

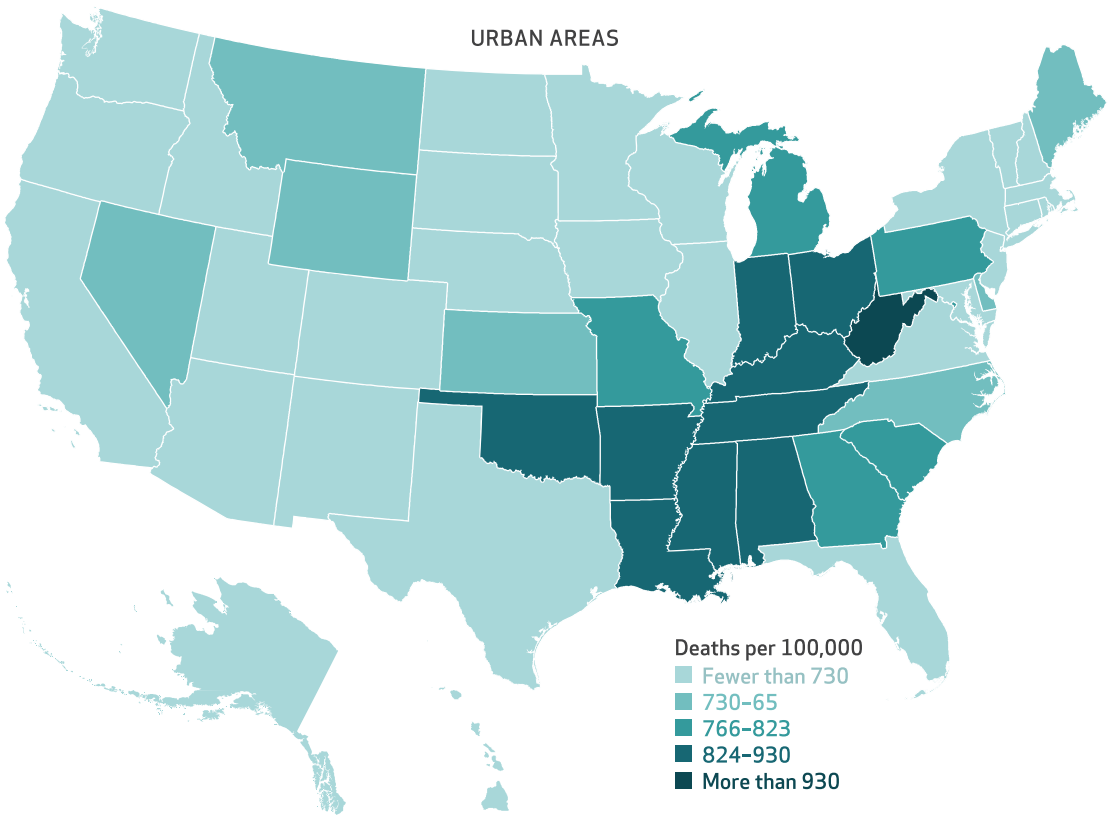
AGE-ADJUSTED ALL-CAUSE MORTALITY Exhibit 1 provides a visual representation of mortality rates in urban areas across states. Urban areas of Hawaii, California, and New York had the lowest mortality rates, while those in West Virginia, Alabama, and Mississippi had the highest rates. In this analysis we mention states in order of mortality rates. In this instance, the order of mention means that Hawaii had the lowest mortality rates of the three states mentioned (and the lowest in the US), while West Virginia had the highest of the three states mentioned (and thus in the US). Specific mortality rates by rurality, and the rural-urban difference, for each state are in appendix exhibit A2.[26] Mortality in the state with the highest state-level urban mortality rate, West Virginia (943 per 100,000 population), was 169 percent of the level of mortality in the state with the lowest rate, Hawaii (560 per 100,000 population).

Exhibit 2 provides a similar visual representation of mortality rates in rural areas. Rural areas in Hawaii, Connecticut, and Colorado had the lowest mortality rates, while those in Kentucky, Mississippi, and Alabama had the highest rates (appendix exhibit A2).[26] Mortality in the state with the highest state-level rural mortality rate, Kentucky (1,028 per 100,000 population), was 164 percent of the level of mortality in the state with the lowest rate, Hawaii (627 per 100,000 population).

Montana, Wyoming, and Colorado were the only three states with lower mortality rates in rural areas than in urban areas, or negative rural-urban differences (appendix exhibit A2).[26] The rural-urban difference in Montana was −3 percent. In each of the remaining forty-four states with both rural and urban counties

EXHIBIT 1

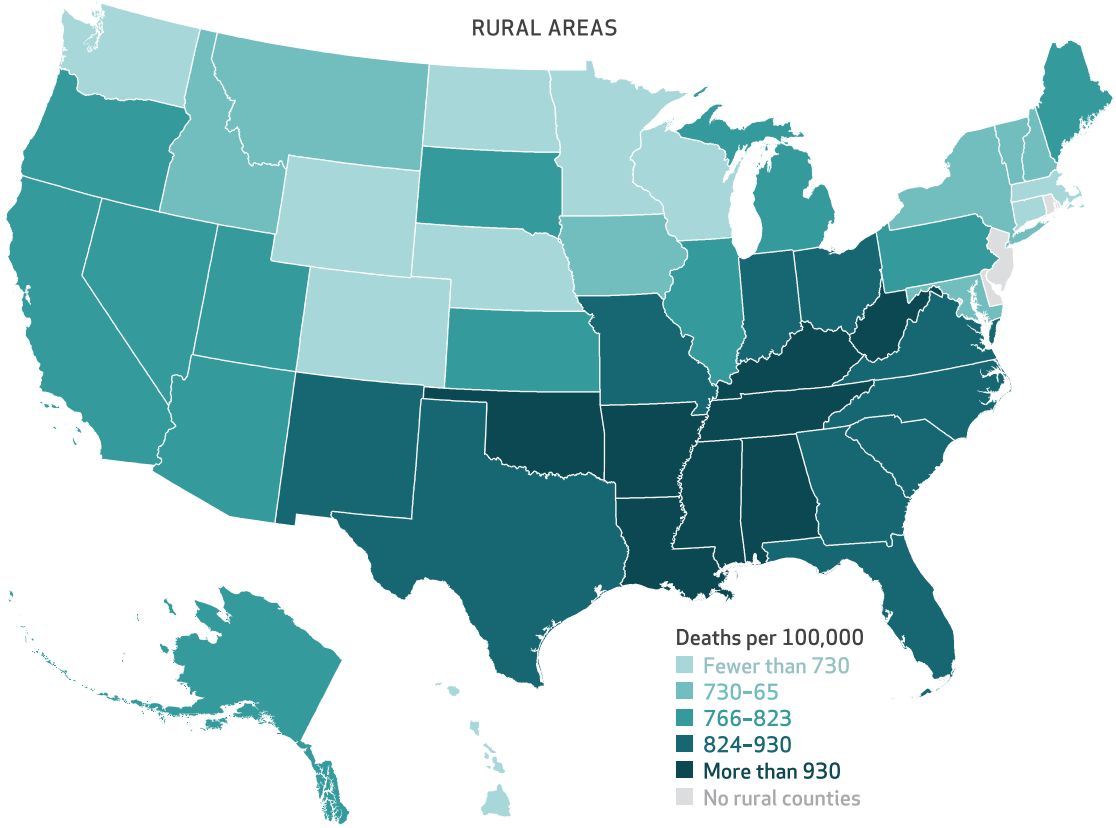
All-cause state mortality rates per 100,000 population in US urban areas, 2016



SOURCE Authors' analysis of county-level data from the Compressed Mortality File from the Wide-ranging Online Data for Epidemiologic Research (WONDER) database of the Centers for Disease Control and Prevention. **NOTE** "Urban areas" refers to the aggregate of all metropolitan counties in the state (that is, data are pooled values).

EXHIBIT 2

All-cause state mortality rates per 100,000 population in US rural areas, 2016



SOURCE Authors' analysis of county-level data from the Compressed Mortality File from the Wide-ranging Online Data for Epidemiologic Research (WONDER) database of the Centers for Disease Control and Prevention. **NOTE** "Rural areas" refers to the aggregate of all rural counties in the state (that is, data are pooled values).

(Delaware, New Jersey, Rhode Island, and the District of Columbia have no rural counties), rural mortality surpassed urban mortality. Virginia, Florida, and California had the largest positive rural-urban differences in mortality rates, with rural mortality about 30 percent higher than urban mortality in Virginia. Both rural and urban mortality rates differed across states by as much as 69 percent.

WELLBEING INDEX FOR SOCIOECONOMIC DEPRIVATION Among urban areas, those in North Dakota, Utah, and Alaska had the most favorable (lowest) Wellbeing Index scores for socioeconomic deprivation, and Mississippi, West Virginia, and Louisiana had the least favorable (highest) scores (appendix exhibits A3 and A4).[26] In rural areas, North Dakota, Wyoming, and Connecticut had the most favorable scores, and Arizona, Mississippi, and South Carolina had the least favorable. Rural areas of states tended to have less favorable socioeconomic deprivation scores, compared with urban areas (appendix exhibits A3 and A5).[26]

PRIMARY CARE PHYSICIAN SUPPLY Among urban areas, those in Vermont, Maine, and the District of Columbia had the largest numbers of primary care physicians per capita, and those in Utah, Nevada, and Mississippi had the smallest numbers (appendix exhibit A3).[26] Among rural areas, those in New Hampshire, Maine, and Vermont had the largest numbers, while those in Florida, Texas, and Indiana had the smallest numbers. Numbers of primary care physicians per capita were higher in urban than in rural areas in all states except New Hampshire, Utah, and Alaska.

UNINSURANCE RATES Among urban areas, those in Massachusetts, Vermont, and Hawaii had the lowest percentages of uninsured residents, while those in Texas, Florida, and Nevada had the highest (appendix exhibit A3).[26] Among rural areas, those in Massachusetts, Vermont, and Connecticut had the lowest uninsurance rates, while those in Alaska, Texas, and Florida had the highest rates. The differences in uninsurance rates across states were as large as 5.8-

Rural residence in and of itself does not appear to negatively affect mortality.

fold. The percentage of uninsured residents was higher in rural areas than in urban areas in each state except Nevada, Illinois, New York, and Connecticut.

RESULTS OF ANALYSES USING THE GENERAL LINEAR MODEL Appendix exhibit A6 presents the results of our analyses using the general linear model.[26] There was no collinearity between explanatory variables in our state- or county-level analyses.

The state-level analysis showed that the all-cause mortality rate was significantly and positively associated with the Wellbeing Index and the percentage of uninsured residents (that is, a higher, or less favorable, Wellbeing Index and a higher percentage of uninsured residents were associated with a higher all-cause mortality rate). However, it is negatively associated with primary care physician supply and the percentages of Hispanics and members of the "other" racial/ethnic group (that is, a higher primary care physician supply and greater percentage of Hispanic and "other" racial/ethnic groups were associated with a lower all-cause mortality rate). Of note, mortality was significantly and negatively associated with rural residence after we adjusted for covariates. For the model, the R^2 was equal to 0.818—that is, 81.8 percent of the total variance in mortality was attributable to the combination of explanatory variables in the model.

We further assessed which predictor was most highly correlated with mortality using simple Pearson correlation analyses. The R^2 value was the largest in the correlation between the Wellbeing Index and mortality ($R^2 = 0.581$; $p < 0.0001$), and the regression lines for rural and urban areas overlapped and had almost identical slopes (appendix exhibit A7).[26] Mortality was significantly correlated with the percentage of uninsured residents ($R^2 = 0.157$; $p < 0.0001$) and negatively correlated with physician supply ($R^2 = 0.294$; $p < 0.0001$). Also, the percentage of African Americans was positively associated with mortality ($R^2 = 0.379$; $p < 0.0001$).

Pearson correlation analysis showed that each of the ten socioeconomic deprivation variables in the Wellbeing Index was correlated with all-cause mortality, with one exception: the percentage of people without a car (appendix exhibit A1).[26]

The county-level analysis showed similar results except that mortality was significantly and positively associated with rural versus urban residence ($p < 0.0001$). Also, mortality was negatively associated with the percentage of African Americans ($p < 0.002$) (appendix exhibit A6).[26]

Discussion

This study revealed that in 2016 the age-adjusted all-cause mortality rates in all but three states—Montana, Wyoming, and Colorado—were higher in rural areas than in urban areas. Virginia, Florida, and California had the largest rural-urban differences, with rural mortality as much as 30 percent higher than urban mortality. In addition, both rural and urban mortality rates differed across states by as much as 69 percent. This wide variation suggests that there are large health inequities across states, in both their rural and urban areas.

We examined five explanatory variables: rural-urban residence, the Wellbeing Index, primary care physician supply, the percentage of uninsured residents, and the percentages of racial/ethnic groups. Our results indicate that the higher mortality rates generally seen in rural (as opposed to urban) areas of US states can largely be explained by three characteristics that are more pervasive in rural areas: socioeconomic deprivation (as reflected in the Wellbeing Index), physician shortages, and lack of health insurance. Simply put, mortality rates are higher in rural areas than in urban areas in almost all states because rural residents are more likely to be poor, not have physicians readily available, and lack health insurance. Of the three disadvantages, socioeconomic deprivation is most closely linked to higher mortality. Rural residence in and of itself does not appear to negatively affect mortality.

Indeed, the results of our state-level analysis, after we adjusted for covariates, indicate that rural residence tends to favor lower, not higher, mortality. That is, our state-level findings suggest that rural dwellers would have lived longer than their urban counterparts had their socioeconomic conditions and access to health care been similar—possibly because of cleaner air or other salutary attributes of rural areas. In sharp contrast, the results of our county-level analysis indicate that mortality is neither positively nor negatively associated with rural residence per se. This difference may be due to place heterogeneity.[30,31] Factors other than the predictors exam-

ined in the present study may be responsible for the higher rural mortality we found in our analysis at the county level.

The negative association between the percentage of Hispanics and mortality points to the well-known phenomenon of the Hispanic paradox, an epidemiological finding that Hispanic Americans tend to have health outcomes comparable to, or better than, those of non-Hispanic whites even though Hispanic Americans tend to have lower socioeconomic status, on average. As a result, when both Hispanic ethnicity and socioeconomic deprivation are at play, the former often has a greater effect on mortality than the latter.[33] Additionally, the higher mortality rates among states in the South might not be because there are more African Americans in the region, but because more people in the South tend to be socioeconomically disadvantaged. States with poorer socioeconomic status, as reflected in the Wellbeing Index, were mostly distributed in this region, particularly in rural areas (appendix exhibits A4 and A5).[26]

We found that the explanatory variables we studied accounted for a 81.8 percent of the total variance in mortality at the state level, which suggests their importance in explaining mortality at that level. That is, the same differences that largely accounted for disparities in mortality between rural and urban areas of individual states also accounted for the wide variability in mortality rates seen across states. As stated above, as with rural-urban differences in mortality rates within states, rates across states differed so much because their residents faced markedly different socioeconomic conditions, numbers of readily available doctors, and health insurance coverage.

These findings strongly suggest that how long Americans live depends, to a certain degree, on the state where they live.[34] At the same time, the findings suggest that states play an important role in determining the conditions closely associated with mortality—many of which are closely related to states' health policies (for example, eligibility for Medicaid), health infrastructure (number of physicians per capita), and so on. Efforts to address rural-urban disparities in mortality should focus on improving socioeconomic conditions and on increasing physician supply and health insurance coverage in rural communities. Efforts to improve rural physician supply have become increasingly important to policy makers, as states struggle to adequately address the opioid epidemic and the dramatic rise in obstetrical and rural care deserts.[35,36]

States play an important role in determining the conditions closely associated with mortality.

States' rural health policies may also present opportunities to address rural-urban health disparities. For example, some states (such as Minnesota and New York) have implemented programs to help rural areas develop health networks as part of state health care reform efforts.[37,38]

Federal policy makers also stand to play an important role in reducing rural health disparities. For instance, the VA MISSION Act of 2018 allows isolated rural veterans to obtain care funded by the Department of Veterans Affairs (VA) closer to home instead of requiring them to travel to VA facilities in more populated areas.[39] Also, the Rural Physician Workforce Production Act would make training time for residents at critical access hospitals eligible for Medicare reimbursement.[40,41]

Meanwhile, states could improve rural health by the use of telemedicine in rural communities.[42] Only thirty-six states have telehealth parity policies for private-payer coverage, and only twenty-one have such policies for Medicaid.[43] Sixteen states limit telemedicine technology to synchronous applications, removing the advantages afforded by remote patient monitoring and the store-and-forward method.[43] In addition, nearly half of the states restrict telehealth coverage to certain types of providers.[43] States' removal of such barriers could improve rural health.

These are only a few examples of opportunities that state and federal policy makers could seize or create, to address the factors that our findings indicate account for the lion's share of variability in rural and urban mortality. And taking advantage of such opportunities could help alleviate the pervasive disparity in mortality faced by rural residents throughout the US. ■

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Implications of the Fifth Circuit Court Decision in *Texas v. United States*

Losses of Coverage, Federal Health Spending, and Provider Revenue

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The US Court of Appeals for the Fifth Circuit issued a ruling in *Texas v. United States*, a case that challenges the constitutionality of the Affordable Care Act (ACA) given the elimination of the law's individual mandate penalties. This ruling means that the case continues to pose a considerable risk that the entire ACA will be overturned. In the decision, the Court remanded the case to the District Court for further analysis on whether any parts of the ACA are severable from the individual mandate and thus may stay in effect. Ultimately, the case is likely to be reviewed by the Supreme Court.

If the Supreme Court finds that the entire ACA is unconstitutional without the penalties in place (the argument made by the plaintiffs), then the law would be overturned, and insurance coverage rates, federal spending on health care, and health care provider revenue would decline. Previous Urban Institute analyses found that elimination of the ACA would cause nearly 20 million people to lose insurance coverage, a dramatic decline that would coincide with a substantial loss of federal health spending. The surge in the number of uninsured would increase current law uninsurance by 65.4 percent (Blumberg et al. 2019). The total number of uninsured in the US would rise to more than 50 million, or 18.3 percent of the nonelderly population. Coverage losses of this magnitude would affect every state and all types of individuals and families; in this brief we identify the states and people who would face the largest losses and include new estimates by city.

A court ruling overturning the ACA would substantially decrease federal spending on health care and would have significant implications for state budgets. We estimate federal spending would have shrunk by about $134.7 billion in 2019 if the ACA had been eliminated at the start of this year. As we show in this brief, these declines under ACA repeal would vary widely by state (Holahan, Blumberg, and Buettgens 2019). States would have to decide whether to use state funding—and if so, how much—to

make up for the loss of federal funds, for supporting both the costs of coverage and the increased demand for uncompensated care due to a much larger uninsured population.

The declines in coverage and federal spending resulting from ACA repeal would also directly affect health care providers, because coverage losses lead to lower spending on health care services. We estimate that total health care spending by the nonelderly population under ACA repeal would fall by $94.6 billion (5 percent) in 2019 dollars. However, the greater number of uninsured people would seek more free or reduced-price care from providers. We estimate that the cost of uncompensated care sought by uninsured people would nearly double, climbing by about $50 billion in 2019. This squeeze could cause financial distress for some providers and increase unmet medical need.

Overview of the Effects of ACA Repeal on Hospitals and Insurance Markets

Because hospitals are the last-resort providers for many uninsured people, their finances are particularly affected by changes in the number of uninsured. Recent studies have found strong evidence that hospital finances improved in states that expanded Medicaid eligibility under the ACA relative to states that did not (Blavin 2016, 2017; Lindrooth et al. 2018; Rhodes et al. 2019). Those studies also found that spending on uncompensated care fell and Medicaid revenues rose, resulting in improved margins for hospitals in Medicaid expansion states compared with hospitals in states that did not expand Medicaid. Rural and small hospitals were among those that benefitted the most. Thus, rolling back the ACA would reverse financial gains for hospitals in expansion states and could jeopardize the financial stability of rural hospitals in those states.

The nongroup market would also be thoroughly disrupted by an overturn of the ACA. With the elimination of premium tax subsidies, people would drop coverage and the market would shrink. Market regulations enacted under the ACA would be repealed. Those regulations prohibit insurers from denying coverage to people with preexisting conditions and require that premiums be set according to modified community rating rules, limiting variation by age. The ACA also mandated that plans cover essential health benefits and limit out-of-pocket costs by conforming to one of four actuarial value tiers that measure plans' generosity of coverage. Without those protections, people with preexisting health conditions seeking to purchase coverage in the nongroup market could be denied coverage, charged higher premiums than other people their age, or offered a plan that excludes care for those conditions. About 63 percent of adults ages 45 to 64 had at least 1 of 10 serious chronic conditions, and 32 percent reported having 2 or more serious chronic conditions in 2012, according to a recent study based on a large federally sponsored household survey (Ward, Schiller, and Goodman 2014). The high prevalence of chronic health conditions suggests many older adults would face denial of coverage, higher premiums, or exclusion from the nongroup market if the ACA were overturned. Many people denied coverage in the nongroup market would face high out-of-pocket costs, contribute to rising levels of uncompensated care and bad debt, and/or be unable to access necessary care.

Under ACA repeal, insurance plans in the nongroup and small group markets would no longer be required to cover essential health benefits. Before the ACA and in most states, many nongroup plans excluded or strictly limited benefits such as maternity care, prescription drugs, and mental health and substance use treatment, though exclusions varied by state. Under ACA repeal, average premiums would likely be lower for people not denied coverage, but plans would generally cover fewer services and impose higher cost-sharing obligations on enrollees (i.e., deductibles, coinsurance, copayments, and out-of-pocket maximums). People needing significant amounts of health care would face higher out-of-pocket costs and financial burdens. People needing benefits excluded from insurance policies would have to pay the full costs or forgo that care. These significant costs could increase bankruptcy rates and demand for uncompensated care.

A ruling that the ACA is unconstitutional would also affect the employer-sponsored insurance market. ACA provisions prohibit annual and dollar lifetime benefit maximums, require zero cost sharing for certain preventive care services, and require employers to cover young adults up to age 26 on their parents' policies, in addition to other changes. Without the ACA, none of those provisions would hold, and employers would be free to discontinue such protections. States are very limited in their ability to replace the federal provisions of the ACA with similar state regulations, because of restrictions under the Employee Retirement Income Security Act that exempt self-insured employers from state regulations (Fernandez 2010).

This brief focuses on the coverage provisions of the ACA that primarily affected people below age 65. However, the regulatory changes at the state and federal levels, changes to the Medicare program—and any adjustments made to the health care delivery system in response—make it difficult to grasp how ACA repeal would unfold. For example, an ultimate finding by the Supreme Court that the ACA is unconstitutional would put Medicare payment rules in disarray, in addition to increasing prescription drug costs for many elderly adults by reopening the Part D "doughnut hole." It is beyond the scope of this brief to consider the potential impacts in those areas, but that does not minimize their importance.

Estimated Effects of Full Repeal on Insurance Coverage

A judicial decision overturning the ACA would hit hardest those states where insurance coverage increased most under the law, including many states that expanded Medicaid eligibility. In those states, the number of uninsured people would almost double, climbing by an average of 91.8 percent (table 1). In Arkansas, Kentucky, Louisiana, Maine, Montana, New Hampshire, Pennsylvania, and West Virginia, the number of uninsured people would climb by more than 133 percent (figure 1). Conversely, the number of uninsured people would rise by an average of 38.2 percent in states that did not expand Medicaid eligibility. In Florida, an additional 1.5 million uninsured people would drive up the state's uninsurance rate by 67.0 percent, the highest percent increase among nonexpansion states.

TABLE 1

The Uninsured under Current Law and Full ACA Repeal by State, Nonelderly Population, 2019

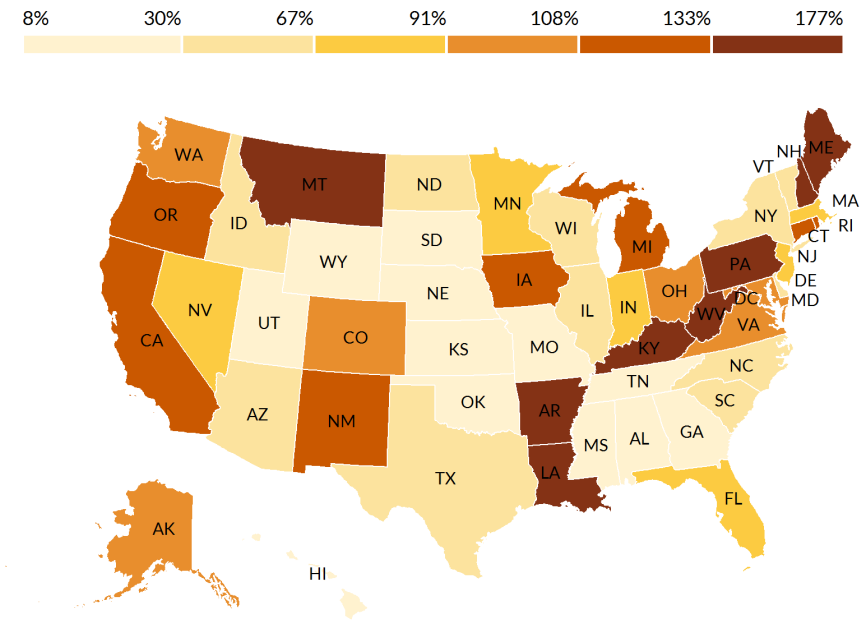
	Current Law		Full ACA Repeal		Diff. from Current Law	
	1,000s of people	%	1,000s of people	%	1,000s of people	%
Expansion states	**15,452**	**8.8**	**29,632**	**16.8**	**14,180**	**91.8**
Alaska	75	10.5	143	20.1	68	91.4
Arizona	768	12.8	1,064	17.7	297	38.6
Arkansas	206	8.1	505	19.9	299	145.1
California	3,421	10.0	7,210	21.0	3,789	110.7
Colorado	396	8.4	796	17.0	400	101.2
Connecticut	171	5.8	394	13.2	223	130.0
Delaware	66	8.4	94	12.0	28	41.8
District of Columbia	35	6.1	69	12.1	34	97.2
Hawaii	132	10.4	143	11.2	11	8.1
Illinois	1,297	11.6	1,902	17.0	605	46.6
Indiana	600	10.6	1,097	19.3	497	82.7
Iowa	149	5.7	336	12.9	187	125.7
Kentucky	252	6.8	630	17.1	379	150.5
Louisiana	335	8.7	830	21.5	494	147.4
Maine	51	4.9	134	13.0	83	164.8
Maryland	374	7.1	719	13.6	345	92.2
Massachusetts	137	2.5	239	4.3	102	74.0
Michigan	627	7.7	1,347	16.6	720	114.8
Minnesota	331	7.0	596	12.6	265	80.0
Montana	63	7.5	175	20.9	112	176.8
Nevada	376	13.8	658	24.1	282	75.1
New Hampshire	66	6.0	155	14.3	89	136.0
New Jersey	732	9.7	1,327	17.6	595	81.3
New Mexico	207	11.3	434	23.7	226	109.0
New York	1,488	8.9	2,095	12.6	607	40.8
North Dakota	56	9.6	81	14.0	25	45.6
Ohio	704	7.4	1,445	15.2	741	105.3
Oregon	304	9.1	676	20.3	372	122.2
Pennsylvania	644	6.2	1,502	14.4	858	133.2
Rhode Island	57	6.6	124	14.3	67	116.3
Vermont	32	6.5	45	9.1	13	39.9
Virginia	670	8.9	1,312	17.4	642	95.7
Washington	538	8.8	1,102	18.1	565	105.0
West Virginia	92	6.4	254	17.6	162	175.6
Nonexpansion states	**14,924**	**15.3**	**20,621**	**21.1**	**5,697**	**38.2**
Alabama	504	12.3	647	15.8	143	28.4
Florida	2,327	14.4	3,887	24.1	1,560	67.0
Georgia	1,594	16.9	2,055	21.8	461	28.9
Idaho	202	13.8	281	19.3	79	39.4
Kansas	342	13.7	404	16.1	62	18.0
Mississippi	404	16.2	504	20.2	100	24.9
Missouri	639	12.5	808	15.8	169	26.4
Nebraska	182	11.4	234	14.7	52	28.7
North Carolina	1,168	13.3	1,672	19.1	503	43.1
Oklahoma	617	18.2	763	22.5	146	23.7
South Carolina	536	13.3	778	19.3	242	45.0
South Dakota	101	14.0	114	15.7	12	11.9
Tennessee	738	13.2	905	16.3	168	22.7
Texas	4,678	19.2	6,411	26.3	1,733	37.0
Utah	383	13.6	484	17.2	102	26.5
Wisconsin	436	9.0	589	12.2	153	35.2
Wyoming	74	14.8	85	17.1	12	16.0
Total	**30,377**	**11.1**	**50,253**	**18.3**	**19,877**	**65.4**

Source: Urban Institute Health Insurance Policy Simulation Model.

Notes: ACA = Affordable Care Act. Diff. = difference. States are listed alphabetically by Medicaid expansion status.

FIGURE 1

Percent Increase in the Uninsured under Full ACA Repeal by State, Nonelderly Population, 2019



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Source: Urban Institute Health Insurance Policy Simulation Model.
Note: ACA = Affordable Care Act.

We present new estimates that highlight the effects of eliminating the ACA on the 50 most populous census-designated places, hereafter called cities. These 50 cities, listed in descending order by size, are in 29 states and account for about 15 percent of the US population. Eight of the most populous 50 cities in the US are in California, seven are in Texas, and three are in Arizona. Colorado, Florida, North Carolina, Ohio, and Tennessee each contribute two cities to the list. Our city analysis shows much more dramatic jumps in uninsurance in some cities than in others.

Fifteen of the largest 50 cities would see their numbers of uninsured people double or more than double if the ACA were rolled back (table 2). A sudden change of that magnitude would be challenging for any local jurisdiction to manage and would likely involve substantial increases in uncompensated care and use of emergency rooms and safety net providers. The uninsured populations in Baltimore, Cleveland, Louisville, Philadelphia, Sacramento, and San Francisco would swell by about 130 to more than 170 percent. The uninsured populations in Albuquerque, Denver, Detroit, Portland, Seattle, Washington, DC, and several California cities, including Fresno, Long Beach, Oakland, San Diego, and San Jose, would roughly double, expanding by about 100 to 120 percent. In the two largest cities in the US, New York and Los Angeles, the number of uninsured would grow by 300,000 (37.0 percent) and 556,000 (90.9 percent), respectively, if the ACA were eliminated.

TABLE 2

The Uninsured under Current Law and Full ACA Repeal in the 50 Largest Cities, Nonelderly Population, 2019

	Current Law		Full ACA Repeal			
					Diff. from Current Law	
	1,000s of people	%	1,000s of people	%	1,000s of people	%
New York, NY	812	10.9	1,112	14.9	300	37.0
Los Angeles, CA	612	14.5	1,168	27.6	556	90.9
Chicago, IL	457	15.8	687	23.8	230	50.2
Houston, TX	969	20.6	1,278	27.2	309	31.9
Philadelphia, PA	120	8.4	299	20.9	179	149.3
Phoenix, AZ	297	15.4	383	19.8	86	29.1
San Antonio, TX	321	17.4	437	23.7	116	36.3
San Diego, CA	207	10.5	411	20.8	203	98.1
Dallas, TX	599	21.8	793	28.8	194	32.4
San Jose, CA	102	6.7	227	14.9	124	121.4
Jacksonville, FL	92	11.8	154	19.7	61	66.6
Indianapolis, IN	127	14.6	213	24.4	85	67.2
San Francisco, CA	48	6.5	112	15.2	64	132.9
Austin, TX	226	15.7	295	20.5	69	30.8
Columbus, OH	117	8.7	206	15.4	89	76.7
Fort Worth, TX	249	17.2	346	23.9	97	39.0
Charlotte, NC	137	14.4	185	19.6	49	35.7
Detroit, MI	91	12.8	196	27.5	105	115.1
El Paso, TX	212	26.0	286	35.1	74	35.0
Memphis, TN	129	14.9	153	17.7	24	18.7
Baltimore, MD	32	5.8	88	15.7	56	172.7
Boston, MA	34	4.8	41	5.8	7	21.0
Seattle, WA	72	8.8	145	17.6	73	101.2
Washington, DC	35	6.1	69	12.1	34	97.2
Nashville-Davidson, TN	102	16.8	120	19.7	18	17.4
Denver, CO	63	10.0	127	20.2	65	102.6
Louisville/Jefferson, KY	45	6.9	107	16.4	62	138.6
Milwaukee, WI	100	12.5	129	16.2	30	29.6
Portland, OR	102	9.0	211	18.7	109	107.8
Las Vegas, NV	158	16.1	268	27.4	110	69.9
Oklahoma City, OK	210	18.1	247	21.2	37	17.4
Albuquerque, NM	70	10.6	140	21.2	70	100.4
Tucson, AZ	101	11.4	144	16.2	43	42.3
Fresno, CA	78	10.2	170	22.3	93	119.3
Sacramento, CA	79	7.8	193	18.9	114	143.3
Long Beach, CA	46	10.2	102	22.4	55	120.2
Kansas City, MO	120	13.7	145	16.6	25	21.0
Mesa, AZ	62	11.0	88	15.5	26	41.7
Virginia Beach, VA	43	10.4	75	17.9	32	73.3
Atlanta, GA	120	16.5	152	20.9	32	26.4
Colorado Springs, CO	59	9.9	114	19.0	55	92.6
Omaha, NE	61	12.7	77	15.9	16	25.8
Raleigh, NC	130	12.1	176	16.4	46	35.3
Miami, FL	180	23.3	259	33.6	79	44.2
Cleveland, OH	34	9.7	80	22.5	45	132.3
Tulsa, OK	126	17.3	153	21.0	27	21.1
Oakland, CA	49	9.2	106	19.8	57	114.9
Minneapolis, MN	42	10.5	73	18.3	31	73.3
Wichita, KS	77	14.3	91	16.9	14	18.1
Arlington, TX	88	19.5	118	26.2	30	34.4

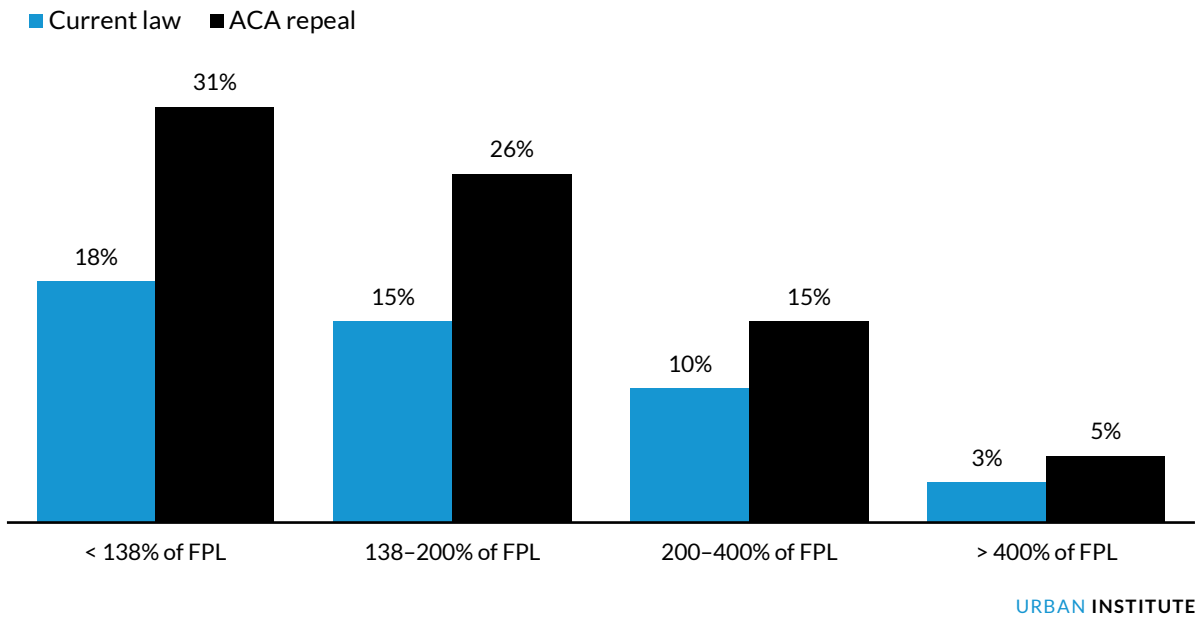
Source: Urban Institute Health Insurance Policy Simulation Model.

Notes: ACA = Affordable Care Act. Diff. = difference. These cities are the most populous census-designated places and are listed in descending order by size.

Without the ACA, the share of the population uninsured would jump in all income, race, ethnic, and age categories (Holahan, Blumberg, and Buettgens 2019). The largest increases would occur among people whose family incomes are below 138 percent of the federal poverty level (FPL): under ACA repeal, their national uninsurance rate would grow from 18 percent under current law to 31 percent (figure 2). In states that expanded Medicaid, the uninsurance rate for this income group would more than double, jumping from 13 to 30 percent (data not shown). Likewise, the national share of uninsured people in families whose incomes fall between 138 and 200 percent of FPL would climb from 15 to 26 percent. Such low-income people have very few alternatives for obtaining health insurance without the ACA. Uninsurance rates among higher-income people would increase as well, but by smaller magnitudes.

FIGURE 2

Uninsurance Rates under Current Law and Full ACA Repeal by Family Income Relative to Poverty, Nonelderly Population, 2019

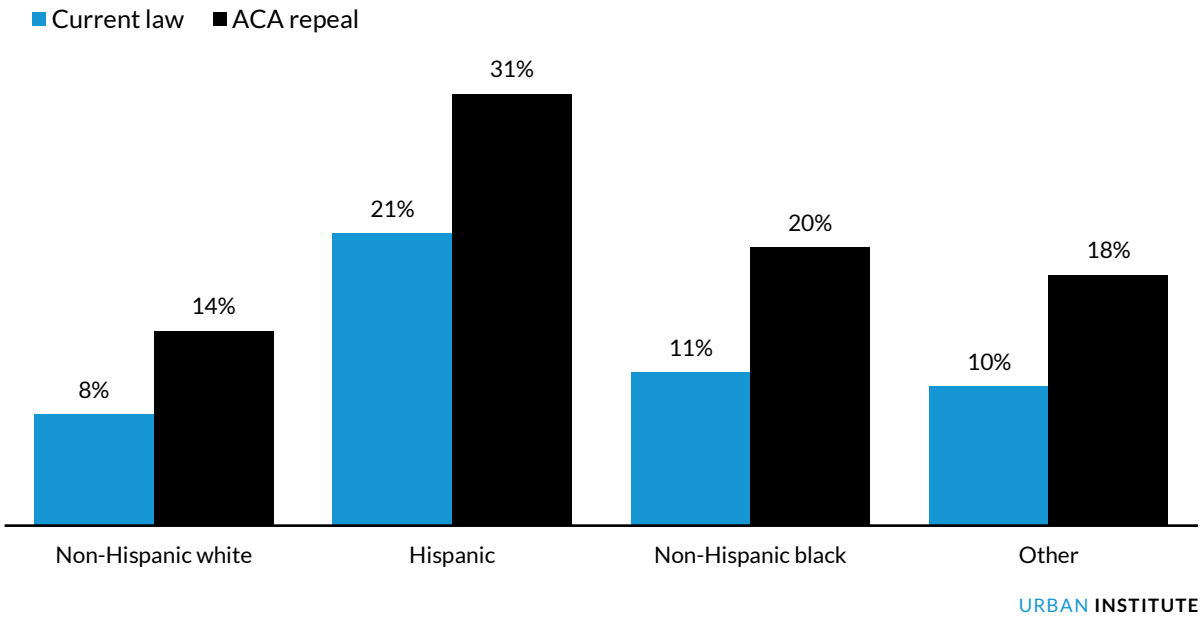


Source: Urban Institute Health Insurance Policy Simulation Model.
Notes: ACA = Affordable Care Act. FPL = federal poverty level.

The number of uninsured people would rise within each racial and ethnic group if the ACA were repealed (figure 3). The share of uninsured Hispanic individuals and families would grow from 21 to 31 percent, nearly one-third of that population. Uninsurance among black people would increase from 11 to 20 percent, one-fifth of that population.

FIGURE 3

Uninsurance Rates under Current Law and Full ACA Repeal by Race and Ethnicity, Nonelderly Population, 2019

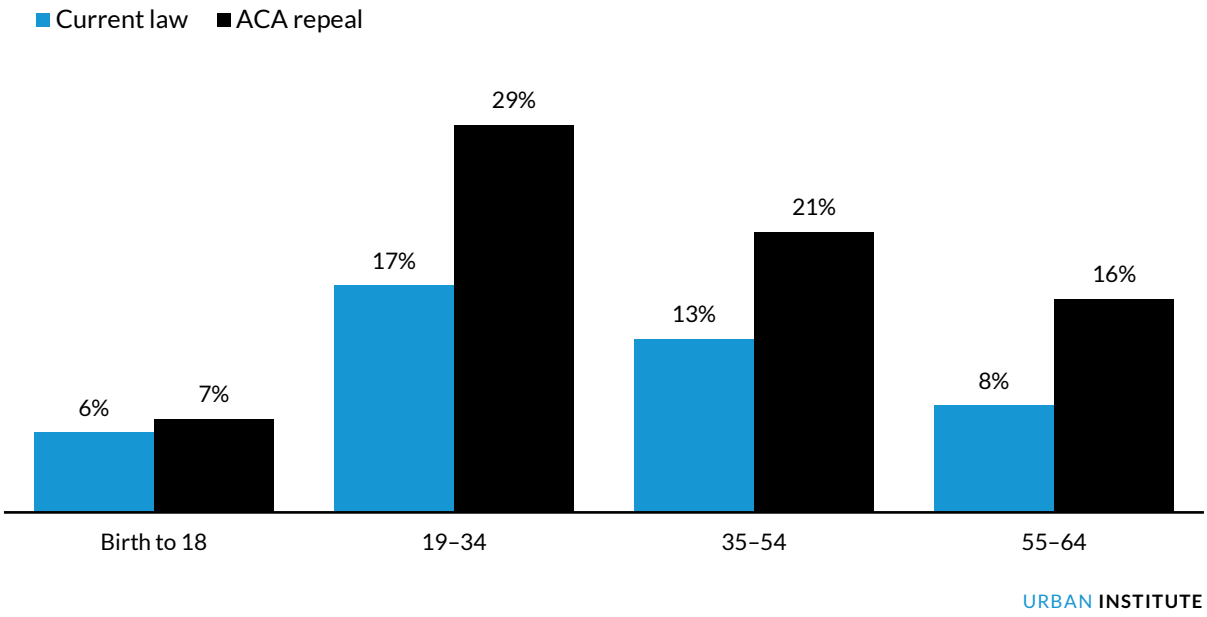


Source: Urban Institute Health Insurance Policy Simulation Model.
Note: ACA = Affordable Care Act.

In the wake of a final judicial decision overturning the ACA, the share of uninsured nonelderly adults would also increase within each age group (figure 4). Uninsurance would climb from 17 to 29 percent of all young adults ages 19 to 34. Among adults ages 35 to 54, uninsurance would rise from 13 to 21 percent. The percentage of uninsured older adults, ages 55 to 64, would double in the wake of an ACA rollback, increasing from 8 to 16 percent. Children, from birth to age 18, would be less affected by elimination of the ACA, because broad Medicaid and Children's Health Insurance Program eligibility rules for children were established before the ACA and would remain in place despite ACA repeal.

FIGURE 4

Uninsurance Rates under Current Law and Full ACA Repeal by Age Group, Nonelderly Population, 2019



Source: Urban Institute Health Insurance Policy Simulation Model.
Note: ACA = Affordable Care Act.

The Estimated Effects of Full Repeal on Federal Health Care Spending

Federal spending on Medicaid and premium tax subsidies in the Marketplaces would drop by billions of dollars if the ACA were upended (table 3). We estimate federal spending would have shrunk by about $134.7 billion in 2019 if the ACA had been eliminated at the start of this year. Those reductions vary widely by state and are driven by Medicaid expansion decisions and state populations. The biggest losses in federal health care spending would accrue to states that expanded Medicaid under the ACA. California would forgo $22.4 billion (45.8 percent) and New York $10.1 billion (36.4 percent) in 2019 under an ACA rollback. Kentucky, Michigan, Ohio, Pennsylvania, Virginia, and Washington would each sustain losses in federal spending ranging from about $4.2 to $5.2 billion (31 to 54 percent). Nonexpansion states would experience smaller losses than expansion states. In 2019 dollars, federal spending would fall by $9.3, $6.5, and $4.6 billion (21 to 41 percent) in Florida, Texas, and North Carolina, respectively, if the ACA had been eliminated by judicial ruling at the start of 2019.

TABLE 3

Federal Spending on Marketplace Subsidies and Medicaid/CHIP Acute Care under Current Law and Full ACA Repeal by State, Nonelderly Population, 2019

	Current Law	Full ACA Repeal		
			Difference from Current Law	
	Millions of $	Millions of $	Millions of $	%
Expansion states	**259,209**	**159,049**	**-100,160**	**-38.64**
Alaska	1,212	672	-540	-44.5
Arizona	10,810	8,691	-2,119	-19.6
Arkansas	5,179	3,401	-1,778	-34.3
California	48,893	26,491	-22,403	-45.8
Colorado	5,940	3,128	-2,812	-47.3
Connecticut	4,661	2,810	-1,851	-39.7
Delaware	1,413	1,111	-302	-21.4
District of Columbia	1,411	1,130	-281	-19.9
Hawaii	1,139	833	-305	-26.8
Illinois	9,133	6,136	-2,997	-32.8
Indiana	8,307	5,261	-3,046	-36.7
Iowa	3,798	2,401	-1,398	-36.8
Kentucky	8,650	4,504	-4,146	-47.9
Louisiana	7,637	4,030	-3,606	-47.2
Maine	1,942	1,446	-495	-25.5
Maryland	6,927	3,988	-2,939	-42.4
Massachusetts	7,617	5,900	-1,718	-22.5
Michigan	13,707	8,516	-5,191	-37.9
Minnesota	6,404	4,563	-1,841	-28.7
Montana	2,218	1,126	-1,092	-49.2
Nevada	3,076	1,906	-1,170	-38.1
New Hampshire	951	586	-366	-38.4
New Jersey	6,687	3,989	-2,698	-40.3
New Mexico	5,254	3,089	-2,165	-41.2
New York	27,920	17,770	-10,149	-36.4
North Dakota	488	309	-180	-36.8
Ohio	14,243	9,829	-4,414	-31.0
Oregon	5,838	3,286	-2,552	-43.7
Pennsylvania	15,795	10,743	-5,052	-32.0
Rhode Island	1,303	794	-509	-39.1
Vermont	1,146	976	-169	-14.8
Virginia	8,631	3,953	-4,679	-54.2
Washington	7,949	3,799	-4,150	-52.2
West Virginia	2,929	1,884	-1,045	-35.7
Nonexpansion states	130,531	95,973	-34,559	-26.48
Alabama	5,009	3,853	-1,155	-23.1
Florida	22,825	13,483	-9,342	-40.9
Georgia	10,149	7,830	-2,318	-22.8
Idaho	1,869	1,274	-594	-31.8
Kansas	2,091	1,546	-545	-26.1
Mississippi	4,673	3,956	-717	-15.3
Missouri	8,001	6,841	-1,161	-14.5
Nebraska	1,691	917	-774	-45.8
North Carolina	15,097	10,527	-4,570	-30.3
Oklahoma	4,746	3,510	-1,236	-26.0
South Carolina	5,388	3,734	-1,653	-30.7
South Dakota	826	626	-200	-24.2
Tennessee	8,196	6,609	-1,586	-19.4
Texas	31,271	24,815	-6,456	-20.6
Utah	3,179	2,188	-991	-31.2
Wisconsin	4,970	3,953	-1,017	-20.5
Wyoming	553	310	-243	-43.9
Total	**389,740**	**255,022**	**-134,718**	**-34.6**

Source: Urban Institute Health Insurance Policy Simulation Model.

Notes: CHIP = Children's Health Insurance Program. ACA = Affordable Care Act.

The Estimated Effects of Full Repeal on Total Health Care Spending and Demand for Uncompensated Care

Providers would face serious financial consequences if the ACA were overturned by judicial decision. As patients lose insurance coverage and federal spending falls, total health care spending and provider revenues also decline. Without insurance, people use less health care. Simultaneously, many seek uncompensated care from providers, by requesting free or reduced-price care or failing to pay medical bills in full. These twin effects reduce provider revenues and place new financial pressures on those providing services to the uninsured.

Accounting for all private insurance claims paid, Medicaid spending on health care services, and household out-of-pocket spending by insured and uninsured people, we estimate that total health care spending for the nonelderly population would have fallen from $1.9 to $1.8 trillion, a drop of $94.6 billion (or 5 percent) had the ACA been overturned at the start of 2019 (table 4). This decline would be distributed across hospitals ($38.0 billion decline), physician practices ($11.5 billion decline), other services ($24.3 billion decline), and drug manufacturers ($20.8 billion decline).

From 2019 to 2028, the drop in total health care spending by the nonelderly population would total $1.3 trillion (about 6 percent), declining from $23.3 to $22.0 trillion (table 4), if the ACA had been repealed at the start of this period. Revenues would fall by $510 billion for hospitals, $180 billion for physician practices, $360 billion for other services, and $290 billion for drug manufacturers.

Simultaneously, the amount of uncompensated care sought by the nonelderly population would nearly double from about $61.3 billion to $111.4 billion, if the ACA had been overturned at the start of 2019. This $50.1 billion increase would be distributed across hospitals ($14.8 billion increase), physician practices ($5.9 billion increase), other services ($19.3 billion increase), and drug manufacturers ($10.2 billion increase). Our estimates of uncompensated care reflect the amount of such care sought (not always fully met) by uninsured people and others with inadequate coverage (see the methods section for more information).

If the ACA had been repealed at the start of that 10-year period, the amount of uncompensated care sought by the nonelderly population would climb by about $580 billion (181 percent), from $700 billion to $1,280 billion. That increase in uncompensated care sought would be distributed across hospitals ($170 billion increase), physicians ($70 billion increase), other services ($220 billion increase), and drug manufacturers ($120 billion increase).

TABLE 4

Health Care Spending under Current Law and Full ACA Repeal, Nonelderly Population, 2019 and 2019–28

Billions of dollars

	2019				
	Total health care spending	Hospitals	Physician practices	Other services	Prescription drug manufacturers
Current-law ACA	1,862.1	673.8	299.4	476.2	412.7
Full ACA repeal	1,767.5	635.8	287.9	451.9	391.9
Difference	-94.6	-38.0	-11.5	-24.3	-20.8
	2019–28				
	Total health care spending	Hospitals	Physician practices	Other services	Prescription drug manufacturers
Current-law ACA	23,320	8,460	3,760	5,960	5,130
Full ACA repeal	21,980	7,950	3,580	5,600	4,840
Difference	-1,340	-510	-180	-360	-290

Source: Urban Institute Health Insurance Policy Simulation Model.

Notes: ACA = Affordable Care Act. Health care spending includes private insurance claims, spending by Medicaid, and household out-of-pocket health spending. Other services include spending on nonphysician providers, dental, home health care, and medical equipment.

TABLE 5

Uncompensated Care Sought under Current Law and Full ACA Repeal, Nonelderly Population, 2019 and 2019–28

Billions of dollars

	2019				
	Total uncompensated care	Hospitals	Physician practices	Other services	Prescription drug manufacturers
Current-law ACA	61.3	18.0	7.8	23.3	12.1
Full ACA repeal	111.4	32.8	13.7	42.6	22.3
Difference	50.1	14.8	5.9	19.3	10.2
	2019–28				
	Total uncompensated care	Hospitals	Physician practices	Other services	Prescription drug manufacturers
Current-law ACA	700	210	90	270	140
Full ACA repeal	1,280	380	160	490	260
Difference	580	170	70	220	120

Source: Urban Institute Health Insurance Policy Simulation Model.

Notes: ACA = Affordable Care Act. Health care spending includes private insurance claims, spending by Medicaid, and household out-of-pocket health spending. Other services include spending on nonphysician providers, dental, home health care, and medical equipment.

Key Methodological Assumptions

We generated our estimates using the Urban Institute's Health Insurance Policy Simulation Model, and the methods follow those used in previous publications (Blumberg et al. 2019; Holahan, Blumberg, and Buettgens 2019). Our estimates assume that pre-ACA Medicaid coverage expansion waivers would be reinstated following ACA repeal in the seven states that had these waivers (Arizona, Delaware, Hawaii, Massachusetts, New York, Vermont, and Wisconsin). Whether the federal government would approve waivers to restore pre-ACA coverage levels in these states is unclear. Without reinstating these waivers, repeal could lead to 1.3 million more uninsured people, in addition to the 20 million people who would become uninsured if the waivers were renewed (Blumberg et al. 2019).

A special feature of the Health Insurance Policy Simulation Model is its ability to estimate changes in total health care spending and changes in the value of uncompensated care sought by uninsured people from providers. Estimates of health care spending include insurance claims paid by private insurance, Medicaid spending on health care services, and household out-of-pocket spending by insured and uninsured people. Spending by other government programs, such as Medicare, Indian Health Services, and military insurance, is excluded from these calculations. Estimates of uncompensated care sought are based on historical medical expenditure data and illustrate the potential increase in demand for free care that providers would face if the ACA were eliminated. We note that the free care sought by the uninsured is not necessarily provided in full; some of the care sought will further increase unmet need.

Estimates presented here are for 2019 and reflect the changes that would have occurred had the ACA been repealed at the start of the calendar year. Spending estimates are in 2019 dollars.

Conclusion

If the Supreme Court ultimately finds for the plaintiffs in *Texas v. US*, the full ACA would effectively be repealed. This would have vast consequences that would be felt throughout the US health care system, which we cannot measure here. In this analysis, we show that the resulting declines in health coverage and federal spending on health care would affect every state and locality, though the size of the impact would vary. Reductions in health coverage and federal spending combined with a growing demand for uncompensated health care would have important financial consequences for state and local governments and health care providers. Additionally, reversing the insurance coverage gains achieved under the ACA would reduce access to health care for those losing coverage.

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ABSTRACT

We examine how a key provision of the Affordable Care Act--the expansion of Medicaid eligibility--affected health insurance coverage, access to care, and labor market transitions of unemployed workers. Comparing trends in states that implemented the Medicaid expansion to those that did not, we find that the ACA Medicaid expansion substantially increased insurance coverage and improved access to health care among unemployed workers. We then test whether this strengthening of the safety net affected transitions from unemployment to employment or out of the labor force. We find no meaningful statistical evidence in support of moral hazard effects that reduce job finding or labor force attachment.

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Appendix Tables are available at: http://www.nber.org/data-appendix/w26553

I. Introduction

Job loss can be a catastrophic event for workers and their families. The Unemployment Insurance (UI) program provides partial income replacement for some job losers, but UI does not fully smooth consumption shocks associated with job loss (Gruber 1997; Browning and Crossley 2009). Job loss also leaves households at risk of a range of negative outcomes. In the short run, these include reduced income and difficulty finding new work (Farber 2017), loss of health insurance (Schaller and Stevens 2015; Jolly and Phelan 2017), and increased debt (Sullivan 2008). In the longer run, potential consequences include depleted savings and postponed retirement (Chan and Stevens 1999), increased risk of mortality (Sullivan and von Wachter 2009), and adverse effects on children's well-being (Kalil and Wightman 2011).

The Affordable Care Act (ACA) may have mitigated one consequence of unemployment by creating new, subsidized health insurance options for individuals lacking access to employer-sponsored coverage. This development is noteworthy at a time when the prevailing trend is to shift work-related risks from employers and government to workers and their families (Hacker 2006; Morduch and Schneider 2017). Examples of this trend include the rise of contingent work (Katz and Krueger 2016) and the shift from defined benefit to defined contribution retirement plans. The ACA represents a rare movement in the other direction: an expansion of the safety net (Buchmueller and Valletta 2017).

Expanding the safety net and reducing exposure to risk may entail moral hazard. In the context of unemployment, economists have long noted that UI, by softening the downside of unemployment, likely increases the duration of unemployment spells (see, for example, Baily 1978; Krueger and Meyer 2002; Chetty 2008; Rothstein 2011; Farber and Valletta 2015; or Farber, Rothstein, and Valletta 2015). Expanding access to health insurance for the unemployed may have a similar effect. For example, Gruber and Madrian (1997) found that continuation-of-

coverage mandates for private coverage — that is, state laws requiring employers to offer what is now commonly known as COBRA coverage — increased the number of months workers spent not employed, although at least some of this was productive search resulting in higher re-employment wages. Existing evidence on the effect of Medicaid on labor supply is mixed, as we discuss in detail below. Nonetheless, eleven states are in the process of imposing work requirements on Medicaid recipients out of concern that eligibility expansions might otherwise reduce labor supply (Garfield et al. 2018).

In this paper we explore the implications of the ACA Medicaid expansion for unemployed workers. Our general empirical strategy is a difference-in-differences approach that compares outcomes for workers in states that implemented the Medicaid expansions and those in states that did not. We begin by testing for an effect of the expansion on the insurance coverage of unemployed workers using data from the American Community Survey (ACS) for the years 2008 to 2017. Prior to 2014, when the main coverage provisions of the ACA went into effect, unemployed workers were roughly three times as likely to be uninsured as employed workers. From 2008 to 2013 the percentage of unemployed and employed workers without insurance, as well as the percent with Medicaid or different forms of private insurance, were trending in a similar fashion in states that eventually chose to expand Medicaid under the ACA and those that did not. After 2014, insurance coverage increased in both groups of states; the change was roughly twice as large for unemployed workers in expansion states than for those in non-expansion states. In expansion states, the fraction of unemployed workers without health insurance was cut in half. We also find some evidence in data from the 2008 through 2017 Behavioral Risk Factor Surveillance Survey (BRFSS) that access to medical care improved more for the unemployed in expansion states than in non-expansion states.

The insurance coverage and access to care results provide strong evidence that the ACA Medicaid expansion substantially strengthened the safety net for unemployed workers in states that implemented it. We next consider whether this greater access to health insurance affected job search behavior, as reflected in the rates of transitions out of unemployment. Using basic monthly Current Population Survey (CPS) data on unemployed individuals matched across consecutive CPS survey months for the period 2007 through 2017, we estimate models similar to those used to study the effect of extended unemployment insurance benefits, distinguishing between unemployment exits to employment and out of the labor force. Our difference-in-differences regression tests show no evidence of moral hazard—that is, no statistically meaningful reduction in job-finding rates or labor force attachment in Medicaid expansion states relative to non-expansion states after expansion occurred. To the contrary, we find that Medicaid expansion reduced labor force exits for some groups (parents and the short-term unemployed), indicating modest positive effects on labor force attachment.

As we discuss in more detail in Section VII, this null result for job-finding may be explained by the in-kind nature of Medicaid combined with the tendency for uninsured households to have low health expenditures even when they use care. Thus, there is little scope for Medicaid expansion to ease household budgets enough for an unemployed family member to reduce job search intensity or decline job offers as a result.

II. Background and Previous Literature

A. The Safety Net, Job Search, and Employment

Safety net programs are aimed at insuring against economic loss and maintaining living standards at an acceptable level. This entails the potential downside of adverse incentive effects

on related economic behaviors and outcomes. Optimal social insurance therefore balances such "moral hazard" effects against consumption smoothing or other welfare benefits of the policy (Bailey 1978; Chetty 2006).

Past work on optimal social insurance has focused primarily on UI, which relates directly to recipients' labor market status and hence has significant and readily observable moral hazard effects. In particular, the increase in reservation wages prompted by UI income may reduce job search intensity and the propensity to accept job offers. UI benefits generally are available for 26 weeks in the United States, but availability typically is extended during periods of economic distress. Much of the existing research that assesses the impacts of unemployment benefits on search behavior focuses on benefit generosity (weekly/monthly payment amounts), which follows directly from the role of reservation wages in the underlying theory of optimal UI (e.g., Moffitt 1985, Solon 1985, Meyer 1990). Other studies that focused on benefit duration found that an increase in the maximum duration of benefits leads to an increase in average UI spell durations (notably Moffitt 1985, Katz and Meyer 1990, Card and Levine 2000, Jurajda and Tannery 2003, and Schwartz 2013).

A new generation of this literature emerged after the Great Recession of 2007-09, when UI benefits were extended to an historically unprecedented maximum of 99 weeks. Despite the large expansion of available benefit durations, papers that examined search responses to the benefit expansions generally found relatively small effects on overall unemployment transitions and durations (e.g., Rothstein 2011; Farber and Valletta 2015; Farber, Rothstein, and Valletta 2015; Valletta 2014). Moreover, most of the impact of the benefit extensions took the form of a reduced tendency to exit the labor force—i.e., prolonged job search—rather than a reduction in the rate of job finding. This finding was enabled by reliance on CPS survey data (matched across

adjacent months) that distinguished between different exit routes from unemployment, as we use later in this paper. The results from these papers suggest more limited moral hazard effects of extended UI than did the earlier generation of research.[1]

The relevance of this literature in our setting is heightened by the abrupt withdrawal of extended benefit availability at the end of 2013, due to a congressional decision not to renew the 2008 Emergency Unemployment Compensation (EUC) program at that time. The effect of this abrupt loss of extended UI benefits corresponds exactly to when the ACA Medicaid expansions first took effect (in January of 2014). The ***reduction*** in UI availability could offset and hence bias the estimated impact of the ***expansion*** of Medicaid availability. This emphasizes the importance of incorporating data on UI availability and the staggered timing of Medicaid expansion into our analyses. We discuss our approach to this issue further in Sections V and VI.

B. Medicaid and Labor Supply: Pre-ACA Evidence

Other safety net programs are less directly tied to employment and job search status than is UI, but they nonetheless may have moral hazard effects of their own. Most safety net programs are means-tested, requiring that income not exceed a specified threshold, and as such they may reduce work incentives in general. The resulting reduction in labor supply can occur along the intensive (hours) or extensive (participation) margins. The specific effects will depend on the exact structure of any given program, in particular its own and family income thresholds, work and job search requirements, etc. Disability insurance has been found to have substantial work

[1] This finding is consistent with other research suggesting that moral hazard effects of UI on job search are largely offset by the favorable liquidity and social insurance effects (Chetty 2008; Card, Chetty, and Weber 2007; Landais 2015). This may reflect reduced effects of UI on job search when labor market conditions are especially weak, although the evidence on this point is mixed (see the discussion in section 2.2 of Valletta 2014). Other recent research using UI administrative data finds evidence of larger moral hazard effects (Card et al. 2015; Johnston and Mas 2018). We discuss these issues further in Section VII.

disincentive effects.[2] These occur primarily along the labor force participation margin, since program eligibility requires strong evidence of inability to work.

Medicaid is another example of a means-tested program that may create a disincentive to work and hence affect labor supply and job attachment. Research on the relationship between Medicaid and labor supply in the years prior to the ACA has produced mixed results (for a review, see Buchmueller, Ham and Shore-Sheppard (2016); more recent additions to this literature include Pohl (2018) and Bradley and Sabik (2019)). Because very few non-disabled childless adults were eligible for Medicaid prior to the ACA, most of this research focuses on low-income parents. Several studies, however, analyzed the experiences of individual states that changed eligibility for non-disabled, childless adults. Garthwaite, Gross and Notowidigdo (2014) examine the effect of a major contraction of Medicaid eligibility in Tennessee. Their analysis of data from the March CPS suggests that the loss of Medicaid coverage led to large increases in employment and private health insurance coverage. However, these results for Tennessee are not evident in other data sources (DeLeire 2018; Ham and Ueda 2017). Dague, DeLeire, and Leininger (2017) analyze the impact of a Medicaid enrollment cap in Wisconsin for non-disabled, childless adults, finding that program enrollment is associated with a significant reduction in employment. In contrast, Baicker et al. (2014), using administrative data from the Social Security Administration linked to participants in the Oregon Health Insurance Experiment, find no significant effect of Medicaid on earnings or employment.

[2] See Abraham and Kearney (2018) for a broad summary of this literature.

C. The ACA and its Effect on Insurance Coverage and Labor Supply

The ACA included provisions to expand both public and private health insurance. As it was originally enacted in 2010, the law would have required all states to expand their Medicaid programs to cover all individuals ages 19 through 64 in families with incomes below 138 percent of the Federal Poverty Level (FPL) beginning January 1, 2014. However, a Supreme Court decision in 2012 allowed states to opt out of Medicaid expansion altogether.

Table 1 summarizes state Medicaid expansion decisions and how we categorize states for our analysis. Twenty-four states plus the District of Columbia chose to implement the ACA expansion on or before January 1, 2014. Six states took advantage of a provision in the law allowing them to begin expanding earlier, either shifting enrollees from state-funded programs into Medicaid, gradually raising eligibility limits, or rolling out the new eligibility standard incrementally by county. Overall, the coverage increases before 2014 in these early expansion states were limited (Sommers et al. 2014). Moreover, all early expansion states experienced significant coverage increases between 2013 and 2014. In light of these results, in our main analysis we group the six early expansion states with the 18 states that implemented the expansion in January 2014. (As a robustness check, we estimate models dropping these early expansions states.) Seven states expanded later (2 in 2014, 3 in 2015 and 2 in 2016); most of which expanded in the middle of the year and are coded, in our analyses relying annual data, as having expanded coverage for the entire year. In our analyses of monthly data from the CPS mid-year expanders are coded as having expanded coverage during the month in which they did so. As of October 2019, five additional states – Maine, Virginia, Nebraska, Idaho, and Utah – are in the process of implementing expansion, but are considered non-expansion states for our

purposes because our data extend only through 2017. The remaining 14 states have not begun to expand their Medicaid programs.[3]

The ACA also implemented private insurance market reforms beginning in January 2014, such as prohibiting plans from denying coverage based on an applicant's health status. It established new health insurance marketplaces, sometimes called "exchanges," to facilitate shopping for individual coverage by providing a website where enrollees could easily compare their plan options. Importantly, the law provides premium tax credits for families with income between 100 and 400 percent of poverty to purchase coverage through the marketplaces, provided that they do not already have access to Medicaid or coverage through an employer. Tax credits are calculated on a sliding scale, with the family's share of the premium capped at between 2 and 9.5 percent of family income. Premiums for marketplace plans cannot vary based on health status, and the law limits allowable variation based on age, so that older enrollees cannot be required to pay more than three times what a younger enrollee would be charged for the same plan.

It is estimated that nearly 20 million Americans gained health insurance coverage as a result of the ACA (Courtemanche et al. 2017; Blumberg, Garrett, and Holahan 2016). Between 2013 and 2016, coverage increased for all age groups (under age 65) and in every U.S. state (Barnett and Berchick 2017). Numerous studies have examined the effect of the Medicaid expansion (see Antonisse et al (2018) for a comprehensive review). A general finding is that

[3] The non-expansion group includes Wisconsin, which prior to the ACA had a public insurance program, BadgerCare, which provided coverage to parents with incomes up to 200 percent of the FPL. In 2014, Wisconsin reduced the income eligibility limit for parents to 100 percent of the FPL and extended BadgerCare eligibility to childless adults, who had been categorically ineligible. This makes Wisconsin unique among states that rejected the ACA Medicaid expansion in that there is no "coverage gap" for adults with incomes below the poverty line. Between 2013 and 2014, the percent uninsured in Wisconsin fell by 1.8 percentage points, which is slightly less than the 2.3 percentage point decline observed in all non-expansion states (Smith and Medalia 2015).

coverage increased more in states that implemented the Medicaid expansion than in states that did not, especially among low-income adults (Sommers et al 2015; Wherry and Miller 2016; Miller and Wherry 2017), disadvantaged populations, such as racial and ethnic minorities (McMorrow et al 2015; Buchmueller et al 2016), and states or local areas with higher baseline rates of uninsurance (Courtemanche et al 2017; Duggan et al 2017). The effect of the Medicaid expansion on insurance coverage was especially large for childless adults (Kaestner et al 2017), who in most states were not eligible for Medicaid at all prior to 2014.

The effect of the ACA coverage expansions on labor supply incentives is complex. The increase in the Medicaid income eligibility threshold means that some individuals who were previously covered can work and earn more without losing coverage because they are no longer close to their state's eligibility cutoff. At the same time, workers who would have otherwise earned slightly more than the new eligibility limit of 138 FPL may reduce their hours to qualify for Medicaid. For individuals who gain Medicaid coverage as a result of the ACA, labor supply may also fall as a result of an income effect. Above the poverty level, the phase-out of means-tested subsidies for marketplace coverage increases the effective marginal tax rate on earnings, which has the potential to reduce labor supply. However, in non-expansion states, workers with incomes just below poverty have an incentive to work more (or report higher incomes (Kucko, Rinz and Solow (2018)) in order to qualify for premium tax credits.

In light of these theoretical considerations and a large literature finding significant effects of employer-sponsored insurance on job mobility, hours and retirement (see Gruber and Madrian (2002) for a review), the Congressional Budget Office projected that by 2024 the ACA would reduce aggregate hours worked by roughly 2 percent (Harris and Mok 2015). Several recent studies test for an immediate effect of the ACA Medicaid expansion on various measures of

employment (Leung and Mas 2018; Gooptu et al 2016; Kaestner et al 2017; Duggan, Goda and Jackson 2017; Fang 2017; Frisvold and Jung 2018; Levy, Buchmueller and Nikpay 2016; Peng et al. 2018). Despite differences in the outcomes studied and research design choices, the results of the various studies are quite consistent, finding no significant effect on employment, hours, retirement or job mobility.

To date, there have been no studies focusing on how Medicaid expansion may have affected insurance coverage or re-employment among the unemployed. The unemployed represent a particularly interesting subgroup for this purpose, both because they had low rates of coverage to begin with and therefore stood to gain substantially from coverage expansions and also because re-employment decisions may be more elastic than, for example, a decision of how many hours to work for a worker who is already employed. In a nutshell: if anyone's labor market decisions were distorted by Medicaid expansion, it seems likely that it would have been the unemployed.

III. Analysis, Part 1: Insurance Coverage of the Unemployed

A. Data and Descriptive Analysis

Our analysis of health insurance coverage uses data from the ACS, which includes annual data on health insurance starting in 2008. Advantages of the ACS include consistent measurement of health insurance over time and a very large sample: approximately 3 million observations in all, including between 90,000 and 150,000 individuals in each year who are unemployed at the time of the survey. The ACS asks one question about health insurance: "Is this person CURRENTLY covered by any of the following types of health insurance or health

coverage plans?" This question is followed by an 8-item checklist.[4] We examine four insurance-related outcomes of interest: uninsured, which is defined as having none of the sources of coverage listed; Medicaid or other public coverage; employer-sponsored private coverage (which would include both COBRA coverage through a former employer and coverage as a dependent on a spouse's policy); and non-group private coverage.

The ACA included a provision requiring insurers to allow parents with employer-sponsored insurance to cover their adult children as dependents up to age 26, beginning in September 2010. This provision led to a significant increase in insurance coverage among 19 to 25-year-olds (Sommers et al 2013; Akosa Antwi et al 2013, 2014; Barbaresco et al 2014). Studies examining the effect of the policy on labor market outcomes yield mixed results (Antwi, Moriya and Simon 2013; Heim, Lurie and Simon 2015; Coleman and Dave 2015; Bailey and Chorniy 2016). To isolate the effect of the 2014 Medicaid expansion from this earlier ACA provision, we limit our analysis sample to adults between the ages of 26 and 64.

Table 2 presents pre-ACA data on the percent uninsured with additional breakdowns by worker demographic characteristics. These descriptive results indicate dramatic differences in insurance coverage between the employed and the unemployed. In 2008-2010, unemployed workers were roughly three times as likely to be uninsured as those who are employed: 56 vs. 18 percent in non-expansion states and 44 versus 14 percent in expansion states.[5] As would be expected, this gap is driven by large differences in employer-sponsored coverage, which is partly

[4] The options are: (a) employer-sponsored insurance; (b) insurance purchased directly from an insurance company; (c) Medicare; (d) Medicaid or other public insurance; (e) TRICARE/military health care; (f) Veteran's Administration; (g) Indian Health Service; and (h) any other type of health plan. Respondents are coded as uninsured if they answer no to all of these options.

[5] Note that these unadjusted differences should not be interpreted as a causal effect of unemployment on insurance coverage. Research using recent longitudinal data suggests that job loss is associated with a decline in insurance coverage of between 10 and 13 percentage points (Gruber and Madrian 1997; Schaller and Stevens 2015).

offset by higher rates of Medicaid coverage among the unemployed. Among both employed and unemployed workers, the probability of being uninsured declines with age and education. As a result, the employed/unemployed coverage gap is similar for older and younger workers and those with higher and lower levels of education. The story is different when we cut the data by parental status. Whereas parents and childless adults have similar coverage rates when employed, among the unemployed childless adults are substantially more likely to be uninsured.

Figure 1 presents unadjusted trends in four insurance coverage outcomes – Medicaid, private non-group coverage, employer-sponsored coverage, and uninsured - for unemployed and employed adults in expansion and non-expansion states. Note that for these figures, we drop data from the seven states that expanded Medicaid after January 2014, although data from these states is included in the trends presented in Appendix Table A1 and will be incorporated into our regression analyses below.

Prior to 2014, expansion and non-expansion states had similar rates of private coverage. Expansion states had higher rates of Medicaid coverage, which translated to a lower percent uninsured. All four types of coverage were trending in a similar fashion in expansion and non-expansion states. For Medicaid, this changed substantially in 2014 when the ACA expansion went into effect. In expansion states, Medicaid coverage increased sharply between 2013 and 2017, by 20 percentage points among unemployed workers and 5 percentage points among employed individuals. In contrast, in non-expansion states there was no apparent break in trend for Medicaid coverage. Rates of non-group coverage were also quite stable prior to 2014. Beginning in 2014, non-group coverage increased for unemployed workers in both groups of states, presumably reflecting the ACA programs implemented in every state, such as health

insurance marketplaces and premium tax credits. Employer coverage, in contrast, shows no sharp break in trend in 2014.

The net effect of these trends is that the fraction uninsured dropped for all unemployed workers starting in 2014. The drop was much larger for unemployed workers in expansion states, who experienced a 22.8-percentage point drop in the percent uninsured between 2013 and 2017 (from 42.6 percent to 19.8 percent), compared with a drop of only 10.8 percentage points (from 54.9 percent to 44.1 percent) for unemployed individuals in non-expansion states. For employed workers, the percent uninsured fell by smaller amounts: 7 percentage points in expansion states and 5 percentage points in non-expansion states.

B. Regression Analysis

For a closer look at changes in coverage, we estimate two sets of regression analyses. The first set relies on a differences-in-differences (DD) specification of the following form:

$$Y_{ist} = \beta \cdot treatment_{st} + \alpha_s + \gamma_t + X'_{ist}\theta \; + \; W'_{st}\pi + \; e_{st} \qquad (1)$$

The model is estimated separately for the four binary health insurance outcomes described above: Medicaid coverage, private non-group coverage, employer coverage, and uninsured. The variable $treatment_{st}$ is 1 for any observation in a state/year in which Medicaid expansion is in effect and is 0 otherwise. (This is analogous to the variable *post x treatment* in a standard difference-in-differences framework, but accounts for the fact that expansion occurred at different times in different states.) The coefficient β therefore measures the marginal effect of Medicaid expansion on the outcome. The model also includes a full set of state and year dummies (α_s and γ_t, respectively). The vector X_{ist} consists of individual-level controls: age (five

categories), education (five categories), race/ethnicity (five categories), and gender by marital status. The model also includes several state/year-level controls (W_{st}): cubics in the unemployment rate and employment growth, and the annual average number of weeks of UI benefits available. The model is estimated as a linear probability model weighted by the ACS survey weights. Robust standard errors are clustered by state.

A key advantage of this specification is that the coefficient β provides a concise estimate of the effect of the Medicaid expansions. This basic DD model has two limitations, however. First, it does not allow for a clear test of the critical parallel trends assumption. Second, it imposes the assumption that the full impact of Medicaid expansion is realized immediately and is the same over the post-implementation period; in fact, the effect may grow over time, as consumer understanding of their insurance options grows. Therefore, we also estimate a second, more flexible event history specification. In this model, the dummy $treatment_{st}$ is replaced with a vector of dummies D_{st}^{k} indicating time relative to the year in which Medicaid expansion occurs:

$$Y_{ist} = \sum_{k=-7}^{4} \delta_k D_{st}^{k} + \gamma_t + \alpha_s + X_{ist}'\theta \; + \; W_{st}'\pi + u_{ist} \qquad (2)$$

The dummy D^0 – which for most expansion states is equal to one in 2013 – is omitted, so that all effects are being measured compared to the size of the expansion/non-expansion gap in the year just before the expansion took effect.

Table 3 reports the estimates of β from equation (1) for all four insurance outcomes. Models were estimated separately for the unemployed (Panel A) and the employed (Panel B);

each column contains results for a different subsample (low vs. high education, parent/non-parent, duration of unemployment).[6]

Overall, Medicaid expansion resulted in a 13-percentage point increase in Medicaid recipiency among the unemployed. As shown in Figure 1, non-group coverage increased in both expansion and non-expansion states, though more so in the latter. The explanation for this is that in expansion states individuals with incomes between 100 and 138 percent of the FPL are enrolled in Medicaid, whereas in non-expansion states they obtain subsidized private non-group coverage through the ACA Marketplace. This results in a DD coefficient of -0.025 for non-group coverage in the full unemployed sample. The point estimate for employer-sponsored coverage is also negative and of a similar magnitude, also because of a larger increase in non-expansion states. For unemployed workers, employer-sponsored coverage is likely through COBRA or a spouse's employer. [7] Individuals in non-expansion states may have been induced by the ACA's individual mandate to take up such coverage. These negative DD estimates for private coverage can be seen to represent "crowd-out" relative to the counterfactual represented by non-expansion states. However, these effects differ from common conceptions of crowd-out, i.e., people *dropping* private coverage when they become eligible for Medicaid.[8]

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[6] Appendix Table A2 lists the complete set of coefficients (with the exception of the state dummies) from our estimation of equation (1) for the full sample.

[7] The ACS data do not include information on the source of employer-sponsored coverage (own coverage vs. spouse's; current vs. former employer). The fact that COBRA is available retroactively for several months after leaving a job complicates the interpretation of unemployed respondents' reports of either employer-sponsored or no coverage. Note that the potential mismeasurement of coverage does not affect our estimates of the effect of Medicaid expansion on transitions out of unemployment.

[8] Finkelstein et al (2012) find no evidence of crowd-out in the Oregon Health Insurance Experiment. The difference between that context and ours is that in the Oregon Experiment, the availability of private coverage was not changing for the control group. Frean, Gruber and Sommers (2017) find no evidence of crowd-out in their analysis of the first year of the ACA. The key difference between their analysis and ours is that they explicitly modeled the effect of the premium tax credits and the individual mandate. In our analysis, the effect of these policy elements are incorporated in the unexplained trend in non-expansion states, which serves as the counterfactual for the changes observed in expansion states.

The net effect of Medicaid expansion on insurance coverage of the unemployed, therefore, is an 8-percentage point decline in uninsurance. There are two ways to place the magnitude of this effect in context. The first is to compare it to the baseline rate of uninsurance among unemployed individuals in expansion states just prior to the implementation of the ACA provisions. This rate was 42.6 percent in 2013, so an 8-percentage point decline represents a reduction of nearly one-fifth of the baseline level. The second is to compare the estimated effect of Medicaid expansion to the overall decline in the percent uninsured that occurred for unemployed individuals in expansion states between 2013 and 2017, which also reflects the effects of other ACA provisions affecting private coverage and the improving economy. The overall decline over this period was 22.8 percentage points; so, the 8-percentage point decline represents slightly over one-third of the total decline in uninsurance. Both of these comparisons confirm that the coverage gain among the unemployed due to Medicaid was not only statistically significant but also large in magnitude.

Effects for employed adults, in contrast, are much smaller in magnitude (Panel B of Table 3). Medicaid expansion was associated with a 3.5-percentage point increase in Medicaid coverage. However, this gain was almost fully offset by relative declines in private non-group (1.5 percentage points) and employer-sponsored insurance (1.1 percentage points). In the case of non-group insurance, coverage increased in both sets of states, but more so in non-expansion states. Again, this difference is due largely to the fact that individuals with incomes between 100 and 138 percent of the FPL gained Medicaid in expansion states and gained private non-group coverage through the marketplaces in non-expansion states. Employer-sponsored coverage had been declining slightly prior to 2014 and continued to do so in expansion states, while increasing very slightly in non-expansion states. The net effect of these offsetting changes is that there is no

statistically significant difference in coverage gains between expansion and non-expansion states for the employed.

Looking at effects for different population subgroups among the unemployed (in the other columns of Table 3) shows that the effects of Medicaid expansion were felt widely across these groups, although results were somewhat larger for some groups than others; for example, non-parents benefited more than parents from Medicaid expansion, very likely because some very low-income parents already had access to Medicaid in some states.

Turning to the results of the more flexible event study specification (equation 2 above), the coefficients δ_k on the time-to/since-event dummies are presented graphically in Figure 2 for the four insurance coverage outcomes in the full sample of unemployed adults ages 26 through 64.[9] These figures show two important things. First, there is no evidence of differential trends in outcomes across the two groups of states prior to Medicaid expansion. For Medicaid and uninsured, in particular, the event time dummies for *t-6* (which is usually 2007) through *t-1* (which is usually 2012) are not statistically different from zero (with the sole exception of *t-4* coefficient in the Medicaid regression). Second, as expected, coverage effects were somewhat smaller in the first year of implementation (2014 in most states), increased in the second and third years of implementation, and then remained stable in the fourth year (2017 for most expansion states). Thus, the treatment dummy from model 1 that was reported in Table 3 – which averages the treatment effect across post-implementation years – somewhat understates the steady-state impact of Medicaid expansion that is observed in the third and fourth years of implementation. Similar results are obtained for each of the coverage outcomes for the sub-

[9] Appendix Table A2 lists the complete coefficient estimates (except for the state dummies) from the event history models for the full sample.

groups listed in Table 3: insignificant time coefficients prior to expansion and significant effects in each year after expansion.[10]

IV. Analysis, Part 2: Access to Care

A. Data and Descriptive Analysis

Next, we consider whether Medicaid expansion also improved access to care, using data from the Behavioral Risk Factor Surveillance Survey (BRFSS) from 2008 through 2017. The BRFSS is an annual cross-sectional survey conducted by states in conjunction with the Centers for Disease Control (Silva 2014). The full sample includes approximately 400,000 individuals in each year. After restriction to adults ages 26 through 64, the BRFSS has approximately 185,000 respondents in each year who are employed at the time of the survey and between 12,000 and 23,000 respondents who are unemployed at the time of the survey, depending on the year.[11]

We analyze four measures of access to care: (1) uninsured at the time of the survey; (2) needing to see a doctor at some point in the past 12 months but not doing so because of cost; (3) not having a usual source of medical care at the time of the survey; (4) not having had a routine checkup in the past 12 months. Access measures in the BRFSS generally benchmark well to other surveys (Skopec et al. 2014). However, the BRFSS measure of insurance coverage is far less detailed than the measures used in other surveys and does not distinguish between different sources of coverage (e.g. private versus public coverage), instead asking only whether respondents have *any* coverage. For this reason, we view our ACS analyses of uninsurance as

[10] Appendix Tables A3 through A6 list the estimated coefficients on the event history dummies for each of the four coverage outcomes for the complete set of subgroups listed in Table 3. The finding of no differential trends prior to expansion holds for all subgroups as well.

[11] The wording that the BRFSS uses to ask about employment status is "Are you currently employed for wages, self-employed, out-of-work for 1 year or more, out of work for less than 1 year, a homemaker, a student, retired, or unable to work?" We consider respondents who say that they are "out of work" to be unemployed.

preferable to the analogous BRFSS analyses, although in practice the results are quite similar. Our empirical strategy for analyzing these outcomes is the same as our approach to analyze the ACS, so we begin with descriptive trends and then discuss difference-in-differences and event history models.

Figure 3 presents trends from BRFSS in each of our four access outcomes for unemployed and employed adults in expansion and non-expansion states.[12] As with our analysis of coverage, these simple trends omit the seven states that expanded Medicaid after January 2014. Prior to 2014, these outcomes were trending similarly in expansion and non-expansion states. As in the ACS data, we see large declines in the fraction uninsured beginning in 2014 for unemployed individuals. We also observe declines in care delays (top right panel of Figure 3) and no usual source of care (lower left panel of Figure 3) that are particularly noticeable for the unemployed in Medicaid expansion states. The fraction of the unemployed with no checkup in the past 12 months had been declining since 2011, with no evident change in the trend beginning in 2014. For employed individuals, there are no evident changes in trends beginning in 2014 for any of these access measures.

B. Regression Analysis

These descriptive patterns suggest that large gains in coverage for the unemployed in Medicaid expansion states led to improvements in at least some measures of access to care, while the smaller coverage gains for the unemployed in non-expansion states and for the employed in all states did not yield measurable improvements in access. We test this hypothesis more formally by estimating regression models based on equations (1) and (2) above with the access measures as outcomes.

[12] Appendix Table A7 lists the numerical values.

Table 4 presents the estimated coefficients for the variable *treatment* from equation (1) for the four access outcomes. The top panel contains coefficients from models estimated on unemployed individuals. The results for the probability of being uninsured are generally similar to those from the ACS, suggesting that Medicaid expansion caused an 8 percentage point drop in the uninsured rate for the unemployed. Among employed adults, the BRFSS shows a small but statistically significant decline in the probability of being uninsured of just less than one percentage point (Panel B of Table 4).[13]

Two of the other access outcomes also show statistically significant effects of Medicaid expansion among the unemployed: a 4-percentage point drop in delayed/foregone care due to cost and a 2-percentage point drop in not having a usual source of care. The effect of Medicaid expansion on the probability of not having had a checkup in the past 12 months was negative (one percentage point) but statistically insignificant. These results are generally consistent across different population subgroups defined by education, parental status, etc., although the subgroup results are not always significant in some cases where the full-sample result is (e.g. for parents). Note that the BRFSS also includes self-reported health status (excellent, very good, good, fair, poor) so we are able to estimate separate analyses for the subgroup of individuals in fair or poor health, which is not possible in the ACS or basic monthly CPS. This group, like other relatively disadvantaged population groups, experienced somewhat larger gains in coverage and reductions in delayed care than other groups. Among employed workers, we find a small, significant reduction in the fraction reporting no usual source of care, but no significant changes in any other measure of access to care. These null results are not surprising given that we do not find a large effect of Medicaid expansion on insurance coverage for this group.

[13] Appendix Table A8 lists complete coefficient estimates (except for the state dummies) for the full sample, for the treatment and event study models.

The more flexible event study specification (Equation 2 above) for the access outcomes suggests that the simple DD model masks notable variation across outcomes and over time. Figure 4 plots the coefficients on event time dummies from each of these models estimated on the sample of unemployed adults.[14] While the pre-event dummies are mostly not statistically significant – suggesting that the parallel trends assumption is satisfied – the post-event dummies are somewhat inconsistent, in contrast with the clear and consistent patterns that were observed for the ACS coverage results. For example, the "no usual source of care" post-event dummies are individually not significantly different from zero. The "delayed care" dummies follow a pattern that is most clearly consistent with the coverage results, with small and insignificant negative values in the first two years of implementation and larger, significant negative values in years 3 and 4. Standard errors on most of these estimates are fairly large, probably because of the relatively small sample size of unemployed people in each year in the BRFSS.

V. Analysis, Part 3: Transitions out of Unemployment

A. Labor Market Conditions in Expansion/Non-expansion States

After establishing the effects of Medicaid expansion on insurance coverage and access to care for the unemployed, we now turn to an examination of its effects on job search. Proper design and interpretation of this analysis requires incorporation of state labor market conditions and relevant elements of the state policy environment, other than Medicaid expansion status, that may differ between expansion and non-expansion states.

Figure 5 displays some key differences between expansion and non-expansion states, using monthly data that extends from the beginning of 2007, just before the start of the Great

[14] Appendix Tables A9-A12 provide the numerical estimates of the event history coefficients for the sub-groups listed in Table 4. The subgroup results are largely similar to the full sample results discussed here.

Recession, into early 2018.[15] Panel A shows that expansion states generally had higher unemployment rates, reflecting weaker labor market conditions, throughout the sample frame. Changes in the unemployment rate generally track each other across the two groups of states. The exception is during the period just before and just after January 2014, exactly when the Medicaid expansions came into effect. The unemployment rate gap grew during the few years leading up to January 2014 and then shrank noticeably after January 2014.

Panel B of Figure 5 illustrates one potential reason why the unemployment rate gap between expansion and non-expansion states shrank after January 2014. This panel plots the average number of total UI weeks available in the two groups of states. Changes over time in UI availability reflect the legislative rollout, expansion, and eventual withdrawal of the extended benefits during the Great Recession and recovery (see Valletta 2014 and Rothstein and Valletta 2017 for details). The expansion states had higher maximum UI weeks available during most of the sample frame, reflecting their weaker labor market conditions. As the figure shows, this also means that the expansion states experienced a larger withdrawal of available UI benefits when the EUC program was terminated at the end of 2013. In addition, various non-expansion states reduced their normal UI benefits below 26 weeks during 2011-forward, causing available UI weeks in non-expansion states to remain below that of expansion states from 2014 forward.

Accurate assessment of potential moral hazard effects of the Medicaid expansions –i.e., reduced job finding or labor force attachment —requires drilling down beneath broad labor market indicators such as the unemployment rate and unemployment duration. In particular, recent research on the impact of the UI extensions that occurred during the Great Recession distinguished between their impact on job-finding rates and labor force attachment or withdrawal

[15] The aggregate statistics for the separate groups of expansion and non-expansion states are weighted, as described in the figure note. As in the earlier descriptive figures, we limit the set of Medicaid expansion states to those that expanded by January 2014; subsequent regression models include all states.

(Rothstein 2011; Valletta 2014; Farber, Rothstein, and Valletta 2015; Farber and Valletta 2015). These papers generally find a limited impact of UI availability on job finding rates during this timeframe. Instead, extended UI tends to increase the duration of job search and hence unemployment durations via reduced labor force exit rates. This suggests limited moral hazard effects on labor supply. However, an examination of unemployment rates or durations alone that did not distinguish between these two types of transitions out of unemployment would suggest adverse effects of UI on search behavior and labor supply.

The Medicaid expansions may affect unemployment duration through two different mechanisms. First, some unemployed individuals may withdraw from the labor force altogether as a result of the availability of free health insurance that is not linked to employment. While this would reduce both the prevalence and duration of unemployment, this labor force withdrawal would represent a moral hazard effect – negative and unintended – of the policy. Second, some unemployed individuals who receive Medicaid via the expansions may delay their return to employment because, for example, Medicaid reduces the urgency of obtaining employer-sponsored insurance. These individuals may find that Medicaid enables them to engage in lengthier job search. This behavior will tend to increase measured unemployment rates and durations, and would constitute evidence of moral hazard (although we note that the lengthier search may ultimately result in higher-quality re-employment matches).[16] Given these possible alternative impacts of the Medicaid expansions on unemployed individuals, we focus our analyses on transitions out of unemployment, distinguishing between exits via job finding and labor force withdrawal. The regression framework and results are described in the next two sub-sections.

[16] As discussed in Section IIA, the reduction in labor force exits induced by the recent UI extensions is consistent with other research suggesting that UI has limited moral hazard effects (Chetty 2008; Card, Chetty, and Weber 2007).

B. Data and Empirical Strategy

Given the close relationship between Medicaid expansions, available UI benefits, state labor market conditions, and labor market outcomes, detailed microdata are required to assess the independent effects of the Medicaid expansions. Such data allow us to isolate the effects of the Medicaid expansions and obtain estimated impacts on job search that are uncontaminated by the other changes in state labor markets and their policy environments.

We use matched monthly data on individual labor force participants from the CPS. As with our analysis of insurance coverage and access to care, we restrict the sample to individuals age 26-64 in order to minimize the influence of the ACA dependent coverage provision. The sample period is January 2007 through December 2017, which enables reliance on a pre-recession year (2007) as a reference point. We include individuals unemployed as a result of job loss/layoff, voluntary quits, and labor force re-entry. We exclude new entrants to the labor force; their job search behavior is likely to differ from experienced labor force participants, and we do not observe selected regression controls for them (industry of prior job). In addition to the primary sample, we also discuss results from a sub-sample limited to job losers below.[17]

Due to the rotating sampling scheme used for the CPS, surveyed households and individuals are in the sample for two separate periods of 4 consecutive months (with an intervening 8-month period spent out of the sample). This enables consecutive month-to-month matching for about 70% of the sample.[18] The monthly match is based on household identifiers and validated by ensuring that the reported data on age, education, race, and gender do not

[17] See Valletta (2014) for more details on construction of a similar sample for an earlier timeframe (in particular, Table 2 and the associated discussion in that paper).

[18] Most of the non-matched observations are from the "outgoing rotation groups" that are exiting the sample for eight months or permanently (one quarter of each monthly sample). In addition, a modest fraction of observations is lost because respondent households that move to different geographic locations are not followed.

conflict across matched observations. We identify labor market transitions by comparing an individual's labor force status in month *t* to that in month *t+1*.

A well-known concern regarding matched CPS data is the likelihood of spurious transitions in labor force status arising from inconsistent or error-ridden survey responses rather than meaningful changes (Abowd and Zellner 1985; Poterba and Summers 1986, 1995). Such spurious transitions could impart a downward bias to the estimated effect of Medicaid on unemployment exits and might also reduce the precision of the estimates. We therefore follow past research by adjusting the data to minimize the incidence of spurious transitions (Rothstein 2011, Valletta 2014, Farber and Valletta 2015, Farber, Rothstein, and Valletta 2015). In particular, for individuals identified as leaving unemployment one month, either through job finding or labor force exit, and then returning to unemployment the next month, their records are recoded to show no transition (and the newly created observations are retained). This correction requires restriction of the final analysis sample to individuals who are observed to be in their first or second month of a consecutive four-month span in the sample. We refer to these as "two-month forward matches." All results reported below are based on these restricted matches and corresponding measured transitions. The results are similar but less precisely estimated when this restriction is not imposed (i.e., when the wider set of single-month matches and transitions are used).[19]

Our analyses of transitions out of unemployment parallels the earlier analyses of insurance coverage and access to care, starting with descriptive analyses and proceeding to difference-in-differences and event history regressions. Figure 6 presents simple trends in the

[19] This correction requires restriction of the final analysis sample to individuals who are observed to be in their first or second month of a consecutive four-month span in the CPS sample, thereby reducing the matched sample count by approximately one-third. Figure 2 in Valletta (2014) shows that the correction reduces measured exit rates by about 5 to 10 percentage points across the distribution of unemployment durations.

probability of different transitions out of unemployment, for Medicaid expansion and non-expansion states.[20] Although the data are monthly, the figure depicts calendar year averages. As in the earlier figure, we dropped the seven states that expanded Medicaid after January 2014; these will be included in our regression analyses below. The figure shows that rates of both types of transitions (exit to employment and exit to not in the labor force, or NILF) exhibit generally similar trends both before and after 2014 for expansion and non-expansion states: year by year, the confidence intervals for mean transition rates for the two groups of states always overlap.

C. Regression Specification and Results

We estimate regressions of the following form using the monthly CPS matched data corrected for spurious transitions:

$$E_{ist} = \beta \cdot treatment_{s(t+1)} + \alpha_s + \gamma_t + X'_{ist}\phi + W'_{s(t+1)}\rho + M_t + \psi duration_{ist} + \upsilon_{ist} \qquad (3)$$

The dependent variable *E* ("exit") is an indicator for whether an individual *i* living in state *s* who is unemployed in the survey reference week in month *t* exits unemployment by month *t+1* (i.e., reports no longer being unemployed in the reference week in the subsequent survey month). Exits from unemployment can occur either through job finding (exit to employment) or labor force withdrawal (exit to "not in labor force," or NILF); we estimate separate equations for each exit route. Estimation is via a linear probability model. All estimates are weighted by the CPS survey weights, and robust standard errors are provided (clustered by state, hence the disturbance term ν in equation 3 has underlying components).

[20] The corresponding numerical estimates are listed in Appendix Table A13.

Explanatory variables are defined as in equation 1, with three additional vectors of controls: a set of indicator variables for broad industry of prior employment (14 categories); indicators for the duration to date of the individual's unemployment spell (10 categories, with the final category indicating duration of longer than one year); and a vector of calendar month dummies M_t. The observation count for these regressions using the full available sample is 166,838 (see Table 5 for sub-group sample sizes). Treatment status and state labor market conditions are measured in month $t+1$, to directly account for their potential effects on transitions measured in that same month.

As in the earlier estimates, in addition to state labor market conditions—cubics in the unemployment rate and rate of payroll employment growth—the vector of state labor market controls includes maximum available UI weeks. This is crucial for our estimation strategy. The abrupt elimination of extended UI benefits at the end of 2013 corresponds closely to the main Medicaid expansions in January 2014 and hence is a potential confounding element in our estimation: the withdrawal of extended UI benefits may offset the expansion of Medicaid, with a greater offset occurring in the Medicaid expansion states due to their larger loss of maximum UI availability (discussed in the preceding sub-section). Our measure of maximum available UI weeks, which differs across states and months, accounts for this abrupt change in UI availability. It also accounts for monthly changes in each state's maximum UI availability that occurred at any time during our sample frame, due to the tiered structure of the federal extended UI legislation and also changes in state-specific regular UI weeks. Although not reported in the tables, the estimated coefficients on the UI weeks variable in our regressions are consistent with

the findings from past papers that focus on the effects of the UI extensions (e.g., Rothstein 2011, Valletta 2014, Farber and Valletta 2015, Farber, Rothstein, and Valletta 2015).[21]

Table 5 presents estimates of the treatment coefficient β from equation 3 for the full sample of unemployed adults as well as subgroups defined as above by gender, education, parental status, and duration of unemployment.[22] These estimates provide no evidence in favor of meaningful moral hazard effects of the Medicaid expansions. Although the estimates of the difference-in-difference coefficient β in the employment exits equation are negative for the full sample and some sub-samples, they are very small and statistically insignificant in all cases.

In the full sample and 4 of the 6 subsamples, the estimated treatment β's for transitions out of the labor force are not statistically significant. In the two cases where the coefficient estimates are significantly different from zero—for parents and for individuals who were unemployed for less than a year—the estimates are negative, indicating that the expansion of Medicaid made unemployed workers less likely to drop out of the labor force. This is the opposite of what we would find if the effect of the expansion was to reduce labor force attachment, i.e., if there was a moral hazard effect. This pattern of results also does not line up neatly with the evidence of heterogeneous treatment effects for insurance coverage. The ACA Medicaid expansions led to smaller gains in insurance coverage for parents than for childless

[21] The estimated coefficients on UI weeks in our regressions indicate that longer maximum UI durations are associated with reduced exits out of the labor force but no meaningful effect on job finding. The earlier work cited relied on our UI duration variable and also availability measured at the individual level (via comparisons between reported unemployment duration and available UI weeks, with samples restricted to job losers who are likely eligible for UI). We do not use these individual comparisons in the present work, to allow for more general effects of the UI extensions on state labor market conditions and also because many individuals in our analysis samples are not eligible to receive UI.

[22] Estimation by duration of unemployment corresponds approximately to the estimation by "when last worked" for the coverage and access outcomes in earlier sections. Because an individual may be unemployed due to labor force re-entry, duration of unemployment will not necessarily correspond to the time elapsed since leaving a prior job. The specific timeframe since prior employment is not available in the monthly CPS data for all unemployed individuals.

adults; the expansions had similar effects on individuals who were unemployed for more or less than one year. Thus, while the explanation for these two statistically significant estimates is not clear, they do not fit with the hypothesis that Medicaid expansion leads to reduced labor force attachment.

Figure 7 plots the event time dummies from models estimated using the full sample but substituting these complete time effects for the single treatment dummy, as in our analyses of coverage and access presented earlier. These event time dummies exhibit no clear pattern and generally are not significantly different from zero.[23] These results confirm both that there are no significant differential trends in employment transitions prior to the implementation of Medicaid and also that there is no clear pattern of changes in exit rates after the implementation of Medicaid expansion.[24]

VI. Robustness checks

In addition to the comparisons across sub-samples, we subjected our results to several robustness checks. First, we dropped the six "early expansion" states that partially implemented the Affordable Care Act's Medicaid expansion prior to January 2014 (California, Connecticut, Washington DC, Minnesota, New Jersey, and Washington State). The inclusion of these states potentially biases our effects since the policy might have begun to have an effect prior to what we are measuring as the implementation date of January 2014. Therefore, we drop the residents of these six states, reducing our sample size by approximately one quarter, and re-estimate the main results of our DD analysis of the unemployed: insurance coverage from ACS, access to

[23] The pattern of time effects generally supports the conventional parallel trends assumption that is necessary to interpret the post-expansion changes as treatment effects.
[24] Appendix Table A14 lists the complete coefficient estimates (except on the state, calendar month, and industry categories) for the treatment and event study results for the full sample. Appendix Table A15 lists the event history coefficients for the sub-samples listed in Table 5.

care from BRFSS, and transitions out of unemployment from the CPS. Table 6 juxtaposes key results from Tables 3, 4, and 5 that were estimated using the full sample of states (column 1) with results estimated dropping the early expansion states (column 2). It is evident from this comparison that dropping the early expansion states changes the results very little.

A more serious threat to the validity our study design is the fact that the majority of state Medicaid expansions occurred on January 1, 2014, immediately after the abrupt withdrawal of extended benefit availability at the end of 2013. Although our analyses control for the UI benefits available at the state-year level (for our analyses of coverage and access) or the state-month level (for our analyses of employment transitions), this may not adequately control for the effects of this policy change. If that is the case, our main results may underestimate any negative effect of Medicaid on job search behavior. Therefore, we re-estimate our main analyses using only the seven states that expanded Medicaid after January 2014: Michigan, New Hampshire, Pennsylvania, Indiana, Alaska, Montana, and Louisiana (compared with all of the non-expansion states). For these states, the timing of Medicaid expansion did not coincide with the elimination of extended UI benefits. This reduces our sample of unemployed individuals by 60 percent (see bottom row of Table 1). The "late expansion" states contained 7 percent of our original sample, so the restricted sample, consisting of late expansion states and non-expansion states only, is approximately 20 percent late expansion and 80 percent non-expansion.

Column 3 of Table 6 contains results estimated using only the late expansion and non-expansion states. The effects on insurance coverage, reported in the upper panel of Table 6, are quite similar in both samples. The estimated effect of the expansion on the probability of being uninsured is slightly lower in the late expander sample (-0.068 vs. -0.080), though the estimate for the late expanders is more heavily weighted toward year 1 effects, which as shown in Figure

2 tend to be smaller than effects in later years. Taking this into account, the results suggest that late expansions were as effective as the January 2014 expansions at increasing coverage.

The employment transition results are shown in the lower panel of Table 6. In the late expansion sample, Medicaid expansion is associated with an increase in transitions from unemployment to employment. This result is inconsistent with the hypothesis that the availability of Medicaid coverage when unemployed reduces job search. However, like the results for the full sample, where the point estimate is negative, the estimated coefficient for the late expansion sample is not significantly different from zero. Similarly, we see no statistically significant relationship between Medicaid expansion and labor force exits in the late expansion states.

We conducted two more sets of analyses focusing on labor market transitions in order to make sure we are not overlooking moral hazard effects. First, we restricted the sample to job losers, who are likely to be most responsive to job-search incentives via UI eligibility and their demonstrated labor force attachment (reflected in prior employment). As expected, the estimated effects of UI availability in this sub-sample of likely UI eligibles were larger and more precisely estimated than in the full sample. However, like the full sample results, the difference-in-difference tests for the Medicaid expansions in this sub-sample yielded no statistically reliable evidence of moral hazard effects as a result of Medicaid on job finding or labor force exit.
We also examined additional transitions along the labor force participation margin, specifically transitions in both directions between employment and NILF, and also transitions from NILF back to active job search (unemployment). These analyses address the possibility that the moral hazard effects of Medicaid availability are not restricted to currently unemployed individuals. Difference-in-difference tests that parallel those described above once again revealed no

discernible impact of the Medicaid expansions on transition rates between labor force states (results available on request).

Finally, we examined a potential threat to the validity of the labor market transition analysis. The event history results displayed in Figure 7 suggest similar pre-treatment trends in expansion and non-expansion states. However, Medicaid expansion may have induced changes in the composition of the unemployed that differ between expansion and non-expansion states—for example, a shift in composition toward more skilled individuals, which could bias the estimated treatment effects. This possibility is addressed in Appendix Figures A1 and A2, which display the pattern over time in the fitted probabilities of unemployment exits based on the observable individual controls used in our regressions. The predicted exits to employment and NILF are consistently lower in expansion states. However, the plots show very small differences between expansion and non-expansion states and no meaningful change in the relative predicted exit rates after expansion (using 2014 as the post-expansion baseline for all non-expansion states).[25] While we cannot reject the possibility of systematic changes in unobservable characteristics of workers between expansion and non-expansion states, the results based on observables suggest that compositional changes are not a concern.

VII. Discussion

What explains our finding that expanded Medicaid eligibility had minimal effects on transitions out of unemployment, with the only detectable effect (for selected sub-groups) taking

[25] Figure A1 displays the separate predictions for expansion and non-expansion states, and Figure A2 displays the difference between them. There is an increase in the relative predicted probability of labor force exits in expansion states around 2014, which is most evident in Figure A2. This may cause understatement of the finding that Medicaid expansion reduced labor force exits for selected groups in Table 5, but the magnitude of the composition effect is quite small. These results are similar when the individual controls are expanded to include complete interactions between age, education, gender, and marital status (80 categories) along with the other individual covariates.

the form of reduced labor force withdrawal rather than reduced job finding? These results cannot be attributed to a weak "first stage," given that we find that the expansion substantially increased the health insurance coverage of unemployed workers. A more likely explanation is that the value of this in-kind benefit to the average unemployed worker was not large. In 2014, average annual Medicaid spending for non-disabled adult beneficiaries was just over $3,000.[26] However, much of this spending is on care that beneficiaries would have received for free if they were uninsured. Finkelstein, Hendren and Luttmer (2019) conclude that roughly 60 percent of Medicaid spending can be thought of as transfers to hospitals and other parties that subsidize the care receive by the uninsured.[27] Thus, the net transfer to beneficiaries is closer to $1,200 to $1,400 per year. To put this in perspective, the typical *monthly* UI benefits during our sample period were about $1,300. Moreover, research on UI benefit extensions over our sample period finds only small effects of the extensions on transitions out of unemployment, with most of the effect arising through reduced labor force exits rather than reduced job finding (e.g., Farber and Valletta 2015). Our results showing no detectable effect on job finding but reduced labor force withdrawals in response to Medicaid extensions for selected sub-groups (Table 5) are consistent with these findings for the effects of UI extensions.[28]

[26] Source: Kaiser Family Foundation State Health Facts, https://www.kff.org/medicaid/state-indicator/medicaid-spending-per-enrollee/

[27] Hospitals are effectively "insurers of last resort" through the provision of uncompensated care (Garthwaite et al 2018). Bankruptcy also represents a form of implicit insurance (Mahoney 2015). Recent studies have found that the ACA Medicaid expansion led to a decrease in hospital uncompensated care (Blavin 2016; Rhodes et al 2019) and an improvement in household financial well-being (Hu et al 2017). Other research finds little impact of the Medicaid expansion on household expenditures (Levy, Buchmueller and Nikpay 2018), which also suggests that the uninsured spend very little on medical care.

[28] Other recent quasi-experimental evidence finds substantial moral hazard effects of the UI extensions (Card et al. 2015; Johnston and Mas 2018). However, this research is based on data for one state, Missouri, and the findings may not generalize to the wider national sample that we examine to assess the impacts of Medicaid expansions.

It is also important to keep in mind that our analysis identifies the effect of the availability of Medicaid in the context of the other ACA reforms, which provide affordable insurance options for individuals and families with incomes above the Medicaid eligibility threshold. An unemployed worker who finds a job that raises their income above 138 percent of poverty will be eligible for tax credits that defray much of the cost of private insurance. This will further reduce any possible work disincentives.

Even if it is not surprising, the null effect of Medicaid eligibility on the job search behavior of unemployed workers is highly relevant to ongoing policy debates. Beginning in 2017, several states have sought waivers to introduce work requirements to their Medicaid programs (Musumeci et al 2018). In pushing for their greater use in all non-cash safety net programs, the Trump administration has argued that work requirements will increase employment, thereby improving "self-sufficiency" (Council of Economic Advisers 2018). Our results, along with those of other recent studies finding no employment effects of the ACA Medicaid expansion, are at odds with this assertion. Our results are more consistent with a recent study of Arkansas, which in June 2018 became the first state to implement Medicaid work requirements. Sommers et al (2019) found that the introduction of work requirements led to roughly a 6-percentage point reduction in insurance coverage in Arkansas relative to changes in three control states, but no significant change in employment.

VIII. Conclusions

Because employer-sponsored insurance is the predominant source of health coverage in the United States, many workers who lose their jobs not only suffer a loss of income but also lose health insurance. By creating new affordable insurance options that are not tied to

employment, the Affordable Care Act was intended to strengthen the safety net for unemployed workers and other Americans with limited access to employer-sponsored insurance. The effect of the ACA on increasing insurance coverage was limited by the decision of some states to not implement the expansion of the Medicaid program as intended by the law.

Our analysis of health insurance coverage trends over a ten-year period finds that the ACA Medicaid expansion significantly expanded the safety net for unemployed workers. Difference-in-differences estimates indicate that after the law went into effect, the percent uninsured among the unemployed fell by an additional 8 percentage points in states that implemented the Medicaid expansion compared to states that did not. Increases in insurance coverage were particularly large for demographic groups that prior to 2014 had limited access to public insurance coverage. We also find greater improvements in access to care for the unemployed in expansion states compared to non-expansion states.

A full evaluation of the ACA requires accounting for possible market distortions arising from incentives created by the program. Before the main coverage provisions of the law went into effect, much attention was given to potential labor market distortions. In the case of unemployed workers, access to Medicaid might have reduced the intensity of job search, thereby reducing exit from unemployment to employment; at the same time, access to Medicaid may have led unemployed individuals to exit the labor force altogether. Our analysis distinguishes between exits via job finding and exits out of the labor force, which may move in opposite directions in response to the Medicaid expansions and hence have offsetting effects on measured unemployment. Our difference-in-difference tests show no meaningful effects of the Medicaid expansions on job finding but a *reduction* in labor force exits for some groups (parents and the

short-term unemployed). This suggests no moral hazard effects on labor market behavior arising from the expansions, and in fact modest positive effects on labor force attachment.

Overall, our results suggest that the expansions of Medicaid availability to unemployed individuals under the ACA achieved their intended effect of expanding coverage without causing adverse unintended consequences via moral hazard effects on job search and labor force attachment. Our findings do not preclude more general negative labor supply effects of the ACA, as assumed in CBO analyses (Harris and Mok 2015). However, our findings suggest that such labor supply effects as a result of the ACA Medicaid expansions have been minimal.

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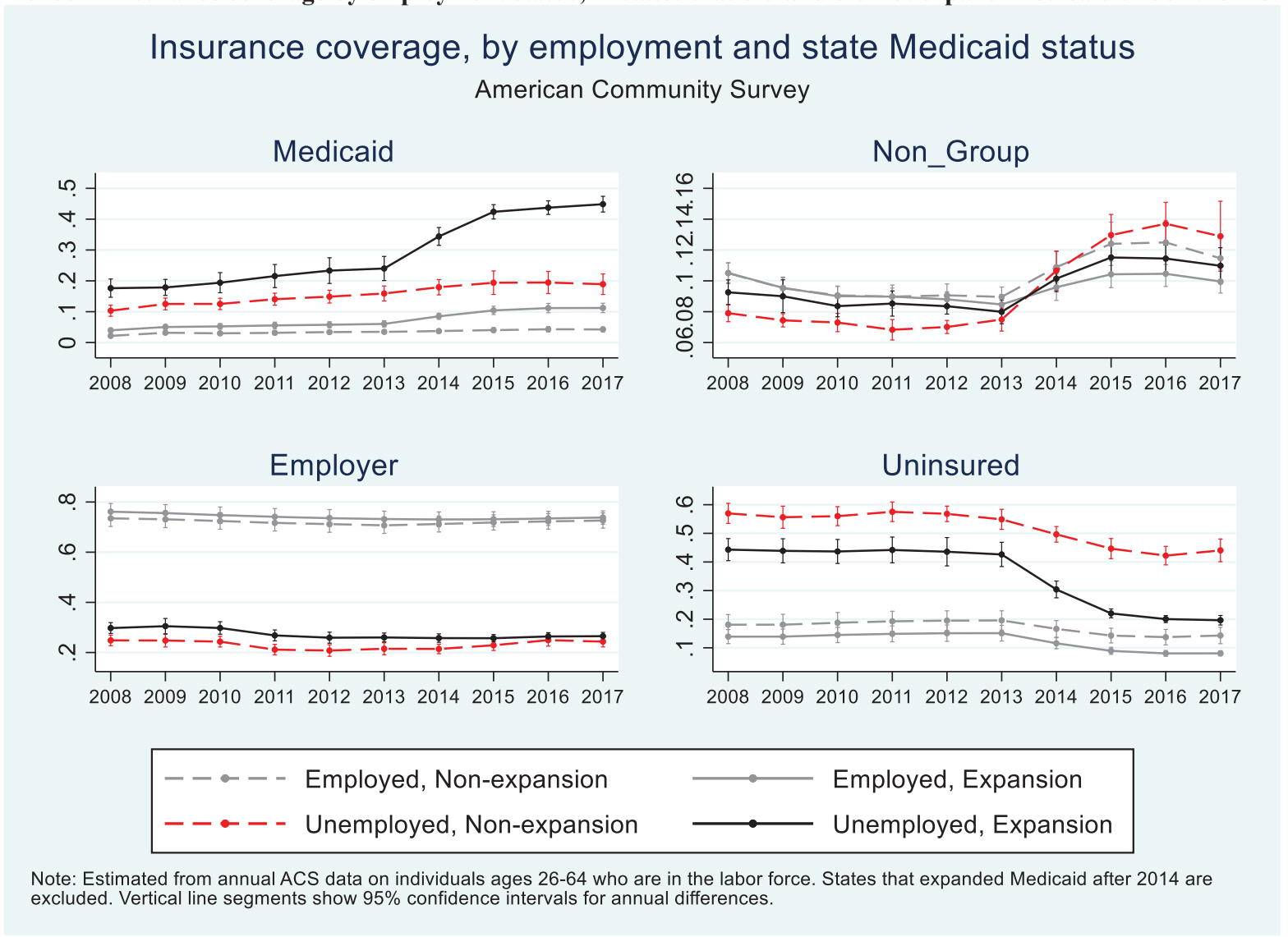
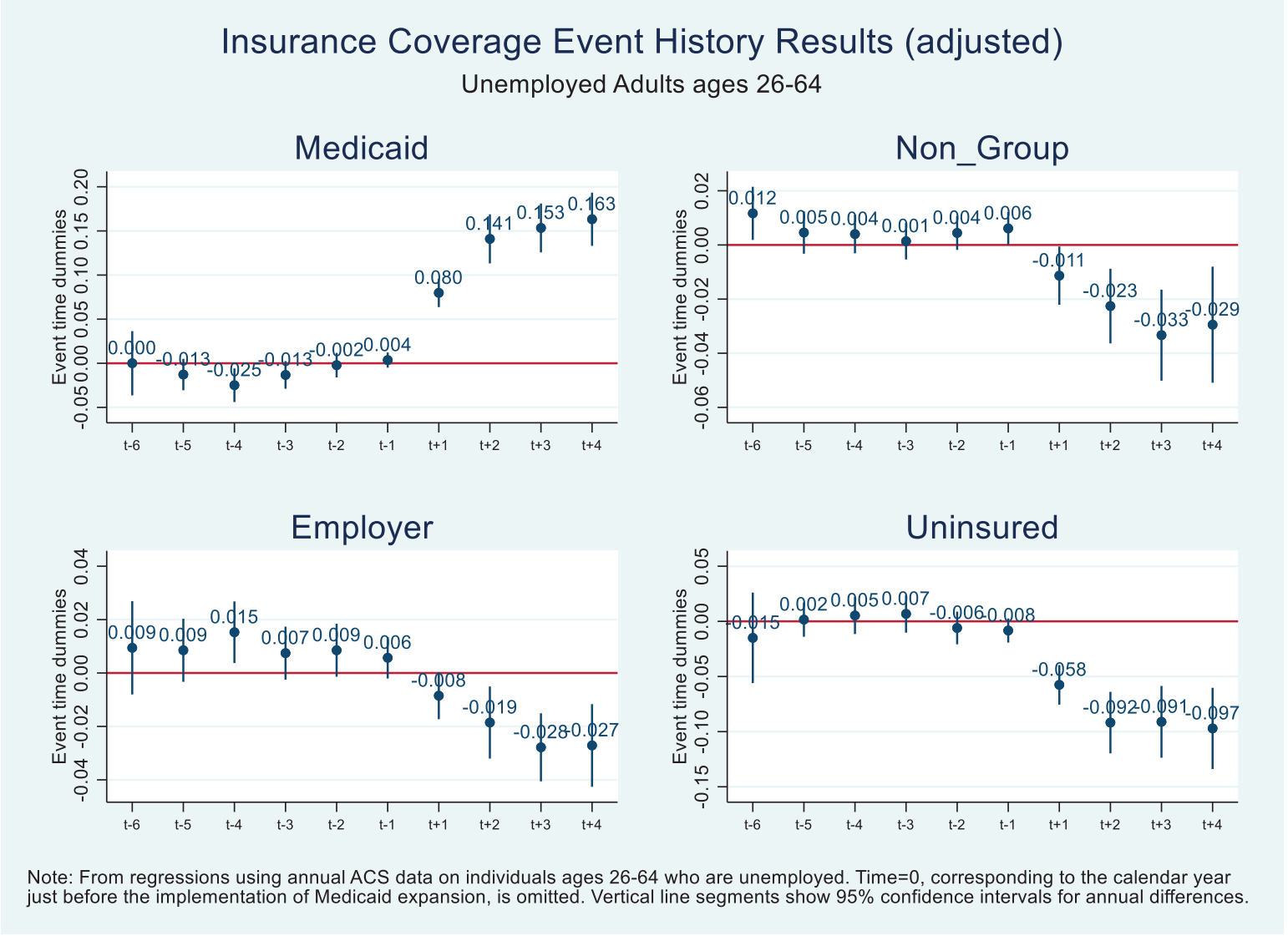
Figure 1
Trends in insurance coverage by employment status, in states that did and did not expand Medicaid under the ACA



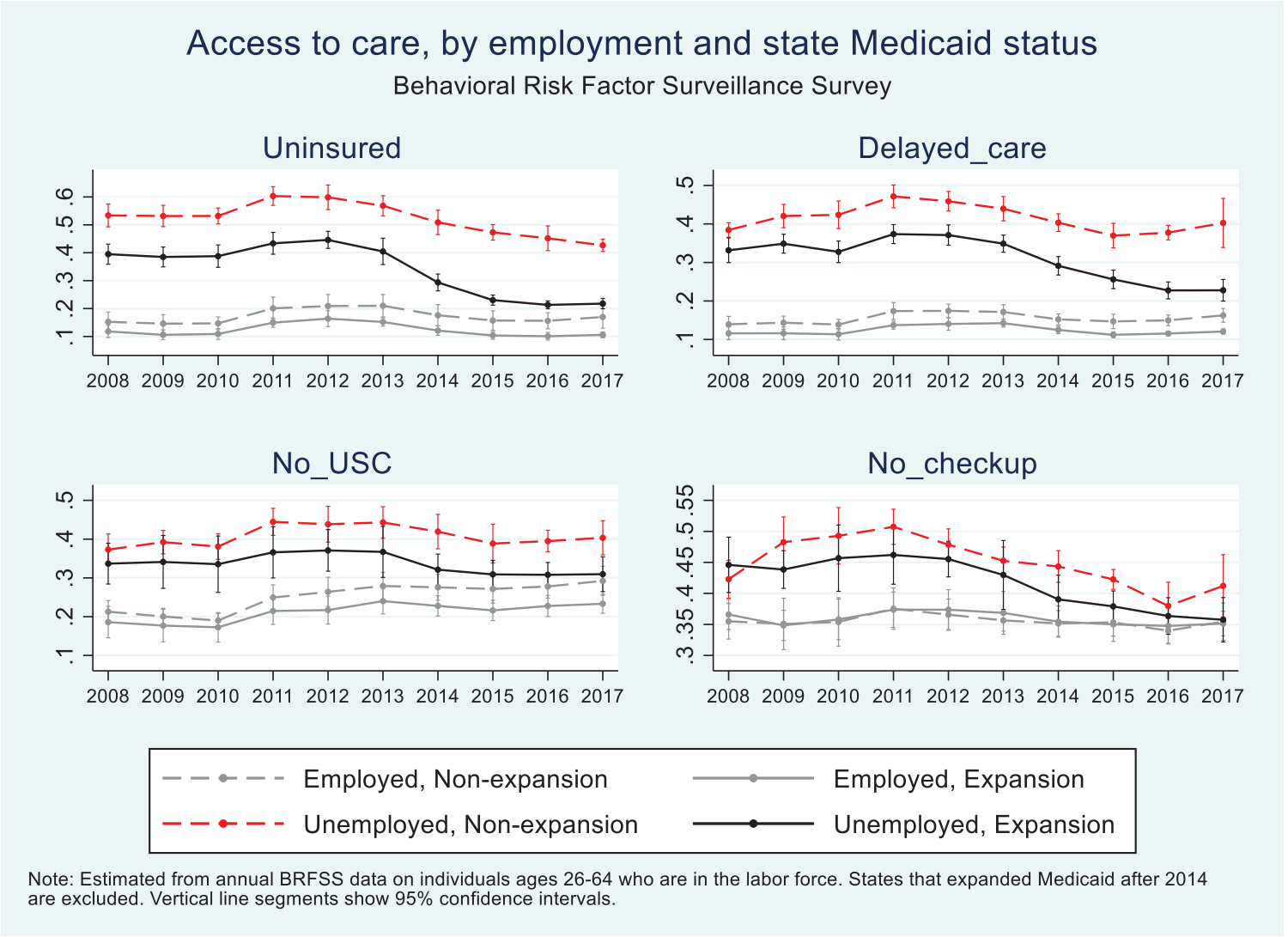
Note: Estimated from annual ACS data on individuals ages 26-64 who are in the labor force. States that expanded Medicaid after 2014 are excluded. Vertical line segments show 95% confidence intervals for annual differences.

Figure 2: Event history results for insurance coverage outcomes: Unemployed adults



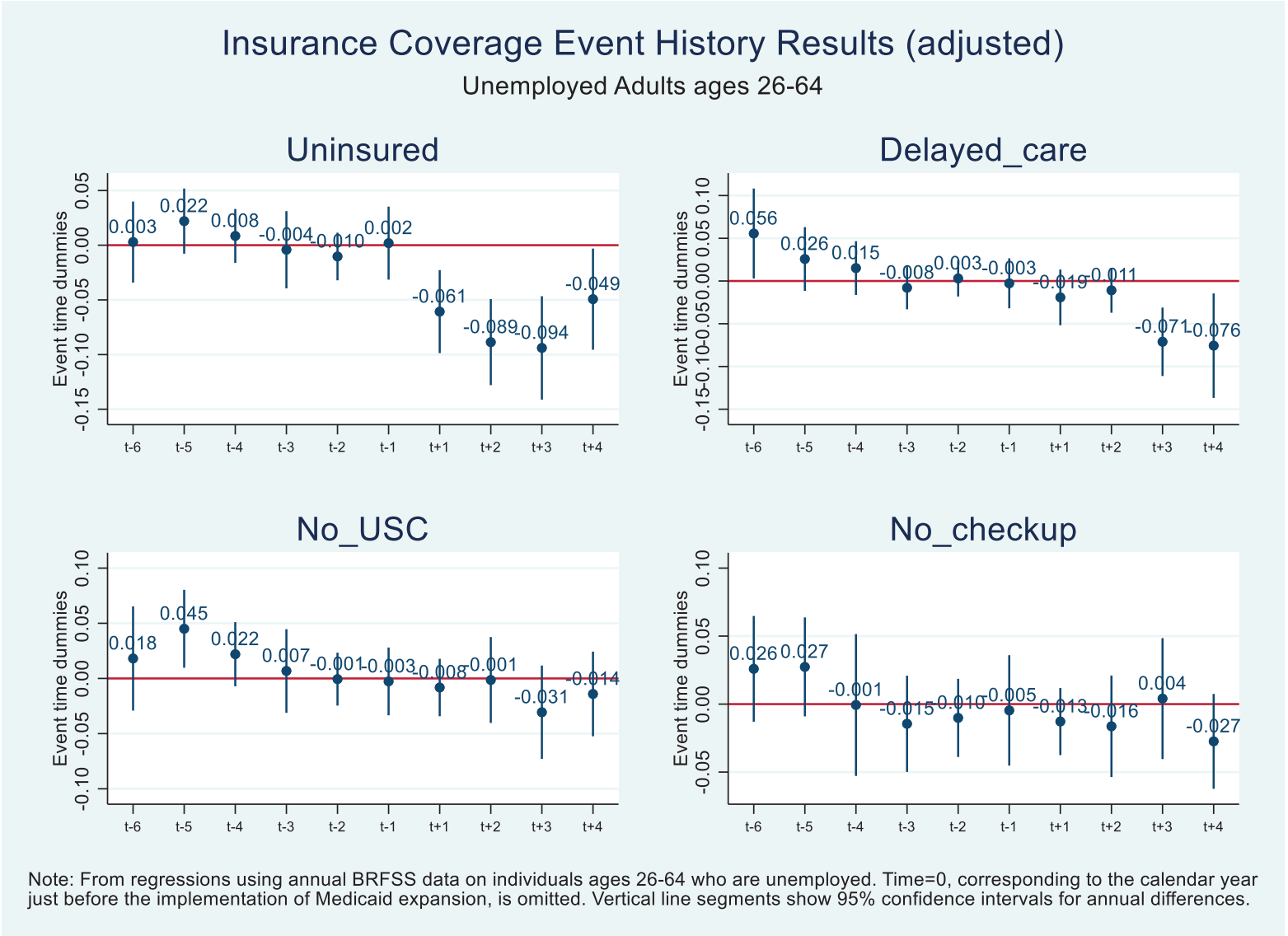
Note: From regressions using annual ACS data on individuals ages 26-64 who are unemployed. Time=0, corresponding to the calendar year just before the implementation of Medicaid expansion, is omitted. Vertical line segments show 95% confidence intervals for annual differences.

Figure 3
Trends in insurance coverage by employment status, in states that did and did not expand Medicaid under the ACA



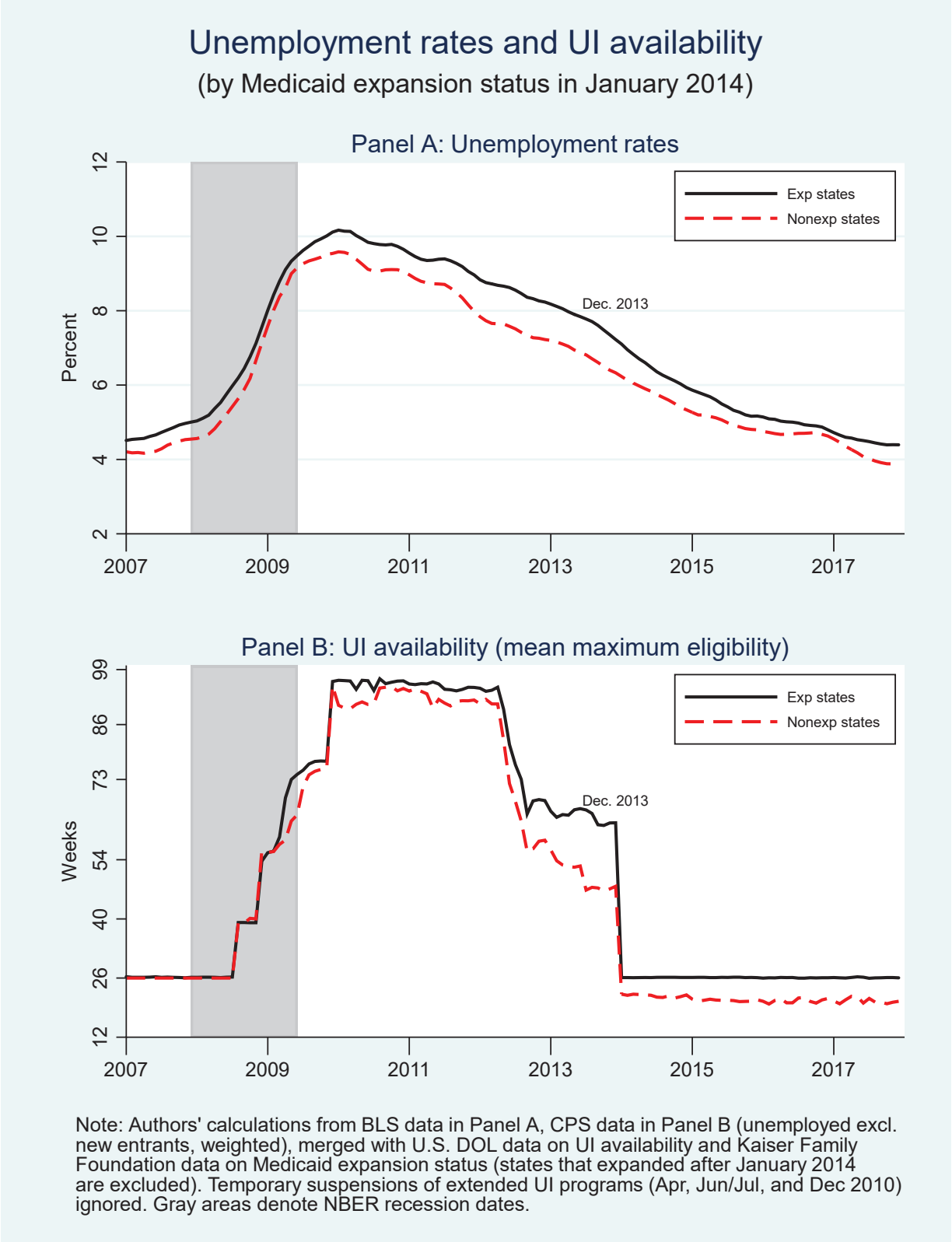
Note: Estimated from annual BRFSS data on individuals ages 26-64 who are in the labor force. States that expanded Medicaid after 2014 are excluded. Vertical line segments show 95% confidence intervals.

Figure 4: Event history results for access to care outcomes: Unemployed adults



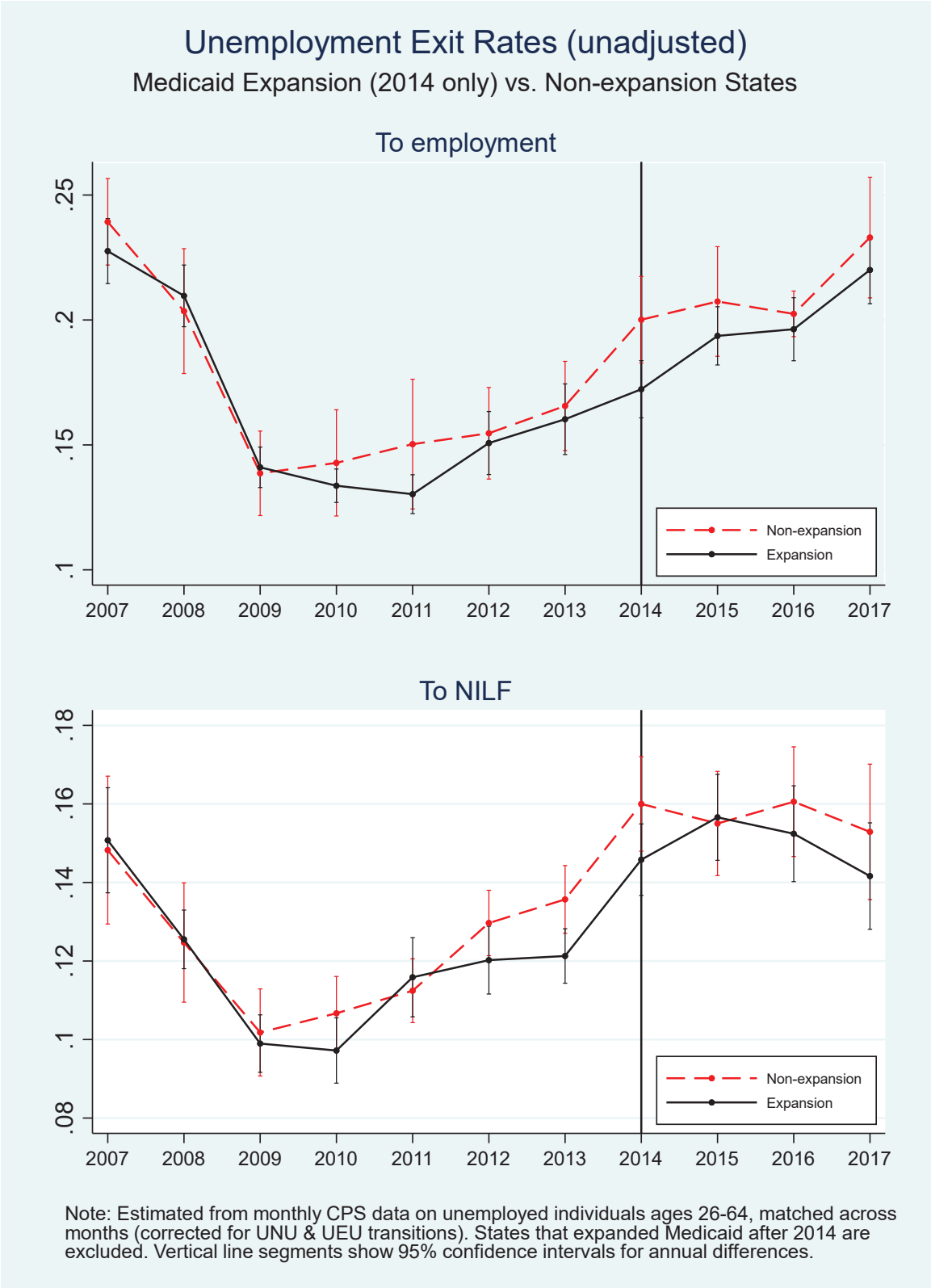
Note: From regressions using annual BRFSS data on individuals ages 26-64 who are unemployed. Time=0, corresponding to the calendar year just before the implementation of Medicaid expansion, is omitted. Vertical line segments show 95% confidence intervals for annual differences.

Figure 5



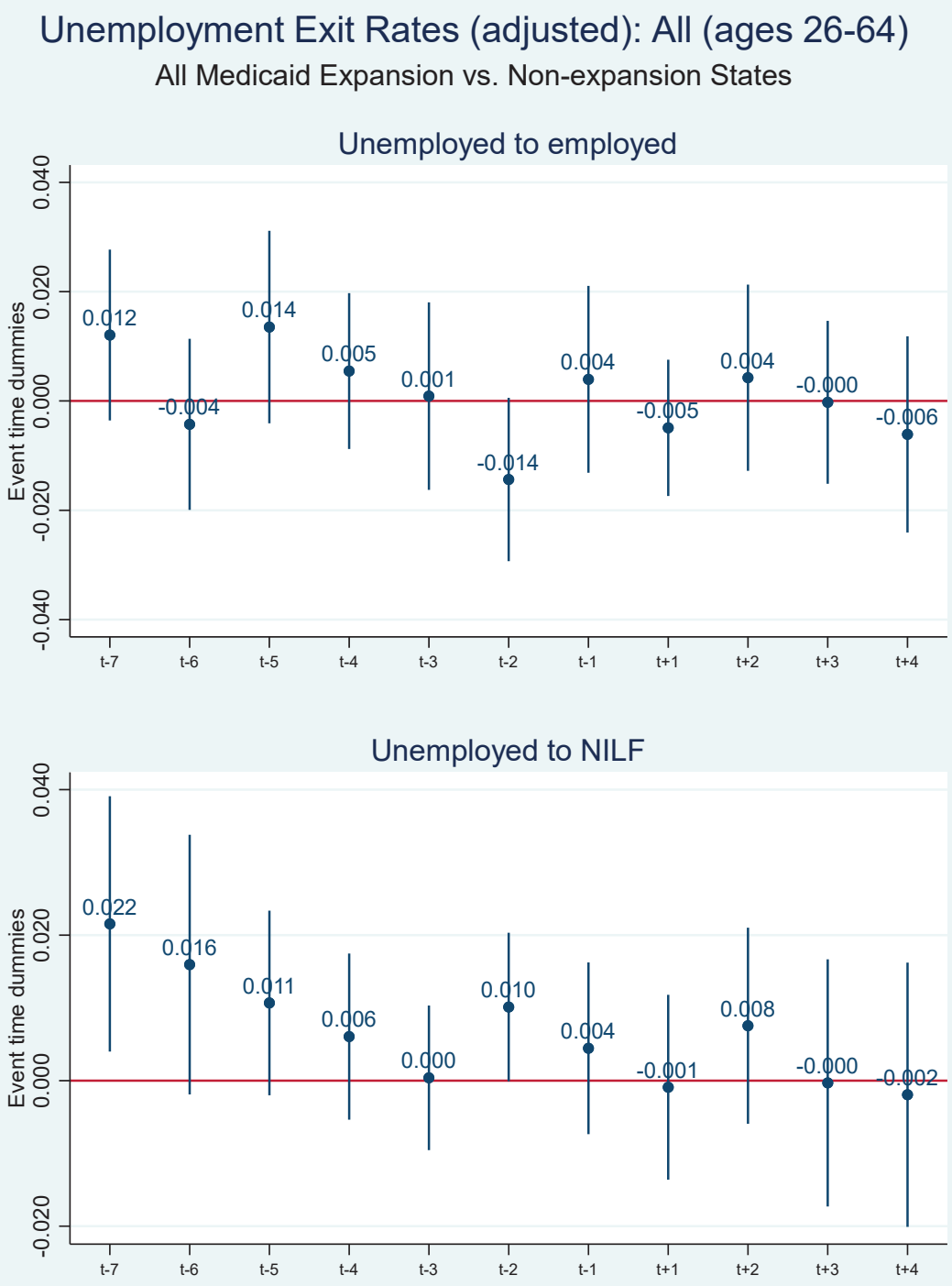
Note: Authors' calculations from BLS data in Panel A, CPS data in Panel B (unemployed excl. new entrants, weighted), merged with U.S. DOL data on UI availability and Kaiser Family Foundation data on Medicaid expansion status (states that expanded after January 2014 are excluded). Temporary suspensions of extended UI programs (Apr, Jun/Jul, and Dec 2010) ignored. Gray areas denote NBER recession dates.

Figure 6



Note: Estimated from monthly CPS data on unemployed individuals ages 26-64, matched across months (corrected for UNU & UEU transitions). States that expanded Medicaid after 2014 are excluded. Vertical line segments show 95% confidence intervals for annual differences.

Figure 7



Note: From regressions using monthly CPS data on unemployed individuals ages 26-64, matched across months (corrected for UNU & UEU transitions). Time=0, corresponding to the calendar year just before implementation of Medicaid expansion, is omitted. Vertical lines show 95% confidence intervals for annual differences.

Table 1: Summary of State Medicaid Expansion Decisions as of 1/1/2017 and UI Benefit Policy

Expansion States		Non-Expansion States (19)
By January 2014 (25)	**After January 2014 (7)**	
Arizona	4/14: Michigan	Alabama
Arkansas	8/14: New Hampshire	Florida
California*	1/15: Pennsylvania	Georgia
Colorado	2/15: Indiana	Idaho
Connecticut*	9/15: Alaska	Kansas
Delaware	1/16: Montana	Maine
District of Columbia*	7/16: Louisiana	Mississippi
Hawaii		Missouri
Illinois		Nebraska
Iowa		North Carolina
Kentucky		Oklahoma
Maryland		South Carolina
Massachusetts		South Dakota
Minnesota*		Tennessee
Nevada		Texas
New Jersey*		Utah
New Mexico		Virginia
New York		Wisconsin
North Dakota		Wyoming
Ohio		
Oregon		
Rhode Island		
Vermont		
Washington*		
West Virginia		
Mean possible Weeks of UI Benefits: Dec. 2013/Jan. 2014		
60.8/25.8	60.7/26.1	46.5/22.6
Fraction of unemployed worker sample in each group		
0.598	0.079	0.323

Notes: * denotes state began implementing Medicaid expansion before January 2014. Federal extended UI benefits expired in January 2014. Figures represent mean weeks for each category of states weighted by non-farm payroll employment in each state.

Table 2: Percent Uninsured by Employment and State Medicaid Expansion Status, 2008-2010

	Non-Expansion States			Expansion States		
	Employed	**Unemployed**	**Difference**	**Employed**	**Unemployed**	**Difference**
All Adults 26-64	0.183	0.561	0.378	0.138	0.443	0.304
By Age						
26 to 39	0.241	0.613	0.372	0.186	0.499	0.312
40 to 54	0.162	0.561	0.398	0.120	0.432	0.312
55 to 64	0.112	0.415	0.303	0.084	0.324	0.240
By Education						
Ed: HS or less	0.110	0.461	0.351	0.084	0.365	0.281
Ed: More than HS	0.312	0.646	0.334	0.244	0.520	0.276
By Race/Ethnicity						
White non-Hispanic	0.125	0.500	0.375	0.095	0.398	0.303
Black non-Hispanic	0.201	0.594	0.393	0.156	0.462	0.306
Asian non-Hispanic	0.187	0.457	0.270	0.128	0.403	0.276
Other non-Hispanic	0.236	0.604	0.368	0.185	0.478	0.293
Hispanic (any race)	0.434	0.733	0.299	0.335	0.576	0.241
By Gender						
Women	0.158	0.500	0.342	0.116	0.370	0.254
Men	0.205	0.611	0.406	0.159	0.499	0.341
By Parental Status						
Non-Parent	0.182	0.596	0.414	0.141	0.490	0.349
Parent	0.184	0.497	0.313	0.138	0.443	0.304
Sample n	1,267,071	90,231		2,122,630	162,950	

Notes: Estimates are for employed and unemployed adults between the ages of 26 and 64. Individuals not in the labor force are excluded.

Table 3: Differences-in-Differences Estimates of the Effect of the ACA Medicaid Expansion on the Probability of Being Uninsured (ACS)
All Expansion States vs. Non-Expansion States

		Education		Parental status		When last worked	
	Full sample	HS or less	> HS	Parent	Non-parent	< 1 year	≥ 1 year
A. Unemployed Adults							
Dependent variable:							
Uninsured	-0.080***	-0.109***	-0.056***	-0.030*	-0.105***	-0.076***	-0.085***
	(0.011)	(0.013)	(0.011)	(0.011)	(0.012)	(0.011)	(0.012)
Medicaid	0.133***	0.143***	0.126***	0.068***	0.163***	0.127***	0.141***
	(0.010)	(0.013)	(0.009)	(0.009)	(0.012)	(0.010)	(0.012)
Private non-group	-0.025***	-0.016*	-0.035***	-0.014*	-0.030***	-0.024***	-0.027***
	(0.006)	(0.006)	(0.006)	(0.007)	(0.006)	(0.006)	(0.006)
Employer	-0.025***	-0.017***	-0.032***	-0.028***	-0.023***	-0.028***	-0.023***
	(0.005)	(0.005)	(0.007)	(0.007)	(0.005)	(0.007)	(0.005)
N	739,821	357,447	382,374	247,479	480,240	413,86	328,435
B. Employed Adults							
Dependent variable:							
Uninsured	-0.008	-0.021*	-0.003	-0.005	-0.009		
	(0.006)	(0.009)	(0.004)	(0.006)	(0.006)		
Medicaid	0.035***	0.058***	0.025***	0.036***	0.035***		
	(0.003)	(0.006)	(0.002)	(0.004)	(0.003)		
Private non-group	-0.015***	-0.019**	-0.012***	-0.015***	-0.015***		
	(0.004)	(0.006)	(0.003)	(0.004)	(0.004)		
Employer	-0.011*	-0.018**	-0.008*	-0.015**	-0.009		
	(0.004)	(0.006)	(0.003)	(0.005)	(0.004)		
N	11,298,996	3,619,312	7,679,684	4,372,618	6,885,983		

*** p < 0.001; ** p < 0.01; *p < 0.05

Table 4: Differences-in-Differences Estimates of the Effect of the ACA Medicaid Expansion on Access to Care (BRFSS)
All Expansion States vs. Non-Expansion States

		Education		Parental status		When last worked		Health is
	Full Sample	HS or less	>HS	Parent	Non-Parent	<1 year	≥ 1 year	fair/poor
A. Unemployed Adults								
Dependent variable:								
Uninsured	-0.075***	-0.077***	-0.073***	-0.022	-0.116***	-0.068***	-0.082***	-0.108***
	(0.014)	(0.016)	(0.014)	(0.014)	(0.019)	(0.017)	(0.018)	(0.023)
Delayed Care	-0.043***	-0.054***	-0.031**	-0.015	-0.067***	-0.030**	-0.057***	-0.091***
	(0.009)	(0.012)	(0.011)	(0.014)	(0.011)	(0.010)	(0.012)	(0.015)
No usual source of care	-0.022*	-0.022*	-0.019	-0.017	-0.027*	-0.010	-0.034	-0.024
	(0.008)	(0.011)	(0.010)	(0.009)	(0.012)	(0.008)	(0.019)	(0.020)
No checkup in past year	-0.011	-0.009	-0.014	-0.006	-0.016	-0.007	-0.016	-0.017
	(0.010)	(0.015)	(0.009)	(0.014)	(0.010)	(0.012)	(0.012)	(0.016)
N	175,295	80,718	94,257	64,051	111,244	85,216	90,079	46,233
B. Employed Adults								
Dependent variable:								
Uninsured	-0.008*	-0.009	-0.007*	-0.007	-0.010**			-0.014
	(0.004)	(0.007)	(0.003)	(0.005)	(0.003)			(0.012)
Delayed Care	-0.002	-0.005	-0.001	-0.001	-0.003			-0.004
	(0.003)	(0.003)	(0.004)	(0.004)	(0.003)			(0.010)
No usual source of care	-0.017**	-0.025**	-0.011*	-0.017*	-0.017*			-0.031*
	(0.006)	(0.009)	(0.005)	(0.007)	(0.007)			(0.012)
No checkup in past year	-0.004	-0.006	-0.002	-0.001	-0.007			-0.011
	(0.007)	(0.008)	(0.007)	(0.009)	(0.006)			(0.013)
N	1,864,865	523,909	1,337,908	781,249	1,083,616			167,982

Notes: *** $p < 0.001$; ** $p < 0.01$; *$p < 0.05$,

Table 5: Differences-in-Differences Estimates of the Effect of the ACA Medicaid Expansion on Unemployment Exits (CPS)

		Education		Parental status		Duration of unemployment	
	Full sample	HS or less	>HS	Parent	Non-Parent	<1 year	≥1 year
Dependent Variable							
Exit to employment	-0.0023	0.0030	-0.0072	0.0006	-0.0040	-0.0033	-0.0009
	(0.0037)	(0.0041)	(0.0062)	(0.0075)	(0.0063)	(0.0048)	(0.0073)
Exit to NILF	-0.0043	-0.0060	-0.0022	-0.0163*	0.0025	-0.0116*	0.0210
	(0.0050)	(0.0071)	(0.0057)	(0.0071)	(0.0073)	(0.0051)	(0.0111)
N	166838	83095	83743	61069	105769	124912	41926

Notes: *** p < 0.001; ** p < 0.01; *p < 0.05

Table 6: Robustness checks
Alternate definitions of expansion states

	All expanders vs non-expanders	2014, 2015 & 2016 expanders vs non-expanders	2015 & 2016 expanders vs non-expanders
	(1)	(2)	(3)
A. Insurance coverage outcomes (ACS)			
Uninsured	-0.080***	-0.078***	-0.068***
	(0.011)	(0.014)	(0.009)
Medicaid	0.133***	0.134***	0.118***
	(0.010)	(0.013)	(0.011)
Private non-group	-0.025***	-0.025***	-0.020***
	(0.006)	(0.006)	(0.005)
Employer	-0.025***	-0.029***	-0.029***
	(0.005)	(0.005)	(0.006)
N	739,821	569,867	348,827
B. Access to care outcomes (BRFSS)			
Uninsured	-0.075***	-0.084***	-0.100***
	(0.014)	(0.019)	(0.013)
Delayed care	-0.043***	-0.038***	-0.022
	(0.009)	(0.010)	(0.012)
No usual	-0.022*	-0.014	-0.016
source of care	(0.008)	(0.008)	(0.012)
No checkup	-0.011	-0.012	-0.013
in past 12 months	(0.010)	(0.011)	(0.015)
N	175,295	143,958	85,817
C. Transitions out of unemployment (CPS)			
Exits to employment	-0.0023	-0.0010	0.0078
	(0.0037)	(0.0038)	(0.0055)
Exits to NILF	-0.0043	-0.0044	-0.0095
	(0.0050)	(0.0058)	(0.0121)
N	166,849	120,933	75,248

Notes: *** $p < 0.001$; ** $p < 0.01$; *$p < 0.05$

UCLA CENTER FOR HEALTH POLICY RESEARCH

Health Policy Brief

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Persistent Gap: Gender Disparities in Health Insurance and Access to Care in California

Tara Becker and Susan H. Babey

SUMMARY: Historically, men have been more likely than women to be uninsured, as well as less likely than women to enroll in public coverage. This policy brief examines gender differences in health insurance coverage and access to care using data from the 2012-2016 waves of the California Health Interview Survey. By the end of 2016, following three years of full health insurance expansion due to the Patient Protection and Affordable Care Act (which went into effect on January 1, 2014), just over 10% of both men and women had gained coverage, leaving the gender gap in uninsured rates intact. These gains in coverage were predominantly the result of increased enrollment in Medi-Cal. Women remained more likely to be enrolled in public health insurance coverage, while men were more likely to have coverage through an employer. The gains in coverage changed the composition of the uninsured and Medi-Cal populations. The socioeconomic status of Medi-Cal enrollees and of men who remained uninsured improved. Men were less likely than women to have contact with the health care system, but they were also less likely to report experiencing delays in care. Though part of this difference could be due to the greater difficulty Medi-Cal enrollees face in accessing care, these gender disparities are also present by health insurance coverage type, suggesting that they cannot be eliminated solely by expanding health insurance coverage.

Prior to the passage of the Patient Protection and Affordable Care Act (ACA) in 2010, nonelderly adult women (ages 18-64) in California were more likely than similarly aged men to have health insurance coverage. Women were more likely than men to qualify for and enroll in public health insurance programs, such as Medicaid.[1] This gender gap in insurance coverage increased during the first year in which the ACA's coverage expansion was fully implemented, as women were more likely to gain coverage, predominantly through higher enrollment in Medi-Cal, California's Medicaid program.[2]

Before the ACA's coverage expansion, adults were eligible for Medi-Cal under a limited number of circumstances: low-income parents of children under age 18, low-income pregnant women, extreme poverty, and disability. Because women face a gender gap in employment and income and are more likely to have custody of young children, they are more likely to meet the eligibility requirements for Medi-Cal. The ACA expanded Medi-Cal coverage to all low-income adults, regardless of parental or disability status, and extended subsidies for purchasing private health insurance coverage to those with incomes below 400% of the federal poverty level (FPL).[3] These changes provided an opportunity to reduce the gender gap in health insurance coverage by removing the child-based and health restrictions for Medi-Cal and making private health insurance more affordable.

Barriers to accessing health care for those who are uninsured are well documented.[4] Those

The California Endowment

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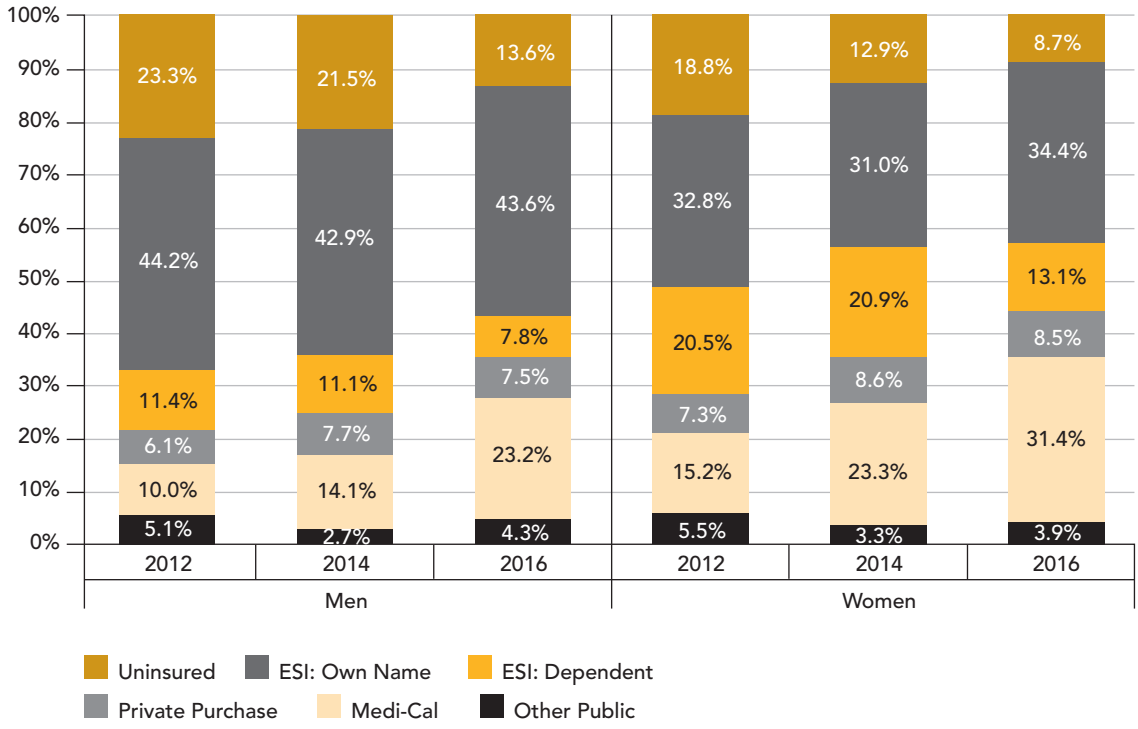
Exhibit 1 **Comparison of Insurance Coverage by Gender, Adults Ages 18-64, California, 2012-2016**



Source: 2012, 2014, and 2016 California Health Interview Survey

Note: ESI refers to employer-sponsored insurance.

enrolled in public health insurance programs, such as Medi-Cal, also face greater difficulty accessing health care than those with private coverage.[5] Because women are more likely than men to be enrolled in public coverage, they may experience greater difficulties accessing care, even though men are less likely to have health insurance coverage. However, the ACA changes in Medi-Cal eligibility requirements could have changed the socioeconomic composition of both the uninsured and those who enrolled in Medi-Cal. This could have led to improvements in access among the Medi-Cal population that are due to changes in the socioeconomic status (SES) of that population rather than to improvements in delivery systems.[6] Similarly, by providing access to health insurance for those with incomes below 400% FPL, the ACA could also have changed the composition of the uninsured population by reducing the percentage of the uninsured who have lower SES.

This policy brief extends previous analyses of gender differences in health insurance coverage among nonelderly adults in California by examining whether women continued to experience larger coverage gains than men after the ACA expansion went into effect. Next, we compare socioeconomic characteristics of men and women by type of health insurance coverage to examine gender differences in composition within insurance type, and to determine whether such compositional differences changed after the ACA's coverage expansion went into effect. Finally, we assess gender differences in access to care and examine whether these differences changed over time.

Men and women experienced similar decreases in uninsured rates under the ACA's coverage expansion.

Though women were more likely to gain health insurance in the first year of the ACA's coverage expansion (2014), two years later, men's gains had caught up (Exhibit 1). In 2012, prior to implementation of the ACA, the uninsured rate was about five percentage points higher among men (23.3%) than among women (18.8%). Between 2012 and 2014, the uninsured rate among men did not change significantly, though it dropped by nearly a third among women,

Socioeconomic Characteristics Within Insurance Type, by Gender, Adults Ages 18-64, California, 2012 and 2016 **Exhibit 2**

	Uninsured					Medi-Cal					ESI: Any Source				
	2012		2016			2012		2016			2012		2016		
	Men	Women	Men	Women		Men	Women	Men	Women		Men	Women	Men	Women	
Education															
<High School	28.6%	27.5%	30.1%	36.8%		32.5%	35.4%	29.0%	28.0%	a	7.7%	7.7%	9.3%	5.1%*	a
High School	34.3%	24.4%*	30.1%	23.6%		33.2%	30.0%	30.2%	26.4%		22.2%	16.2%*	19.0%	15.7%	
Some College	22.7%	29.0%*	18.4%	18.8%	a	24.2%	27.8%	25.2%	29.3%		22.7%	27.4%*	23.2%	21.6%	a
College Degree	14.4%	19.1%*	21.3%	20.8%	b	10.1%	6.8%	15.6%	16.4%	a	47.4%	48.7%	48.5%	57.7%*	a
Employment Status															
Full-Time (21+ hrs/wk)	60.9%	44.1%*	68.0%	47.0%*		45.8%	29.2%*	57.3%	41.3%*	ab	82.8%	65.5%*	83.9%	69.1%*	
Part-Time/Other	10.5%	13.3%	10.6%	15.7%		8.7%	13.3%	11.3%	13.7%		5.4%	10.4%*	6.0%	10.4%*	
Unemployed	18.2%	15.5%	13.0%	8.2%	a	19.3%	14.9%	10.5%	10.6%	b	4.7%	4.8%	2.9%	2.5%	ab
Not in Labor Force	10.4%	27.2%*	8.3%	29.2%*		26.3%	42.6%*	21.0%	34.4%*	a	7.1%	19.3%*	7.2%	18.0%*	
Income as Percentage of FPL															
Under 100% FPL	30.9%	30.8%	25.9%	31.0%		42.2%	57.2%*	37.9%	47.3%*	a	3.8%	7.0%*	3.6%	3.2%	a
100-199% FPL	32.5%	36.0%	23.4%	29.2%	b	30.2%	28.0%	30.1%	29.9%		11.3%	12.2%	9.6%	9.2%	a
200-299% FPL	16.0%	13.4%	23.1%	12.6%		16.2%	9.2%*	14.0%	9.9%		13.6%	12.4%	12.2%	13.3%	
300-399% FPL	7.3%	8.3%	10.2%	6.6%		5.3%	2.7%	5.7%	6.5%	a	13.5%	12.3%	12.1%	13.0%	
400%+ FPL	13.3%	11.6%	17.4%	20.6%		6.1%	2.8%	12.2%	6.5%*	b	57.9%	56.2%	62.6%	61.3%	a
Owns Home	33.9%	40.4%*	29.9%	43.4%		33.8%	22.8%*	30.8%	29.1%		68.4%	71.5%	62.9%	69.1%*	b

* The difference between men and women is significant at p<0.05.

a For women, the change between 2012 and 2016 is significant at p<0.05.

b For men, the change between 2012 and 2016 is significant at p<0.05.

Note: FPL refers to the federal poverty level, and ESI refers to employer-sponsored insurance.

Source: 2012 and 2016 California Health Interview Survey

from 18.8% to 12.9%. By 2016, however, the uninsured rate had dropped significantly among men, to 13.6% — nearly 10 percentage points lower than it had been in 2012. Among women, the uninsured rate also dropped about 10 percentage points from 2012, to 8.7%. The uninsured rate for men in 2016 remained about 5 percentage points higher than that for women.

Decreases in uninsured rates were driven by higher enrollment in Medi-Cal among both men and women.

Though the ACA provides subsidies to purchase health insurance on the private insurance market, the gains in coverage for both men and women between 2012 and 2016 were driven by increased Medi-Cal coverage. Between 2012 and 2016, the percentage enrolled in Medi-Cal increased by nearly 16 percentage points among women (from 15.2% to 31.4%) and by 13 percentage points among men (from 10.0% to 23.2%). Coverage through an employer decreased over this period, but trends differ by source (own vs. dependent coverage). Coverage received through one's own employer remained steady over the period. The drop in employer-sponsored coverage (ESI) was driven primarily by a decline in dependent coverage. The percentage with ESI dependent coverage decreased from 11.4% to 7.8% among men and from 20.5% to 13.1% among women. This decline in dependent ESI coverage for women was more than compensated for by the increase in coverage through Medi-Cal.

Socioeconomic Characteristics of Men and Women by Insurance Type

Most of the change in insurance coverage between 2012 and 2016 was due to changes in the uninsured and enrollment in Medi-Cal and ESI; therefore, in this section our focus is on the SES characteristics of these insurance types (Exhibit 2). Characteristics of those with private purchase coverage, ESI coverage in

their own name, and dependent ESI coverage can be found in the online Appendix (*https://healthpolicy.ucla.edu/publications/search/pages/detail.aspx?PubID=1916*).

Socioeconomic status of uninsured men improved after ACA expansion

In 2012, before the health insurance expansion went into effect, uninsured men generally had a lower SES than uninsured women. Uninsured men were less likely than uninsured women to have attended or graduated from college (37.1% vs. 48.1%) and to own their home (33.9% vs. 40.4%). By 2016, the SES characteristics of uninsured men had improved, while those of women remained mostly unchanged. Uninsured men were as likely as uninsured women to have attended or graduated from college (39.7% vs. 39.6%). The proportion of uninsured men with income below 200% FPL decreased from 63.4% to 49.3%.

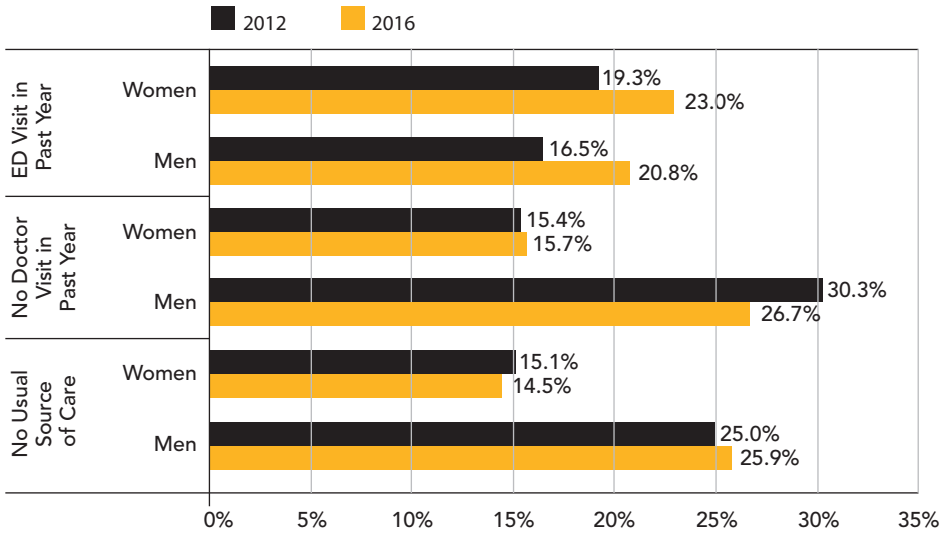
SES higher for both men and women enrolled in Medi-Cal after ACA expansion, but still lower for women than men

Among adults enrolled in Medi-Cal in 2012, women had lower SES than men. Women enrolled in Medi-Cal were more likely than men to be out of the labor force (42.6% vs. 26.3%) and to be living in poverty (57.2% vs. 42.2%). They were less likely to own their own home (22.8% vs. 33.8%). In 2016, after the Medi-Cal expansion, both men and women enrolled in Medi-Cal had higher SES than in 2012; education, employment, and income all increased among both men and women. This increase in socioeconomic status among men and women left the 2012 gender differences within this population intact.

Decline in ESI coverage post-ACA accompanied by increased SES among women with ESI

In 2012, nonelderly adult men and women with insurance coverage through their employer had similar SES levels. Among those with ESI, the proportions of men and women who had a college degree, whose income was above 400% FPL, and who owned their homes were similar. However, men with ESI were more likely than women to be employed for 20 or more hours per week (82.8% vs. 65.5%), and women were more likely to have household incomes below the poverty line. After the ACA's health insurance expansion went into effect, ESI declined due to a reduction in dependent coverage, particularly among women. Consistent with this, we saw significant increases in SES between 2012 and 2016 among women with ESI coverage. In 2016, among those with ESI, women were more likely than men to have a college degree (57.7% vs. 48.5%) and to own their own home (69.1% vs. 62.9%). By 2016, household income had increased among women with ESI coverage, erasing the gender gap that had been present in 2012. Taken together, the increases in socioeconomic status among those with ESI are consistent with the hypothesis that the decline in ESI coverage was driven by the increase in available alternatives to dependent coverage for those with incomes below 400% FPL after the ACA was fully implemented.

Gender Differences in Access to Care, Adults Ages 18-64, California, 2012 and 2016 **Exhibit 3**



Source: 2012 and 2016 California Health Interview Survey

Gender Differences in Access to Care

The growth in health insurance coverage did not always lead to improvements in access to care, nor to decreases in gender disparities in access (Exhibit 3). Men reported weaker ties and fewer contacts with the medical system than women, both overall and within health insurance coverage type. This was true in both 2012 and in 2016, after the health insurance expansion had taken hold.

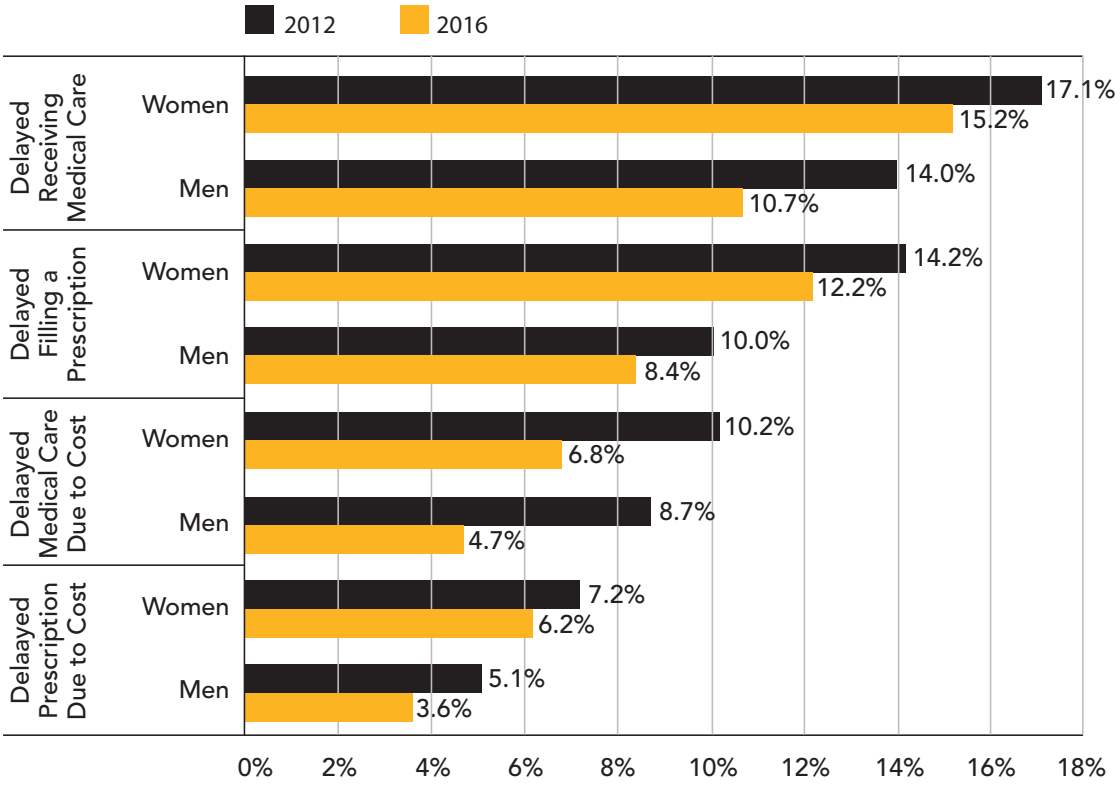
Men More Likely Than Women to Have No Usual Source of Care

Men were less likely than women to have a usual source of care, and this did not change between 2012 and 2016. About one-fourth of the men (approximately 25%) reported they did not have a usual source of care at both time points, compared to roughly 15% of women. The gender gap was largest among the uninsured, who were the least likely to have a usual source of care at both time points, and smallest among those with ESI, who were the most likely to have a usual care source at both time points (data by insurance type are not shown but are available in the online Appendix: *https://healthpolicy.ucla.edu/publications/search/pages/detail.aspx?PubID=1916*). The percentage of men with ESI who had no usual source of care increased significantly between 2012 and 2016. However, there was no change among men overall, because many uninsured men gained coverage through Medi-Cal during this period, and the percentage of Medi-Cal enrollees who lacked a usual source of care was lower than the percentage of uninsured men who lacked a usual source of care.

Men More Likely Than Women to Report No Doctor Visit in the Past Year

Men were more likely than women to report that they hadn't visited a doctor in the past year. The gender gap narrowed slightly between 2012 and 2016, from 14.9 percentage points to 11.0 percentage points, because the percentage of men with no doctor visits in the past year significantly decreased — from 30.3% to 26.7% — while the percentage of women remained at about 15.5%. A gender gap was apparent within each insurance type in both years, but the largest gender gap occurred among the uninsured, who also were the least likely to have visited a doctor in the past year. The overall decline among men was due in part to declines in the uninsured rate, which shifted more uninsured men into Medi-Cal, where they were more likely to have had at least one doctor visit in the past year.

Exhibit 4 **Gender Differences in Delays in Care, Adults Ages 18-64, California, 2012 and 2016**



Source: 2012 and 2016 California Health Interview Survey

ED Visits Higher in 2016 Than 2012 Among Both Men and Women

Overall, both men and women were more likely to have visited the ED in 2016 than in 2012. Among men, the percentage who visited the ED in the past year increased from 16.5% to 20.8%; among women, the percentage increased from 19.3% to 23.0%. Women were more likely than men to report visiting the ED in 2012, but not in 2016. Men and women who were enrolled in Medi-Cal were more likely to have visited the ED in the past year than those who were either uninsured or had ESI throughout the period. The overall increase between 2012 and 2016 was most likely due to the increased enrollment in Medi-Cal in 2016.

Gender Differences in Delays in Care

Though men have fewer ties to the health care system and are less likely to be insured, women are more likely to report experiencing delays in care (Exhibit 4). This was true in both 2012 and 2016. Although delays in care declined somewhat among both women and men, men generally experienced slightly greater improvements.

Women More Likely to Report Delaying Care, Despite Declines in Delays of Care Between 2012 and 2016

Women were significantly more likely than men to report that they had delayed needed medical care in the past year (15.2% vs. 10.7% in 2016). The gender gap remained relatively stable between 2012 and 2016. Both men and women experienced a decline over this period, but only the decline among men was statistically significant. The uninsured were less likely to report delaying medical care in 2016 than they were in 2012, regardless of gender (data by insurance type are not shown but are available in the online Appendix: *https://healthpolicy.ucla.edu/publications/search/pages/detail.aspx?PubID=1916*). Because of this, by

2016, Medi-Cal enrollees had become the most likely group to have delayed medical care.

Women More Likely to Report Delays in Filling a Prescription

Women were significantly more likely than men to report that they had delayed filling a prescription in the past year at both time points. The proportion of women who delayed filling a prescription was approximately 4 percentage points higher than the proportion of men in both 2012 and 2016. Among those with either Medi-Cal or ESI, women were significantly more likely to have delayed filling a prescription in 2012.

Both Women and Men Experienced Declines in Delaying Medical Care Due to Cost

There was no difference between men and women in the percentage who delayed medical care due to cost. Between 2012 and 2016, both men and women experienced a significant decrease in cost-based delays in medical care, with a decline from 8.7% to 4.7% for men and 10.2% to 6.8% for women. The percentage of the uninsured who delayed medical care due to cost decreased by 11.1 percentage points among both men and women. The percentage of Medi-Cal enrollees who experienced a cost-based delay in medical care declined by 6.0 percentage points.

Women Were More Likely to Experience a Delay in Filling Prescriptions Due to Cost in Both 2012 and 2016

Women were more likely than men to experience delays in filling a prescription due to cost at both time points. The percentage of men who experienced a delay in filling a prescription due to cost in the past year significantly decreased, while there was no change among women overall. Among women enrolled in Medi-Cal, the percentage reporting they had delayed filling a prescription due to cost significantly decreased from 7.2% in 2012 to 6.2% in 2016.

Discussion

When fully implemented in 2014, the Affordable Care Act opened new health insurance options to many Californians. As a result, millions of uninsured Californians signed up for Medi-Cal or private purchase health insurance coverage through California's private health insurance exchange, Covered California. Many Californians who had previously received employer-sponsored dependent coverage through a parent or spouse shifted to less expensive coverage through Medi-Cal or the private purchase market. Both men and women benefited from these coverage expansions in similar ways. Because of this, the gender gap in coverage observed prior to implementation of the ACA remained in 2016. Men continued to be more likely to be uninsured, and women continued to be more likely to enroll in public health insurance coverage programs, such as Medi-Cal. Among Californians who remained uninsured in 2016, men were less likely to meet eligibility requirements for Medi-Cal,[7] suggesting that further efforts to increase enrollment in that program under current eligibility rules will not eliminate the gender gap in coverage. Instead, it appears that reducing the gender gap will require expanding access to affordable coverage either through the private market or through the expansion of eligibility requirements for public programs.

The increases in health insurance coverage did not substantially alter gender differences in most measures of health care access and utilization. Both before and after the coverage expansion, women were more likely than men to have a usual source of care and to have visited the doctor in the past year. However, the gender gap for visiting a doctor in the past year became narrower: A decline in the percentage of men who were uninsured led to a decrease in the percentage of men who had not visited a doctor in the past year. The largest gains in access came from decreases over time in delays seeking care, particularly delays due to cost or lack of insurance. Though both men and women experienced fewer delays in general and fewer

delays due to cost or lack of insurance, men tended to see slightly greater improvements, so gender differences in access to care remained stable or grew over the period.

The stability of the gender gap in access to health care could reflect the fact that the ACA's coverage expansion led to similar declines in the uninsured rates of both men and women in California. Moreover, there were few gender differences in the type of coverage gained: Both men and women primarily gained coverage through the expansion of Medicaid, minimizing the impact that this expansion had on gender disparities in access to care. Though these disparities in access are long-standing[8] — due in part to a lack of medical providers who accept the lower reimbursement rates paid by Medi-Cal compared to private health insurance — the rapid growth in enrollment in Medi-Cal after the ACA's expansion of eligibility may have exacerbated these issues.

The expansion of eligibility also affected the socioeconomic composition of the uninsured, Medi-Cal, and ESI populations, which could have contributed to changes over time within these insurance types. However, many of the gender disparities within insurance type did not change in ways that were consistent with these compositional changes. For example, uninsured women experienced reductions similar to those of uninsured men in delays in receiving medical care due to cost, though only uninsured men had higher SES in 2016 than 2012. Therefore, it seems less likely that these compositional changes explain the changes in access by insurance type over time. Though gender disparities might be reduced by expanding coverage, they will not be totally eliminated even if disparities in access to health insurance coverage are diminished. Instead, these disparities might reflect gender-based differences in overall health, health care utilization, and socioeconomic status — differences that are more entrenched and resistant to change.

Data Source and Methods

This policy brief presents data from the 2012, 2014, and 2016 years of the California Health Interview Survey (CHIS), conducted by the UCLA Center for Health Policy Research (CHPR). Health insurance coverage was measured at a point in time (at the time of responding to the survey). As a result, estimates presented here may differ from other sources that report coverage over the past year. CHIS is a telephone survey that uses a dual-frame, random-digit-dial (RDD) technique. Through the use of traditional landline RDD and cell-phone RDD sampling frames, the survey is representative of the state's population. Survey items for the adult modules are self-reported, with data collected by trained interviewers.

CHIS data are collected continuously throughout the year, and each full cycle is comprised of two years. Each year, CHIS completes interviews with adults, adolescents, and parents of children in more than 20,000 households, drawn from every county in the state. Interviews are conducted in English, Spanish, Chinese (both Mandarin and Cantonese), Vietnamese, Tagalog, and Korean. Interviews cover a diverse array of health-related topics, including health insurance coverage, health status and behaviors, and access to health care. CHIS employs a complex survey design that requires analysts to use complex survey weights to provide accurate variance estimates and statistical testing. All analyses presented in this policy brief incorporate replicate weights to provide corrected confidence interval estimates and statistical tests.

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This publication contains data from the California Health Interview Survey (CHIS), the nation's largest state health survey. Conducted by the UCLA Center for Health Policy Research, CHIS data give a detailed picture of the health and health care needs of California's large and diverse population.

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chis.ucla.edu

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Endnotes

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2 Charles SA, Becker T, Jacobs K, Pourat N, Ebrahim R, Kominski GF. 2017. *The State of Health Insurance in California: Findings from the 2014 California Health Interview Survey*. Los Angeles, CA: UCLA Center for Health Policy Research. Available at: *http://healthpolicy.ucla.edu/publications/Documents/PDF/2017/shicreport-jan2017.pdf*

3 The federal poverty level, used to establish eligibility for public programs, is published annually by the U.S. Department of Health and Human Services as the federal poverty guidelines. These guidelines vary by family size. In 2016, 400% FPL for a family of four was $97,200.

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7 Author calculation using estimates from *Ask*CHIS (*ask.chis.ucla.edu*) that compare Medi-Cal eligibility among the uninsured by gender, ages 18-64, in 2016.

8 Becker T, Charles SA, Scheitler AJ, and Ponce N. 2015. *Medi-Cal Versus Employer-Based Coverage: Comparing Access to Care*. Report prepared for the California Health Care Foundation (July 2015). Available for download at: *http://garnerhealth.com/wp-content/uploads/2014/02/PDF-MediCalAccessComparedUCLA.pdf*

ITUP Insure the Uninsured Project

SNAPSHOT

REVISED DECEMBER 2019

REMAINING UNINSURED IN CALIFORNIA

This ITUP Snapshot updates the profile of the state's uninsured using 2018 data from the California Health Interview Survey (CHIS), and projections for 2022 from the California Simulation of Insurance Markets (CalSIM).

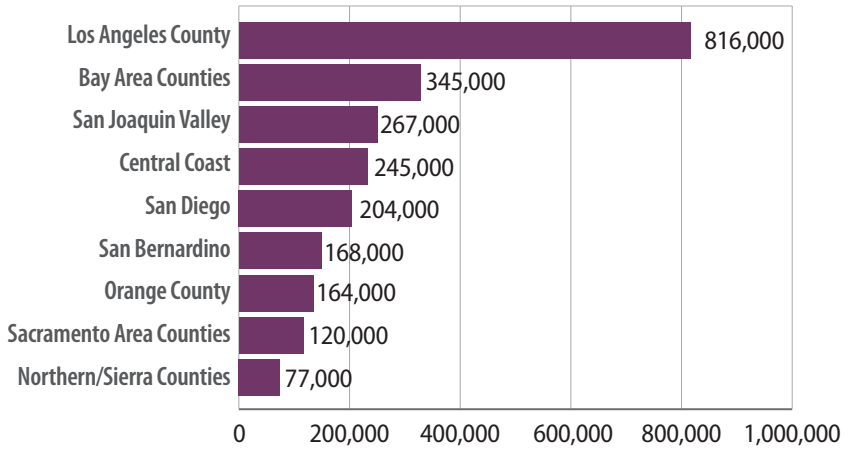
In the years leading up to the Affordable Care Act (ACA), the uninsured rate among Californians under the age of 65 was approximately ***16 percent***.[1] Implementation of the ACA dramatically reduced the rate of uninsured to ***8.1 percent***, or approximately ***2.67 million uninsured*** Californians by 2018.[2] The new CHIS data reveals that California's rate of uninsured remained steady, with no significant changes in the rate between 2017 and 2018.

Who Are California's Uninsured?

According to CHIS, in 2018:

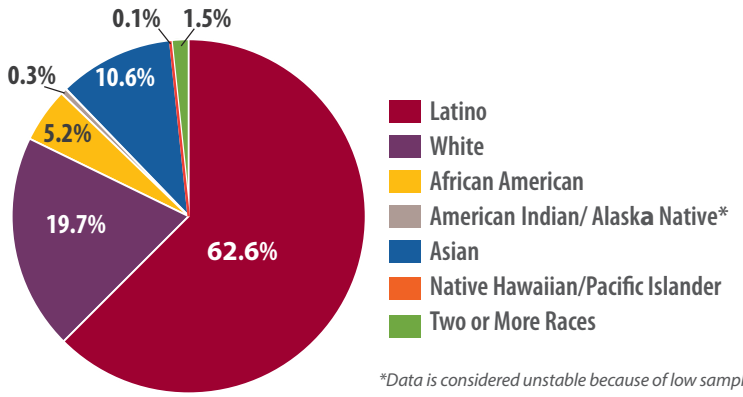
- Region: Los Angeles County had the highest number of uninsured at ***816,000***.[3] The Central Coast region (Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, and Ventura counties) had the highest rate of uninsured at ***12.8 percent***. (Figure 1)
- Race and Ethnicity: Approximately ***63 percent*** of uninsured Californians were Latino.[4] Even though there was no significant change in the rates of the uninsured based on ethnicity and race between 2017 and 2018, Latinos remained significantly more likely to be uninsured than other population groups.[5] (Figure 2)
- Immigration Status: At ***36 percent*** uninsured, non-citizens were more likely to be uninsured than U.S. born or naturalized citizens.[6]

Figure 1. Uninsured Californians Under Age 65 by Region, 2018



Source: 2018 California Health Interview Survey, released October 2019. Chart prepared by Insure the Uninsured Project.

Figure 2. Uninsured Californians Under Age 65 by Race and Ethnicity, 2018



**Data is considered unstable because of low sample size.*

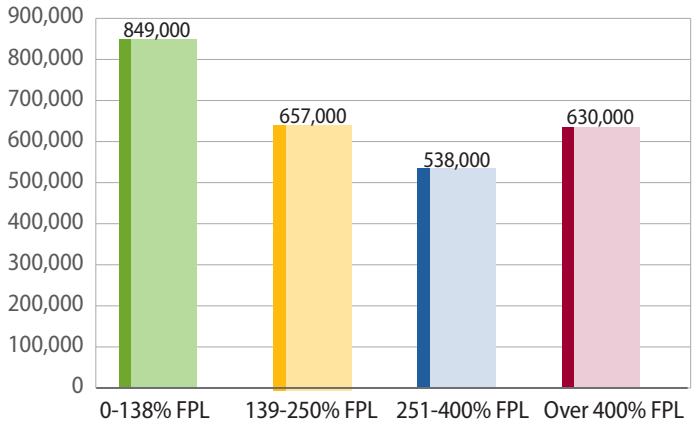
Source: 2018 California Health Interview Survey, released October 2019. Chart prepared by Insure the Uninsured Project.

- Income: Nearly ***849,000*** uninsured Californians had incomes less than 138 percent of the Federal Poverty Level (FPL) ($16,754 for an individual),[7] making them income-eligible for Medi-Cal. ***Almost half*** of California's uninsured, an estimated ***1.2 million***, had incomes of 139-400 percent FPL ($16,875 to $48,560 per year), making them income-eligible for 2018 federal subsidies in the ACA exchange, Covered California. (Figure 3)

  Despite being income-eligible, many uninsured Californians are not eligible to enroll in comprehensive Medi-Cal or Covered California because of their immigration status.

- Children and Youth: An estimated ***226,000*** California children (0-18), and ***454,000*** young adults 19-25, were without coverage in 2018.

Figure 3. Uninsured Californians Under Age 65 by Federal Poverty Level, 2018



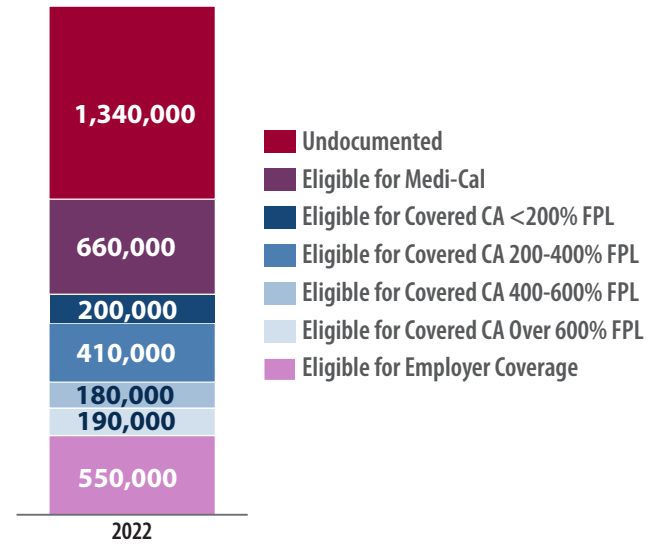
Source: 2018 California Health Interview Survey, released October 2019. Chart prepared by Insure the Uninsured Project.

2022 Projections

The UCLA Center for Health Policy Research and the UC Berkeley Center for Labor Research and Education recently released updated projections for 2022 using the jointly-developed CalSIM model.[8] The new CalSIM projections reflect 2019 state policy changes that expand Medi-Cal to cover undocumented young adults 19-25, provide additional state subsidies for low and moderate income individuals through Covered California, and impose a state coverage requirement (individual mandate). **Importantly, CalSIM projections count as uninsured individuals who only have restricted Medi-Cal, limited to emergency, pregnancy-related services or limited long term care.**

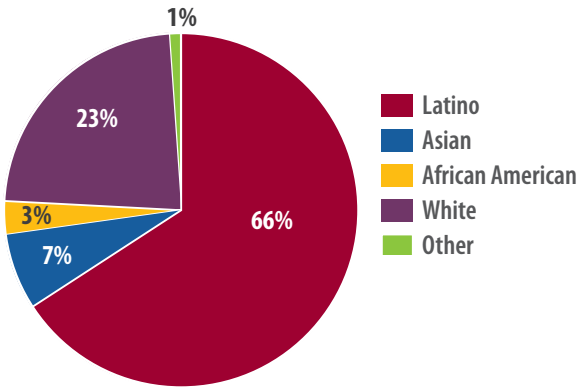
CalSIM projects that, by 2022, absent any further policy changes, the number of uninsured Californians would remain stable at ***3.5 million***. The state's policies will have prevented an estimated ***770,000*** Californians from becoming uninsured by 2022, and ***1.55 million*** Californians could benefit from reduced premiums because of state subsidies or pay lower premiums due to a healthier risk mix. CalSIM estimates that ***970,000*** uninsured Californians will be eligible for Covered California in 2022 and the majority will also be eligible for federal and state subsidies.

Figure 4. Uninsured Californians Under Age 65, 2020 Projections



Source: UCLA- UC Berkeley CalSIM version 2.7, Nov. 2019. Chart prepared by Insure the Uninsured Project.

Figure 5. Uninsured Californians Under Age 65 by Race, 2022 Projections



Source: UCLA- UC Berkeley CalSIM version 2.7, Nov. 2019. Chart prepared by Insure the Uninsured Project.

DATA NOTE: Most estimates of the number of insured in California include individuals who have restricted scope Medi-Cal, a limited program primarily covering undocumented adults for emergency and pregnancy related services. For example, the California Health Interview Survey (CHIS) relies on self-reported insurance status and it is likely that respondents with restricted scope Medi-Cal report they are insured.

However, researchers working with the CalSIM model project rates of uninsured including individuals on restricted scope Medi-Cal as uninsured. The CalSIM approach can help policymakers more fully understand the number of Californians in need of comprehensive health care coverage.

ENDNOTES

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4. 2018 California Health Interview Survey, October 2019.
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About ITUP

Insure the Uninsured Project (ITUP) is a Sacramento-based nonprofit health policy institute that for more than two decades has provided expert analysis and facilitated convenings for California policymakers and decisionmakers focused on health reform.

The mission of ITUP is to promote innovative and workable policy solutions that expand health care access and improve the health of Californians, through policy-focused research and broad-based stakeholder engagement.

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By David Anderson, Jean M. Abraham, and Coleman Drake

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Rural-Urban Differences In Individual-Market Health Plan Affordability After Subsidy Payment Cuts

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ABSTRACT This article investigates changes in the affordability of individual health plans (Marketplace plans) that were compliant with the Affordable Care Act following the termination of cost-sharing reduction subsidy payments in 2017. We examined how states' and insurers' responses to these cuts affected enrollees differently depending on whether they lived in rural or urban geographic areas and were or were not eligible for Advance Premium Tax Credits. Using data for 2014–19 from the Health Insurance Exchange Compare database and other sources, we found that subsidy-eligible enrollees in rural markets gained access to Marketplace plans that were more affordable than those available to their urban counterparts, after the cuts affected premiums in 2018. Average minimum net monthly premiums for subsidized enrollees in majority-rural geographic rating areas decreased from $288 in 2017 to $162 in 2019, while those of their urban counterparts decreased from $275 to $180. In contrast, rural enrollees without subsidies faced the least affordable premiums for Marketplace plans.

In 2018 roughly twelve million consumers purchased coverage that was compliant with the Affordable Care Act (ACA) through the individual market.[1] The ACA sought to improve the affordability of individually purchased health insurance through the Marketplaces, whose implementation began in 2014. Enrollees can buy plans with different levels of financial protection. In the state-run and federally facilitated Marketplaces, bronze-level plans cover 60 percent of claims costs, on average, while silver plans cover 70 percent, gold plans 80 percent, and platinum plans 90 percent. Marketplaces provide Advance Premium Tax Credits (APTCs), subsidies that cap premiums for households with incomes of 100–400 percent of the federal poverty level. (The income of a single person with an income 400 percent of poverty in 2019 is $49,960; the income for a family of four at the same level of poverty is $103,000.) While an eligible enrollee's APTC is based on the difference between the premium of a "benchmark" plan and a designated contribution tied to household income, the APTC can be applied to most plans offered on the Marketplace. In addition to APTCs, the ACA also offers cost-sharing reduction (CSR) subsidies, which reduce out-of-pocket spending on medical care for lower-income households (those with incomes of 100–250 percent of poverty) that enroll in silver plans. Higher-income households (with incomes of over 400 percent of poverty) can purchase unsubsidized coverage on or off the Marketplace.

On October 12, 2017, the federal government announced that payments to insurers for CSR subsidies would be terminated, leading many state regulators to support premium-setting strategies—known as silver loading, silver switching, and broad loading—by insurers that resulted in higher effective APTCs and lower net premiums for most Marketplace enrollees with

APTCs.[2] The potential impact of these strategies on plan affordability can differ across rural and urban areas, given differences in insurance market structure and insurers' behavior. This article examines how the CSR subsidy termination changed plan affordability over time and how affordability differed for enrollees residing in rural and urban markets.

Today, individual-market performance depends on the collaborative actions of federal and state governments as well as the decisions of private insurers to sell coverage and price plans in ways that reflect local market conditions. This can produce dramatically different outcomes within and across states. Evidence suggests that individual-market performance has varied extensively with respect to insurer participation, plan choice, and premiums for enrollees with and without APTCs.[3] Differences in performance between rural and urban geographic markets are particularly striking. Insurer participation is lower in rural markets relative to urban ones, which leads to less competition. In 2019, 44 percent of rural counties had a single Marketplace insurer, while only 14 percent of urban counties did.[4] Lower insurer participation could stem from entry barriers related to smaller population size. In 2016 enrollment in the federally facilitated Marketplaces in rural counties averaged 847 people, while average enrollment in urban counties was 8,803 people.[5] Enrollment rates are also lower in rural counties relative to urban ones,[6] which creates additional uncertainty for insurers with respect to setting premiums. Furthermore, limited provider supply and market concentration have the potential to create entry barriers for insurers in rural markets, particularly given the ongoing trend of rural hospital closures.[7,8]

Additional evidence documents a strong inverse relationship between the number of insurers in a market and premiums.[9,10] Recent work has also found lower premium growth in rating areas with a large metropolitan county.[11] However, even with insurer participation controlled for, there are significant rural-urban differences in premiums—which may reflect underlying differences in provider market competition, enrollment,[12] or the health status of enrollees.[13]

Through legislation and regulatory oversight, states can influence individual-market performance. For example, a decision by state policy makers to expand eligibility for Medicaid affects consumers' access to public coverage and influences the composition of the individual-market risk pool.[14] In many states regulators also engage with insurers to ensure geographic access to plans, review provider network adequacy, and approve proposed rates. Regulators must also respond to federal policy shocks that could affect the individual market in their state. One significant federal policy shock that affected affordability occurred in October 2017, when the administration of President Donald Trump announced the discontinuation of CSR subsidy payments to insurers. The ACA still required insurers to continue offering CSR subsidies to eligible enrollees.

States and insurers responded to CSR subsidy cuts in 2018 using three general approaches to premium setting: silver loading (increasing the premiums of all silver plans offered on or off the Marketplaces), silver switching (increasing only the premiums of on-Marketplace silver plans and offering nearly identical off-Marketplace plans without premium increases linked to CSR subsidy cuts), and broad loading (that is, increasing all plans' premiums). (States' responses to these cuts as of 2019 are presented in more detail below.)

We hypothesized that the effect of silver loading and switching was particularly strong in rural areas because of the higher prevalence of monopolist insurers.[13] Insurers participating in a given rating area must offer at least one silver and one gold plan and may offer more plans. The difference in premiums between the least expensive offered plan and the benchmark plan (the second-lowest-cost silver plan) drives affordability for subsidized enrollees. Monopolists can unilaterally set the premiums of the benchmark silver plan and the lowest-cost plan to price-discriminate among subsidized enrollees. They do this by creating a spread between these two plans' premiums, attracting enrollees with a greater willingness to pay for health insurance to plans such as the benchmark silver plan and enticing enrollees with a lower willingness to pay into the Marketplaces with a low- or zero-premium lowest-cost plan (which is typically a bronze plan).[15] Competitive insurance markets—more likely to be urban markets—will have multiple insurers attempting to capture the benchmark and less expensive plan positions, which leads to a convergence of products and premiums that in turn narrows the potential premium spread. No single insurer in a competitive market is able to freely engage in the same type of strategic behavior that a monopolist can pursue.

This article investigates changes in the affordability of ACA-compliant individual insurance plans before and after the CSR subsidy cuts, with a focus on understanding how variation in states' responses differentially affected enrollees residing in rural and urban areas. State policy makers and regulators play an influential role with respect to how well their individual markets perform on the dimensions of competition, choice, and affordability.[16] We focused on quantifying

the effects of key state policy decisions regarding the CSR subsidy cuts, while we controlled for other state policy and insurance market attributes that could influence affordability. Insights from this analysis can inform future state responses to changes in the legal, regulatory, and competitive dimensions of the individual market, including improved understanding of the distributional effects of state regulatory decisions.

Study Data And Methods

DATA AND MEASURES Our primary data were the April 1, 2019, version of the Robert Wood Johnson Foundation's Health Insurance Exchange (HIX) Compare data for plan years 2014–19.[17] These data describe plan pricing and insurer participation at the level of the geographic rating area (GRA). These are geographic areas (typically clusters of counties) in which insurers must price their plan offerings uniformly before taking account of age adjustments and subsidies. The data include all individual-market plans, both on and off the Marketplace. In conjunction with the HIX Compare data, we used the Henry J. Kaiser Family Foundation's premium tax credit subsidy calculator[18] to identify postsubsidy monthly premiums, or net premiums, for various household income levels. We calculated net premiums for the lowest-cost plan available in each rating area and metal level for on- and off-Marketplace plans. To calculate net premiums, we applied APTCs to on-Marketplace plans' gross premiums for income levels ranging from 100 percent to 400 percent of poverty. For all other plans and income levels, gross premiums were equal to net premiums. We excluded catastrophic plans, as they are primarily available only to people younger than age thirty and are not eligible for APTCs. We also constructed a measure of the number of unique on-Marketplace insurers in each GRA.

We used three supplementary data sets. First, we used 2010 US census data to classify GRAs as majority rural or majority urban. We classified a GRA as majority urban or majority rural by using as the numerator the sum of the rural populations of each county within the GRA according to the 2010 census and using as the denominator the total population of the GRA's counties.[19] GRAs whose populations were more than 50 percent rural were classified as majority rural, and other GRAs were classified as majority urban. Second, we used Kaiser Family Foundation data on states' decisions to expand Medicaid eligibility and maintain a state-based Marketplace.[20] Third, we used data compiled by Charles Gaba and coauthors on states' responses to CSR payment cuts.[21]

Marketplace plans have become more affordable for subsidized rural enrollees compared to their urban counterparts.

Our final analytic sample consisted of 476 GRAs with data for 2014–19, 139 of which were majority rural and 337 of which were majority urban. We excluded 26 GRAs whose boundaries were not defined by county lines or had changed over the study period. This restriction removed rating areas from Alaska, Idaho, Massachusetts, Nebraska, and Washington, as well as Los Angeles County, California, from our analysis. State-based Marketplace plans' premiums were unavailable in the 2014 HIX Compare data.

ANALYSIS We measured affordability as the post-APTC monthly premium of the lowest-cost plan available to a single, fifty-year-old, nonsmoking adult (we refer to this as the minimum net premium). For subsidized enrollees (that is, enrollees with incomes of 100–400 percent of poverty), the minimum net premium is the dollar amount an enrollee must pay to obtain the lowest-cost plan after the application of the APTC. Formally, the APTC is the difference between the Essential Health Benefits share of the premium of the benchmark silver plan and the maximum out-of-pocket spending required of an enrollee based on their household income. For unsubsidized enrollees (that is, enrollees with incomes that exceed 400 percent of poverty), the minimum net premium simply equals the premium for the lowest-cost plan. Throughout our analysis we examined minimum net premiums for a single, fifty-year-old, nonsmoking adult with an income of 400 percent and those for a similar person with an income of 401 percent of poverty to represent the subsidized and unsubsidized enrollee segments, respectively. We also examined other income and age groups in supplemental analyses.

We used bivariate analyses as well as multivariate regression to compare how minimum net premiums changed over time and across income

levels for enrollees residing in majority-rural or majority-urban GRAs. Our regression analyses used generalized linear models with log links and gamma distributions to estimate how minimum net premiums for subsidized and unsubsidized enrollees were associated with state policy decisions and insurer participation in the period 2014–19. We stratified our analysis by majority-rural and majority-urban GRAs to be able to assess whether the patterns of association differed for rural and urban markets. Explanatory variables included states' responses to CSR subsidy cuts: no response, silver loading, silver switching, broad loading, or mixed loading. We also included time-varying indicators for Marketplace type and Medicaid expansion status. Given the prevalence of monopolies in rural GRAs,[15] we measured insurer participation as an indicator equal to 1 if the on-Marketplace GRA was served by a monopolist, and equal to 0 otherwise. To control for time-invariant GRA characteristics and year-specific trends, we included GRA and year fixed effects in our models. The state policy and monopoly variables were thus identified by changes in state policy and insurer participation over time within GRAs. Finally, we clustered standard errors at the state level, since this was the geographic unit at which key policy decisions were made.

LIMITATIONS Our study had several limitations. First, the HIX Compare data do not describe variation in ACA-compliant plan offerings at the county level, even though insurers can and do vary their offerings across counties within GRAs.[22] This may have led to measurement error in minimum net premiums and monopoly status. While county-level plan offering data are available in the qualified health plan landscape file,[23] those data exclude state-based Marketplace information.

Second, we did not adjust net premiums for the inclusion of benefits other than Essential Health Benefits, such as chiropractic care or abortion services not eligible for federal funding. This limitation could mean that we slightly overestimated the affordability of Marketplace plans for subsidized enrollees.

Third, our regression did not control for unobserved time-varying GRA characteristics, such as incremental changes in states' administration of their Marketplaces or shifting political opinions about the Marketplaces within rating areas.

Fourth, we were forced to exclude three states with significant rural populations (Alaska, Idaho, and Nebraska), because these states defined their rating areas at the three-digit ZIP code level, which prevented us from consistently assigning rating areas as majority urban or majority rural.

Finally, our analysis examined the affordability of only the lowest-cost plan. We were not able to assess affordability among plans purchased by enrollees.

Study Results

In response to cuts in CSR subsidies, in 2019 eleven states used silver loading, thirty-one used silver switching, three used broad loading, and five used a combination of approaches ("mixed loading") (exhibit 1). The District of Columbia did not respond to CSR subsidy cuts, as its Medicaid eligibility level (215 percent of poverty) largely nullified their effect. Broad loading may have decreased affordability for unsubsidized enrollees by burdening them with the costs of the cuts. Silver loading may have had a similar effect, but only for silver plans. Silver loading and switching may have increased affordability for subsidized enrollees by increasing the size of APTCs, which are tied to silver plan premiums.

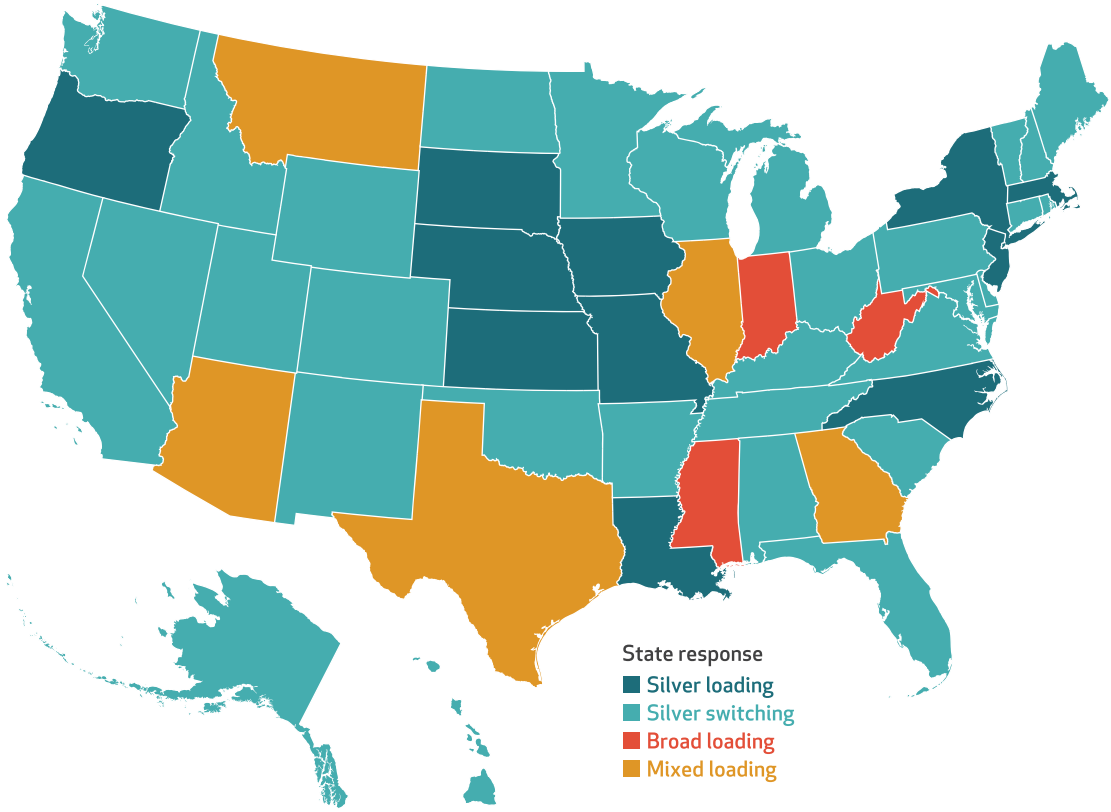
From 2014 to 2017 average minimum net monthly premiums were higher for subsidized enrollees in majority-rural GRAs than for those in majority-urban GRAs (exhibit 2). After CSR subsidy cuts and states' responses in 2018 and 2019, minimum net premiums decreased more for subsidized enrollees in majority-rural GRAs than for their urban counterparts. As shown in exhibit 2 and online appendix exhibit A2,[24] the premiums for subsidized enrollees in majority-rural GRAs decreased from $288 in 2017 to $157 in 2018, while their urban counterparts' premiums decreased from $275 to $180. Unsubsidized enrollees in majority-rural GRAs have experienced higher premiums than their urban counterparts have since 2014. Unsubsidized enrollees in majority-rural and -urban GRAs experienced large increases in premiums in 2017 and 2018; increases in 2019 were modest.

GRAs in states that used strategies other than broad loading saw large reductions in average minimum net premiums in 2017 and 2019 for subsidized enrollees (exhibit 3). Regardless of the strategy that was implemented, decreases in premiums were larger for subsidized enrollees in majority-rural GRAs than for those in majority-urban GRAs. For example, in states that used silver switching, premiums decreased by $151 for subsidized enrollees in majority-rural GRAs, but by only $75 for those in majority-urban GRAs. Unsubsidized enrollees saw a premium increase in both majority-urban and -rural GRAs across all responses. On average, premiums increased from 2017 to 2019 by $91 in majority-rural GRAs and by $86 in majority-urban GRAs (appendix exhibit A3).[24] We found similar patterns for different income levels and age groups.

Exhibit 4 provides the results of our regression

EXHIBIT 1

States' responses in 2019 to cuts in cost-sharing reduction (CSR) subsidies



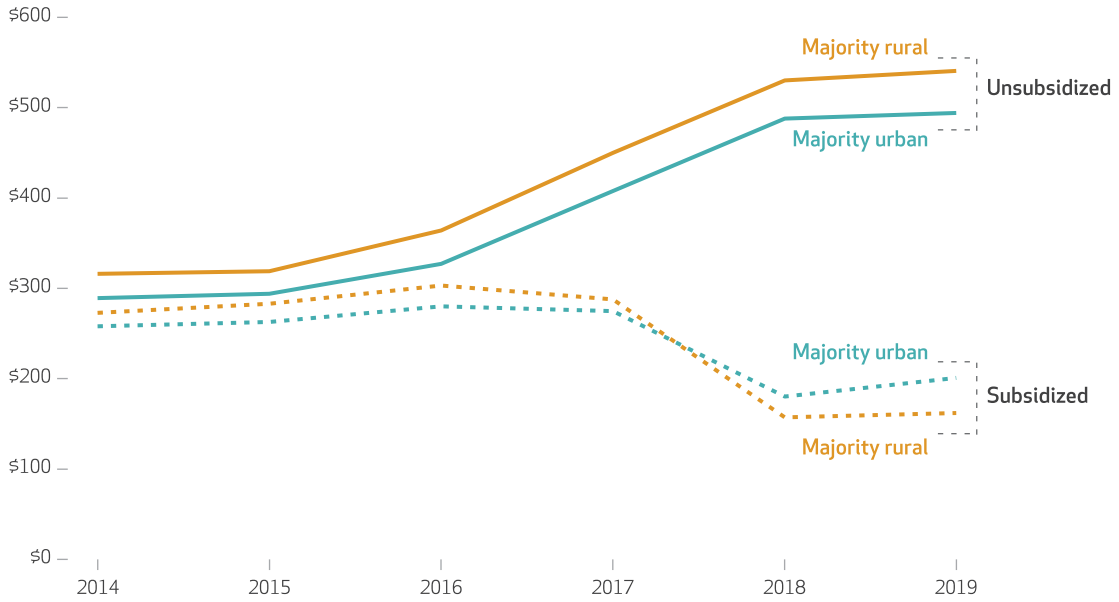
SOURCE Authors' analysis of data from Gaba C, et al. 2019 CSR load type (see note 21 in text). **NOTES** Silver-loading states offset the costs of the CSR subsidy cuts by increasing premiums only for silver plans. Silver-switching states offset the costs by increasing premiums only for on-Marketplace silver plans. Broad-loading states increased the premiums for all plans. Mixed-loading states allowed insurers to pursue their own loading strategies. The District of Columbia did not respond to subsidy payment cuts, as explained in the text. Minnesota and New York responded to the cuts as indicated, but their responses had minimal impact on premiums because their Basic Health Programs cover people who would be eligible for Marketplace coverage with incomes below 200 percent of the federal poverty level.

models that controlled for factors leading to variation in minimum net monthly premiums from 2014 to 2019 . For subsidized enrollees, GRAs in states that responded to CSR subsidy cuts using silver loading, mixed loading, or silver switching had significantly lower minimum net monthly premiums relative to GRAs in states before the cuts. For example, premiums were $216 lower, on average, than before the cuts in majority-rural GRAs in states that used silver switching. In majority-urban GRAs this decrease was $140, on average. Regardless of states' responses to the cuts, decreases in premiums were larger for enrollees in majority-rural GRAs than those in majority-urban GRAs. Silver switching was associated with premium decreases of $33 and $43 for unsubsidized enrollees in majority-rural and -urban GRAs, respectively. Mixed loading was associated with premium decreases of $169 for subsidized enrollees in majority-rural GRAs but with increases of $46 for unsubsidized enrollees in those areas. It was also associated with premium decreases of $108 for subsidized enrollees in majority-urban GRAs. Other state responses to the CSR subsidy cuts were not associated with significant changes in premiums for unsubsidized enrollees. As shown in appendix exhibit A4,[24] we found similar results when examining other income groups and household types, with the exception that younger, single enrollees with higher incomes had premiums that were more similar to those of unsubsidized enrollees, as their gross premiums were too low to qualify for premium assistance.

Our analyses also illustrate associations between insurance market structure and minimum net monthly premiums, when we controlled for states' responses to the CSR subsidy cuts (exhibit 4). As hypothesized, monopoly GRAs were associated with premiums for subsidized enrollees that, on average, were lower than those in GRAs with more than one insurer, although the

EXHIBIT 2

Average minimum net monthly premiums for subsidized and unsubsidized enrollees in majority-rural and majority-urban geographic rating areas, 2014–19



SOURCE Authors' analysis of Health Insurance Exchange (HIX) Compare data for 2014–19 and of data for 2010 from the Census Bureau. **NOTES** The minimum net monthly premium is the premium for the lowest-cost plan in the geographic rating area (defined in the text) after Advance Premium Tax Credits have been applied. The premiums shown are those for single, fifty-year-old, nonsmoking adults with incomes of 400 percent (subsidized) or 401 percent (unsubsidized) of the federal poverty level.

association was significant only in majority-urban GRAs. For unsubsidized enrollees in both majority-rural and -urban GRAs, markets served by a single insurer were associated with higher premiums.

With respect to other state policies, having a state-based Marketplace was associated with lower minimum net monthly premiums, if we

EXHIBIT 3

Average minimum net monthly premiums in 2017 and 2019, by enrollees' subsidy status, rurality of geographic rating areas (GRAs), and states' responses to cuts in cost-sharing reduction subsidies

	Subsidized enrollees			Unsubsidized enrollees		
Rurality and state response	**2017**	**2019**	**Change**	**2017**	**2019**	**Change**
Majority-rural GRAs (139)						
Silver loading (17)	$294	$150	$–144***	$471	$560	$ 89***
Silver switching (102)	300	149	–151****	465	516	51***
Broad loading (11)	313	312	–1	384	649	265
Mixed loading (9)	251	155	–96**	499	692	193***
All	288	162	–126****	450	541	91****
Majority-urban GRAs (337)						
Silver loading (51)	280	191	–89**	436	495	59**
Silver switching (205)	285	210	–75****	386	473	87****
Broad loading (23)	326	339	13	373	456	83
Mixed loading (57)	262	195	–67**	435	501	66***
All	275	180	–74****	408	494	86****

SOURCE Authors' analysis of Health Insurance Exchange (HIX) Compare data for 2017 and 2019 and of data for 2010 from the Census Bureau. **NOTES** State responses are explained in the notes to exhibit 1. Minimum net monthly premiums, subsidized and unsubsidized enrollees, and GRAs are explained in the notes to exhibit 2. Numbers in parentheses represent numbers of GRAs both in total for majority-rural and majority-urban and for each state response. For statistical comparisons, we estimated bivariate linear regressions and clustered standard errors at the state level. **$p < 0.05$ ***$p < 0.01$ ****$p < 0.001$

EXHIBIT 4

Average changes in minimum net monthly premiums associated with states' responses to cuts in cost-sharing reduction (CSR) subsidies and other policies, by enrollees' subsidy status and rurality of geographic rating areas (GRAs)

	Subsidized enrollees		Unsubsidized enrollees	
	Majority-rural GRA	Majority-urban GRA	Majority-rural GRA	Majority-urban GRA
State response (ref: not responding to CSR subsidy cuts)				
Silver loading	$ −191.14****	$ −126.62****	$ 28.31	$ −2.76
Silver switching	−215.88****	−139.44****	−33.11*	−42.52**
Broad loading	−72.45**	−36.74	−11.87	−24.97
Mixed loading	−169.45****	−107.67****	45.76***	0.47
Other state policies				
Having a state-based Marketplace	−164.62****	−73.10***	−34.92***	−20.36
Medicaid expansion	60.70*	31.00*	−39.63	−40.27
Monopoly GRA[a]	−22.17	−44.34****	36.57***	45.73****
Sample size	823	1,951	823	1,951

SOURCE Authors' analysis of Health Insurance Exchange (HIX) Compare data for 2014–19; Henry J. Kaiser Family Foundation data on the individual health insurance market; data on states' responses to CSR subsidy payment cuts from Gaba C, et al. 2019 CSR load type (see note 21 in text); and data from the Census Bureau. **NOTES** The unit of analysis is the GRA-year. The years include 2014 through 2019, although 2014 state-based Marketplaces were excluded because they were not included in the HIX Compare data. State responses are explained in the notes to exhibit 1. Subsidized and unsubsidized enrollees are explained in the notes to exhibit 2. All specifications include GRA and year fixed effects and are estimated as generalized linear models with log links, gamma distributions, and state-clustered standard errors. The data shown reflect average marginal effects. Model outcomes are minimum net monthly premiums (explained in the notes to exhibit 2). Regarding the reference category, all states did not respond to CSR subsidy reductions before 2018. Minnesota, New York, and the District of Columbia are coded as not responding to the cuts, as explained in the notes to exhibit 1. [a]GRAs with only one on-Marketplace insurer. *$p < 0.10$ **$p < 0.05$ ***$p < 0.01$ ****$p < 0.001$

held all else constant (exhibit 4). Medicaid expansion was associated with lower premiums for unsubsidized enrollees but higher premiums for subsidized enrollees. This latter finding was not unexpected. Medicaid expansion lowers gross premiums,[25] which leads to lower net premium spreads and thereby increases minimum net premiums for subsidized enrollees.[15]

Discussion

Plan affordability—a key policy goal of the ACA—remains an ongoing priority for state and federal policy makers. Marketplace affordability is influenced by the interactions of APTC design, insurers' behavior, and state policy decisions. Our analyses demonstrated that following the termination of federal payments to insurers for CSR subsidies in 2017, differences in plan affordability have become more pronounced by subsidy eligibility. We also found that in contrast to previous years, Marketplace plans have become more affordable for subsidized rural enrollees compared to their urban counterparts.

Subsidized enrollees in urban markets experienced greater affordability following CSR subsidy termination, although the degree of change was likely dampened by two factors: insurer participation and Medicaid expansion. Urban markets typically are more competitive than rural ones, which means that they tend to have smaller spreads between their benchmark premiums and premiums for their lowest-cost plans, and thus higher minimum net premiums. Accordingly, our multivariate results suggested that majority-urban GRAs that transitioned to monopoly market structures during the study period were associated with lower minimum net premiums for subsidized enrollees. Notably, while we observed increased plan affordability among majority-urban GRAs with monopoly structures, these are relatively rare, accounting for only 14 percent of GRA-years in our sample.

States that decided to proactively load CSR subsidy costs via silver loading or switching increased plan affordability for subsidized enrollees relative to states that chose to do nothing or pursued broad loading. Conversely, states' decisions to expand public coverage programs, including Medicaid, for populations with incomes in excess of 100 percent of poverty reduced the size of the CSR-eligible population and the amount of potential financial losses that insurers might need to cover through the loading of premiums.

Subsidized enrollees in rural markets experienced greater increases in plan affordability following the CSR subsidy termination. Their subsidized urban counterparts also experienced improvements in affordability. However, major-

ity-rural GRAs were much more likely than majority-urban ones to be served by monopolist insurers, which could fully leverage silver loading or switching to increase revenue from premium tax credits and reduce minimum net premiums.

For unsubsidized enrollees in urban markets, plan affordability did not improve dramatically, although urban markets with larger numbers of insurers may have experienced stronger price competition, which controlled premium growth more effectively relative to urban markets with only one insurer. Small business owners, middle-class professionals, and others with incomes above 400 percent of poverty continue to face increasing premiums for coverage that provides relatively low financial protection against medical expenses. Lastly, unsubsidized enrollees residing in rural markets have fared the worst, given unlimited premium exposure and lack of insurer competition.

There are no policies that can offer all populations—rural and urban, healthy and unhealthy, subsidized and unsubsidized—high-quality insurance for low premiums. Even silver loading and switching, which were particularly beneficial to subsidized rural enrollees, include potential trade-offs between financial protection and premiums in that they may encourage enrollment in less generous bronze plans.[15,26] However, not all people who have access to zero-premium plans will choose them. After states responded to CSR subsidy cuts in 2018, enrollment in bronze and gold plans increased for people with incomes of 300–400 percent of poverty.[2]

Given continued affordability challenges, particularly for unsubsidized enrollees, states are pursuing additional policy changes. States have three primary options for reducing premiums for households ineligible for federal APTCs: direct subsidization, indirect subsidization, and endorsement of parallel markets. Examples of direct subsidies include premium rebates, such as the 25 percent premium subsidy that Minnesota implemented for nonsubsidized consumers in 2017.[27] More recently, California has decided to provide state-funded direct subsidies beginning in 2020 that will cap the benchmark premium for people earning 401–600 percent of poverty at 18 percent of household income.[28]

Indirect subsidization through state-based reinsurance programs authorized by Section 1332 waivers is another way to enhance plan affordability. Reinsurance covers a portion of the spending incurred by insurers for high-cost enrollees' expenses.[29] While reinsurance lowers gross premium levels and thereby benefits unsubsidized enrollees, it can reduce affordability for subsidized enrollees.

As a third strategy, states can facilitate parallel markets for insurance or insurance-like products. Short-term limited-duration plans and association health plans[30] are examples of non-ACA-compliant insurance that enlarge parallel underwritten markets.[31] Farm Bureau plans in Kansas, Iowa, and Tennessee are insurance-like products that avoid insurance regulations. Finally, health care sharing ministries are unregulated organizations that facilitate the sharing of health care costs among members who have common religious or ethical beliefs, but their products may offer limited financial benefits and contain coverage exclusions for people with preexisting conditions.[32] These parallel markets provide lower monthly costs and potentially catastrophic financial protection for qualified people. However, the availability of these products can increase average risk scores in the ACA-compliant market, which leads to higher premiums and reduced affordability for remaining unsubsidized people.

Conclusion

Affordability is a key dimension of individual-market performance. This study has demonstrated how plan affordability is changing over time and has shown that there are clear disparities between rural and urban areas as well as by household income. As states continue to grapple with affordability challenges, policy makers must prioritize the needs of different segments of the enrollee population and investigate the distributional effects of their strategies for those populations. ■

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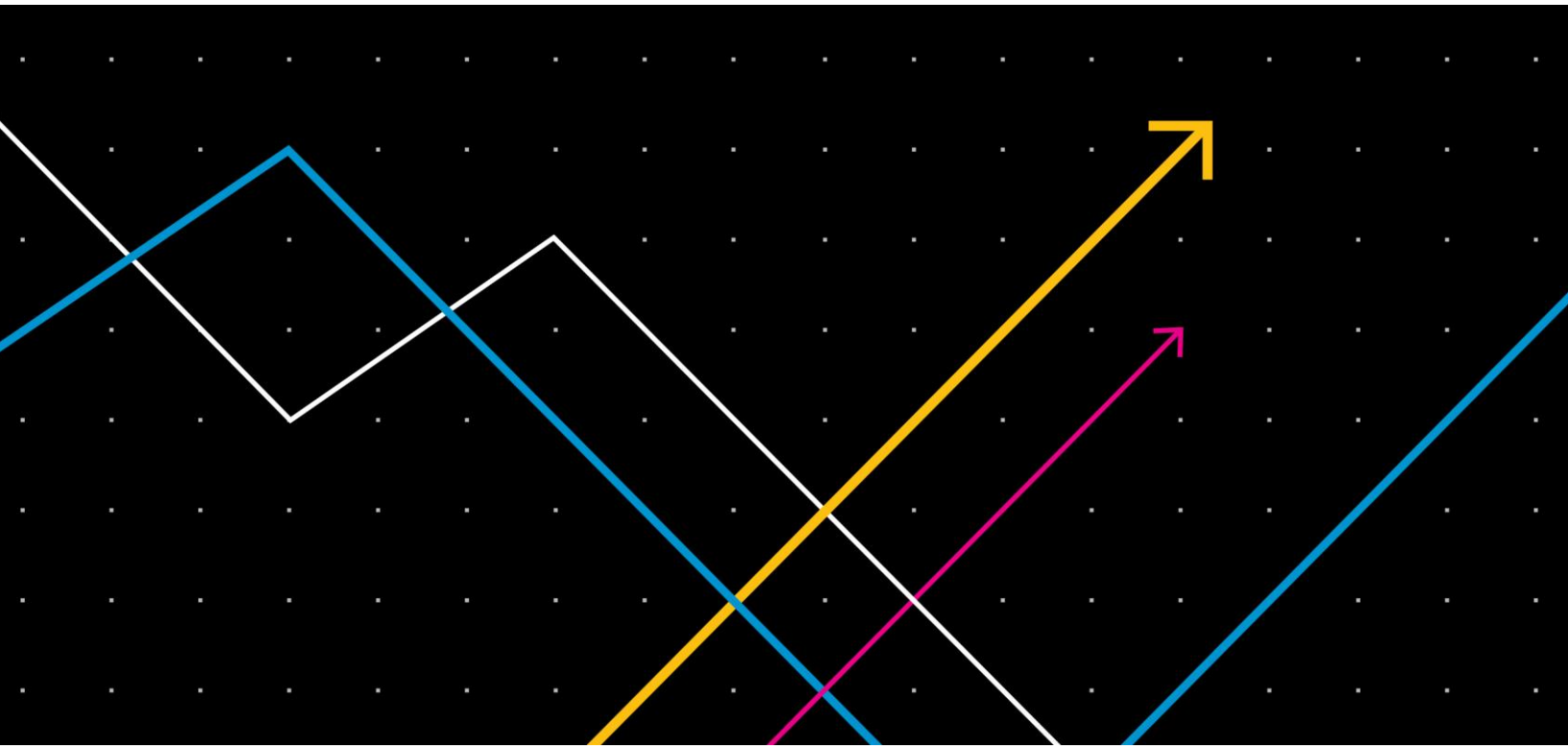

RESEARCH REPORT

The Uninsured in New Mexico

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Contents

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The Uninsured in New Mexico

Health insurance coverage expanded substantially in the United States after the implementation of the Affordable Care Act (ACA) in 2014; between 2013 and 2016, the number of uninsured people fell by 18.5 million (Skopec, Holahan, and Elmendorf 2018). Those gains in coverage are distributed unevenly across states, depending in part on states' decisions to expand Medicaid. Beginning in 2017, however, coverage gains have stalled, and recent evidence finds a slight increase in the number of uninsured nationally (Skopec, Holahan, and Elmendorf 2019). Policymakers in New Mexico, like those in many other states, are looking for ways to build on the ACA to stabilize and increase coverage for their constituents. To help with those efforts, we examine the characteristics of uninsured New Mexicans, highlighting populations that could benefit from targeted policies.

We estimate that New Mexico's total population is 2.15 million in 2019, of whom 1.78 million are under age 65 (hereafter called the nonelderly). Of those nonelderly residents, we estimate about 187,000, or 10.5 percent, are uninsured in 2019. This is lower than the national uninsurance rate for this population (11.2 percent).

This brief presents detailed information on New Mexico's nonelderly uninsured population using a rich set of demographic, employment, citizenship, and family income characteristics. We also present estimates of the distribution of the uninsured population by their eligibility for Medicaid or premium tax credits in the ACA Marketplace. New Mexico is one of 33 states that chose to expand Medicaid to low-income nondisabled adults under the ACA, and this decision has had substantial implications for the number and characteristics of people who remain uninsured in 2019. Finally, we present information on how the uninsured population is distributed by substate regions within New Mexico. Our detailed analysis provides valuable information to state policymakers designing policies and outreach that aim to expand insurance coverage in the state.

Our analysis is based on the Urban Institute's Health Insurance Policy Simulation Model (HIPSM). HIPSM is a powerful analytic tool that estimates insurance coverage and costs under current conditions and possible future changes in policy. With data on over 6 million people, the model can produce estimates for specific states and substate regions. HIPSM is calibrated to match the most recent administrative data on enrollment in Medicaid and the Marketplaces, and its health care expenditure estimates align with state totals. Simulated decisions within HIPSM, grounded in the best available

economic research, predict how individuals, families, and employers will respond to changes in the availability and costs of coverage. We explain the model's capabilities and limitations further in the methods section at the end of this brief.

Statewide Findings

Here we discuss select results from the detailed findings presented in the tables. Table 1 provides data on the uninsured nationally and in New Mexico.

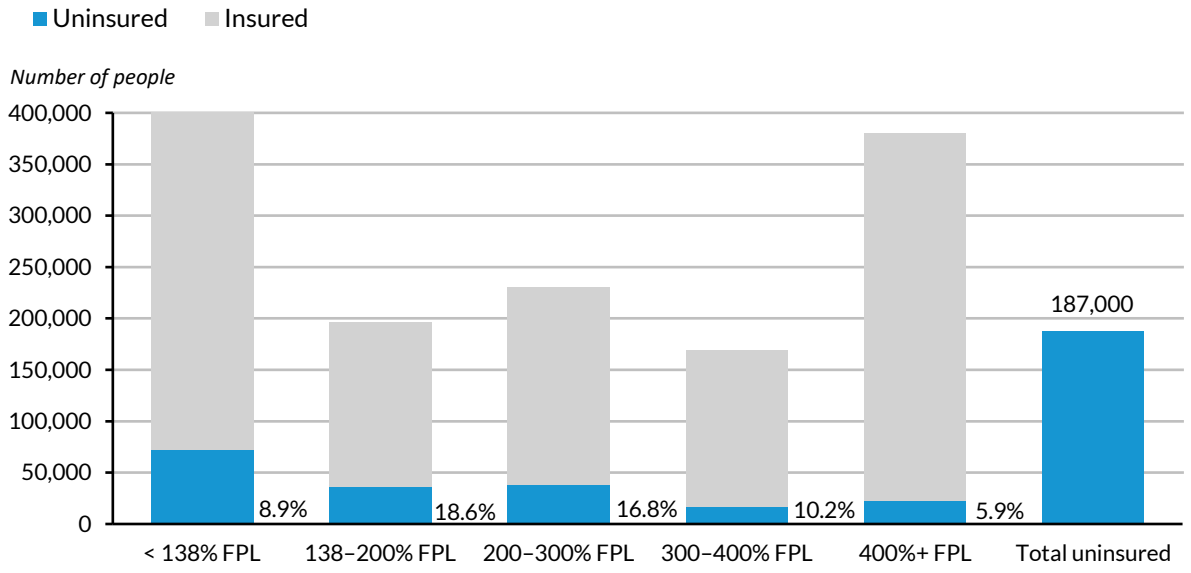
Socioeconomic Characteristics

Income. The distribution of uninsurance by income shows the impact of New Mexico's Medicaid expansion (table 1). About 39 percent of the uninsured in New Mexico have incomes below 138 percent of the federal poverty level (FPL). However, this income group has a lower uninsurance rate (8.9 percent) than all other income groups but the wealthiest (with incomes over 400 percent of FPL). Conversely, in states that have not expanded Medicaid, this lowest-income group generally has the highest uninsurance rate (Skopec, Holahan, and Elmendorf 2019). Nationwide, combining states that have and have not expanded Medicaid as of 2017, about 55 percent of the uninsured have incomes below 138 percent FPL, and 16.6 percent of people in that income range are uninsured.

The next income group, 138 to 200 percent of FPL, makes up almost 20 percent of New Mexico's uninsured population and has an uninsurance rate of 18.6 percent. Similarly, the third income group, 200 to 300 percent of FPL, also composes about one-fifth of the uninsured population and has an uninsurance rate of 16.8 percent. Those with incomes in the highest two groups make up a smaller portion of the uninsured and have lower uninsurance rates (figure 1). Estimates of the uninsured by adjusted gross income show similar findings; uninsurance rates among those with the lowest incomes are below the national average, at least partially because the state expanded Medicaid. Uninsurance rates increase as income increases between $10,000 and $50,000 but falls again as incomes increase further.[1]

FIGURE 1

Health Coverage and Uninsurance Rates among Nonelderly New Mexicans, by Income As a Percentage of the Federal Poverty Level, 2019



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Source: Urban Institute Health Insurance Policy Simulation Model.

Notes: FPL = federal poverty level. Data include those below age 65 not enrolled in Medicare. Because 807,000 New Mexicans have incomes below 138 percent of the federal poverty level, the bar representing this group extends beyond the chart.

TABLE 1

Characteristics of the Nonelderly Uninsured in New Mexico, 2019

	National			New Mexico					
	Uninsured under Current Law			Uninsured under Current Law			Uninsured American Indians		
	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)
Total	**30,832**	**100.0**	**11.2**	**187**	**100.0**	**10.5**	**37**	**100.0**	**16.2**
Modified adjusted gross income as a percentage of FPL									
<= 138% FPL	16,813	54.5	16.6	72	38.6	8.9	20	53.9	14.0
139–200% FPL	4,630	15.0	16.2	37	19.5	18.6	6	16.1	20.8
200–300% FPL	4,774	15.5	12.8	39	20.7	16.8	6	17.6	27.9
300–400% FPL	2,139	6.9	7.0	17	9.2	10.2	2	4.5	11.9
> 400%	2,476	8.0	3.2	22	12.0	5.9	3	7.8	15.0
Adjusted gross income									
<$1	4,087	13.3	17.5	21	11.2	11.1	11	28.8	29.1
$1–10,000	4,097	13.3	18.7	15	7.9	7.9	4	10.0	10.9
$10,000–25,000	7,907	25.6	18.0	44	23.6	12.1	7	20.0	13.3
$25,000–50,000	8,231	26.7	14.1	61	32.5	15.6	9	23.3	15.5
$50,000–75,000	3,518	11.4	8.4	25	13.5	10.3	4	11.9	18.4
$75,000–100,000	1,376	4.5	4.8	10	5.1	5.7	1	3.9	12.6
> $100,000	1,617	5.2	2.9	12	6.2	4.8	-	NA	NA
Race/ethnicity									
Non-Hispanic white	12,131	39.3	7.7	38	20.5	6.4			
Hispanic	11,901	38.6	21.2	105	55.9	11.9			
Non-Hispanic black	4,054	13.1	11.4	4	1.9	10.0			
Asian and Pacific Islander	1,592	5.2	10.2	3	1.4	8.9			
American Indian/Alaska Native	737	2.4	14.4	37	19.7	16.2			
Other	417	1.4	8.0	1	0.6	5.8			
Age									
0–18	4,721	15.3	5.9	30	15.8	5.5	7	19.9	8.6
19–34	12,029	39.0	17.1	73	39.3	16.2	14	38.6	23.8
35–54	10,513	34.1	12.8	66	35.2	12.8	11	28.8	18.5
55–64	3,569	11.6	8.5	18	9.7	6.5	5	12.8	18.6
Sex									
Male	16,734	54.3	12.3	105	56.4	11.8	20	55.1	18.1
Female	14,098	45.7	10.2	81	43.6	9.2	17	44.9	14.4

	National			New Mexico					
	Uninsured under Current Law			Uninsured under Current Law			Uninsured American Indians		
	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)
Education level	**26,111**	**100.0**	**13.4**	**157**	**100.0**	**12.6**	**29**	**100.0**	**20.7**
Less than high school	6,233	23.9	30.8	40	25.3	24.8	5	18.4	27.4
High school	10,704	41.0	15.8	60	38.2	14.1	13	45.1	23.0
Some college	5,692	21.8	11.1	38	24.0	10.2	9	31.4	18.7
College graduate	3,481	13.3	6.3	20	12.5	6.8	2	5.2	10.0
English proficiency	**26,111**	**100.0**	**13.4**	**157**	**100.0**	**12.6**	**29**	**100.0**	**20.7**
Speaks English very well or better	18,542	71.0	10.7	114	72.2	10.2	28	93.6	20.8
Does not speak English very well or is less proficient	7,569	29.0	35.9	44	27.8	34.4	2	6.4	19.5
Employment status									
Family									
No workers	6,956	22.6	17.6	38	20.1	11.3	15	40.2	23.8
Only part-time worker(s)	2,609	8.5	15.6	11	6.0	8.8	2	4.7	11.2
One full-time worker	17,352	56.3	11.9	109	58.1	11.5	16	44.8	13.8
More than one full-time worker	3,916	12.7	5.4	30	15.9	7.8	4	10.3	12.7
Individual	*26,111*	*100.0*	*13.4*	*157*	*100.0*	*12.6*	*29*	*100.0*	*20.7*
Not working	9,155	35.1	16.1	49	30.9	11.5	15	50.7	22.4
Part-time	2,464	9.4	13.9	12	7.5	10.8	1	4.0	13.1
Full-time	14,492	55.5	12.1	97	61.6	13.6	13	45.3	20.1
Employer offer for health coverage in the family									
No offer	21,281	69.0	22.7	125	66.9	16.9	27	73.9	23.2
At least one family member has an employer coverage offer	9,552	31.0	5.3	62	33.1	5.9	10	26.1	8.8

	National			New Mexico					
	Uninsured under Current Law			Uninsured under Current Law			Uninsured American Indians		
	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)
Major industry	**16,081**	**100.0**	**11.8**	**103**	**100.0**	**12.6**	**14**	**100.0**	**19.1**
Agriculture, forestry, fishing, and hunting	532	3.3	29.3	4	3.6	25.4	-	NA	NA
Mining	85	0.5	9.7	4	3.9	17.7	-	NA	NA
Manufacturing	1,419	8.8	9.6	5	5.0	12.2	-	NA	NA
Construction	2,085	13.0	23.8	15	14.7	25.4	1	8.0	25.2
Wholesale and retail trade	2,383	14.8	12.5	14	14.1	13.2	2	16.6	23.6
Transportation and utilities	699	4.3	10.3	3	2.9	7.8	-	NA	NA
Information	186	1.2	6.5	-	NA	NA	-	NA	NA
Financial activities	573	3.6	6.4	4	3.5	10.1	-	NA	NA
Professional and business services	1,920	11.9	12.7	9	8.6	10.4	1	9.5	26.1
Educational and health services	2,063	12.8	6.5	16	15.7	7.9	4	27.3	17.5
Leisure and hospitality	2,742	17.0	21.9	18	17.8	21.4	2	12.3	17.7
Other services	1,229	7.6	18.6	7	7.0	17.4	-	NA	NA
Public administration	164	1.0	2.5	3	2.5	4.0	1	8.7	13.9
Firm size	**13,572**	**100.0**	**11.0**	**87**	**100.0**	**11.9**	**14**	**100.0**	**19.2**
1–49 people	5,730	42.2	18.2	38	43.8	19.5	5	38.0	25.5
50–99 people	824	6.1	11.5	4	4.2	9.8	-	NA	NA
100–499 people	1,598	11.8	9.9	10	11.4	12.4	1	9.6	18.3
500–999 people	612	4.5	8.5	3	3.9	9.0	-	NA	NA
1,000+ people	4,808	35.4	7.9	32	36.7	8.4	6	43.1	16.1
Citizenship status									
Individual									
US citizen	21,514	69.8	8.6	124	66.5	7.5	36	99.0	16.1
Noncitizen	9,319	30.2	40.8	63	33.5	50.3	-	NA	NA
Family									
All US citizens	19,880	64.5	8.5	117	62.9	7.6	36	98.9	16.2
At least one noncitizen	10,952	35.5	26.7	69	37.1	29.4	-	NA	NA
Family SNAP receipt									
No SNAP receipt	23,141	75.1	10.4	135	72.2	10.1	24	65.2	17.3
At least one family member receives SNAP	7,692	24.9	14.6	52	27.8	11.5	13	34.8	14.5

	National			New Mexico					
	Uninsured under Current Law			Uninsured under Current Law			Uninsured American Indians		
	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)
Eligibility for government subsidized health insurance									
Medicaid/CHIP	9,535	30.9	9.8	56	29.9	6.1	21	57.8	13.2
Marketplace subsidy	4,882	51.2	19.5	43	22.9	29.0	8	21.9	37.3
Not eligible for Medicaid/CHIP or Marketplace subsidy	16,415	172.2	10.8	88	47.2	12.2	7	20.3	17.1
Special coverage									
Medicaid/CHIP-eligible children with uninsured parents	*2,258*	*100.0*	*24.7*	*17*	*100.0*	*27.4*	*6*	*100.0*	*80.1*
At least one parent eligible for Medicaid	1,392	61.7	29.1	11	66.5	28.5	5	81.6	86.9
At least one parent eligible for Marketplace subsidy, none eligible for Medicaid	196	8.7	22.1	2	10.1	28.7	-	NA	NA
No parent eligible for assistance	670	29.7	19.2	4	23.4	24.4	-	NA	NA
Eligible for Medicaid/CHIP or Marketplace subsidy	*14,417*	*100.0*	*11.8*	*109*	*100.0*	*9.3*	*31*	*100.0*	*16.0*
At least one noncitizen family member	3,301	22.9	17.0	26	25.9	18.3	-	NA	NA
All family members are citizens	11,116	77.1	10.8	83	84.2	9.0	31	104.8	16.9
Ineligible for Medicaid/CHIP or Marketplace subsidy	*16,415*	*100.0*		*88*	*100.0*				
Income is too high	3,219	19.6		27	30.1				
Family ESI offer	2,283	13.9		21	24.1				
Immigration status/length of residency	10,914	66.5		40	45.8				
Uninsured noncitizens, by age	**9,319**	**100.0**		**63**	**100.0**				
0–18	713	7.7		9	14.4				
19–34	4,031	43.3		25	40.0				
35–54	3,890	41.7		26	40.7				
55–64	685	7.3		3	4.9				

	NATIONAL			NEW MEXICO					
	Uninsured under Current Law			Uninsured under Current Law			Uninsured American Indians		
	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)
Geography									
Albuquerque				55	29.2	9.7	5	13.7	13.6
Northwest				21	11.1	16.0	19	52.3	18.9
Farmington, Bloomfield, and Aztec cities				8	4.5	10.0	3	7.7	12.1
North Central				10	5.5	9.8	2	5.1	17.4
Eastern Plains				9	5.0	11.1	-	NA	NA
Santa Fe County				15	8.2	12.8	-	NA	NA
Sandoval County				9	4.7	7.5	3	7.2	13.1
Valencia, Bernalillo East Mountains, and Isleta Pueblo				7	3.9	8.8	1	3.8	19.0
Southwest				7	3.6	8.2	-	NA	NA
Doña Ana County				19	10.2	10.4	-	NA	NA
Central Southwest				14	7.3	11.0	2	4.6	22.9
Far Southeast				13	6.7	12.0	-	NA	NA

Source: Urban Institute Health Insurance Policy Simulation Model.

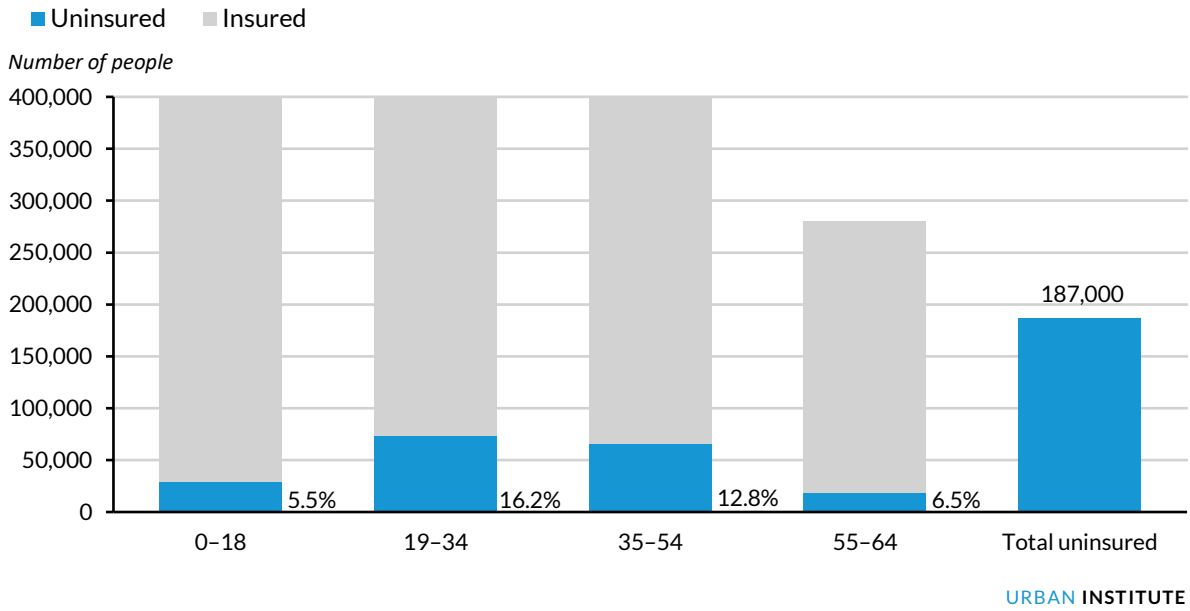
Notes: FPL = federal poverty level. CHIP = Children's Health Insurance Program. ESI = employer-sponsored insurance. Dashes indicate that data were suppressed for being smaller than 1,000, or no record exists. NA means the category does not apply. Data include those below age 65 not enrolled in Medicare. The upper end of income ranges is not inclusive. For example, $10,000–25,000 includes incomes greater than or equal to $10,000 but less than $25,000. Estimates of workers by major industries and firm size exclude active-duty military members, those unemployed, and those who do not report the industry and size of their employer.

Race and ethnicity. American Indians (grouped together with Alaska Natives in census data) have the highest uninsurance rate of any racial and ethnic group in New Mexico (table 1). In 2019, about 16.2 percent of American Indians report being uninsured, totaling about 37,000 people, or one-fifth of all uninsured people in the state. Hispanics are next most likely to be uninsured in New Mexico; 11.9 percent of the state's Hispanics are uninsured, yet these 105,000 people compose more than half of the uninsured population. Though non-Hispanic whites make up more than a fifth of the uninsured, their uninsurance rate is far lower (6.4 percent). We provide a more detailed analysis of uninsured American Indians in the next section.

Age. With an uninsurance rate of 16.2 percent, adults ages 19 to 34 are more likely to be uninsured than other age groups (figure 2). Adults ages 35 to 54 also have a higher-than-average uninsurance rate (12.8 percent). Combined, uninsured people in these two age groups constitute nearly three-quarters of all nonelderly uninsured people in the state (table 1).

FIGURE 2

Health Coverage and Uninsurance Rates among Nonelderly New Mexicans, by Age, 2019



Source: Health Insurance Policy Simulation Model.
Note: Data include those below age 65 not enrolled in Medicare. Because 538,000 New Mexicans are from birth to age 18, 453,000 are ages 19 to 34, and 513,000 are ages 35 to 54, the bars representing these groups extend beyond the chart.

Sex. Males are more likely to be uninsured (11.8 percent) than females (9.2 percent).

Education and English proficiency. One in four New Mexican adults with less than a high school education is uninsured (table 1). Adults with a high school education report a 14.1 percent uninsurance rate, and those with additional education beyond high school are less likely to be uninsured. Among people who report being less proficient in English, more than one-third (34.4 percent) are uninsured (table 1). As shown in table 2, educational attainment and English proficiency are correlated; among the 40,000 uninsured New Mexican adults with less than a high school education, roughly 60 percent (24,000 people) report not speaking English very well. These factors demonstrate the state's need for targeted outreach and application assistance. Even among uninsured people with a high school degree or more education, one-sixth still have difficulties with English.

TABLE 2

English Proficiency and Education Level among Nonelderly New Mexicans, 2019

	Education Level					
	Less Than High School		High School or Higher		Total	
	1,000s of people	Share of total uninsured population (%)	1,000s of people	Share of total uninsured population (%)	1,000s of people	Share of total uninsured population (%)
English proficiency						
Speaks very well or better	16	10.4	97	61.8	114	72.2
Less proficient	24	14.9	20	12.8	44	27.8
Total	**40**	**25.3**	**118**	**74.7**	**157**	**100.0**

Source: Urban Institute Health Insurance Policy Simulation Model.
Note: Data include those below age 65 not enrolled in Medicare.

Employment-Related Characteristics

Family work and employer-sponsored insurance offer status. Employment does not guarantee access to health coverage. An estimated 80 percent of the uninsured are in a family including at least one worker: 58.1 percent of the uninsured are in a family with one full-time worker, an additional 15.9 percent are in a family with more than one full-time worker, and 6.0 percent are in families with part-time workers only. Despite these high levels of participation in the labor force, only 33.1 percent of the uninsured are in families where even one member is offered coverage through an employer.

Adult employment status, industry, and firm size. Looking at New Mexico's uninsured population of employed adults ages 19 to 64, we find that 61.6 percent work full time and another 7.5 percent work

part time (table 1). Those who work in agriculture, construction, and hospitality industries have the highest uninsurance rates of 25.4 percent, 25.4 percent, and 21.4 percent respectively. This pattern holds true at the national level as well. Constituting 43.8 percent of uninsured adult workers, workers employed in small firms (with fewer than 50 employees) are more likely to be uninsured (19.5 percent) than workers in larger firms.

Citizenship. Two-thirds (66.5 percent) of uninsured New Mexicans are US citizens, and 62.9 percent are in families that consist entirely of citizens. Just over half of noncitizens are uninsured. Among people living in a family with at least one noncitizen, 29.4 percent are uninsured.

Supplemental Nutrition Assistance Program (SNAP) participation. About 28 percent of the uninsured are in families where at least one person receives SNAP benefits. Among all people in families receiving SNAP benefits, slightly more than 11 percent are uninsured.

Uninsured American Indians

As noted above, we find that American Indians have the highest uninsurance rate (16.2 percent) of any racial/ethnic group in New Mexico; the 37,000 uninsured nonelderly American Indians in New Mexico account for roughly 20 percent of all uninsured nonelderly residents in the state (table 1, third set of columns). More than half of uninsured American Indians live in families with incomes below 138 percent of FPL. American Indians with incomes between 200 and 300 percent of FPL, however, have the highest uninsurance rate (28 percent). Similarly, we find that 57.8 percent of uninsured American Indians are eligible for Medicaid but are not enrolled in the program. Another 21.9 percent are eligible for subsidies in the Marketplace but have not signed up.

American Indian children in New Mexico are at a higher risk of being uninsured (8.6 percent) than the average child in the state (5.5 percent). Nearly 24 percent of American Indians ages 19 to 34, are uninsured, compared with 16 percent of all young adults in New Mexico. Uninsured American Indians are more likely to have completed high school and speak English well, but they are less likely to be working and more likely to be receiving SNAP than uninsured people of all races/ethnicities in New Mexico. More than one-third of uninsured American Indians report receiving SNAP.

Our analysis also reveals that American Indian workers, across all industries, are more likely to be uninsured than all of New Mexico's workers combined (19.1 percent versus 12.6 percent). Moreover, American Indian workers in wholesale and retail trade, professional and business services, educational

and health services, and public administration have a higher uninsurance rate than those of all workers employed in the same industries.

We also find that the distribution of uninsured American Indian workers by industry differs from that of other uninsured workers in New Mexico. The largest share (27 percent) of uninsured American Indian workers is employed in educational and health services. This is surprising, because workers in this industry have a low uninsurance rate both nationally (6.5 percent) and in New Mexico (7.9 percent). More than twice as many American Indian workers in education and health services are uninsured (17.5 percent) compared with all New Mexican workers in that industry. One-sixth of uninsured American Indian workers, the second largest share, are employed in wholesale and retail trade. Almost one-quarter of such workers are uninsured. This is a much higher uninsurance rate than that of all wholesale and retail workers in the state. Though less than one-tenth of uninsured American Indian workers work in public administration, they are more than three times as likely to be uninsured (13.9 percent) as all New Mexican workers in public administration (4.0 percent). Similar to other uninsured workers in the state, uninsured American Indian workers are highly concentrated in small firms with fewer than 50 employees (where employers are less likely to offer insurance coverage) and the largest firms of more than 1,000 employees (simply because of their large size).

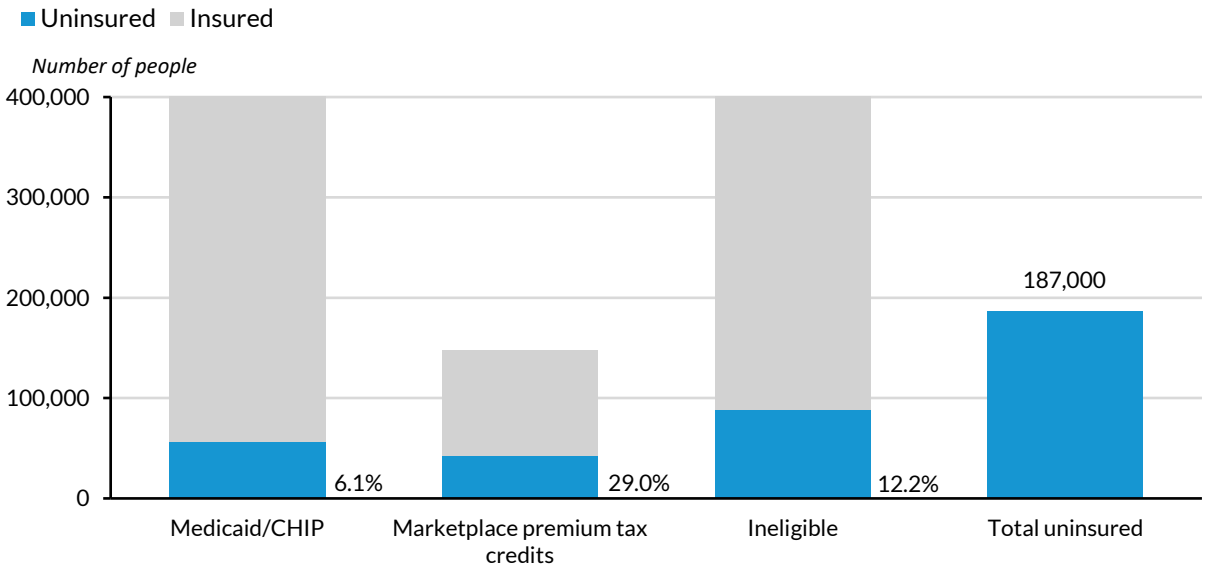
Uninsured American Indians are more likely to live in certain regions of the state. More than half live in Northwest New Mexico, and nearly 14 percent live in Albuquerque. The two areas including (1) Farmington, Bloomfield, and Aztec cities and (2) Sandoval County each contain over 7 percent of the uninsured American Indian population.

The Uninsured by Eligibility for Medicaid/CHIP and Marketplace Premium Tax Credits

Figure 3 divides New Mexico residents into categories based on eligibility for Medicaid/CHIP and Marketplace premium tax credits. Just 6.1 percent of the 915,000 nonelderly people eligible for Medicaid or the Children's Health Insurance Program (CHIP) are uninsured. In contrast, 29.0 percent of the 148,000 people eligible for Marketplace subsidies are uninsured. About 12 percent of the 721,000 New Mexico residents ineligible for either program are uninsured. The group eligible for Medicaid has the lowest risk of uninsurance of the three eligibility groups, but the group comprises 56,000 people, a large share (30 percent) of the 187,000 uninsured people in the state. The 43,000 people eligible for Marketplace subsidies have the highest risk of uninsurance.

FIGURE 3

Health Coverage and Uninsurance Rates among Nonelderly New Mexicans, by Eligibility for Medicaid/CHIP and Marketplace Premium Tax Credits, 2019



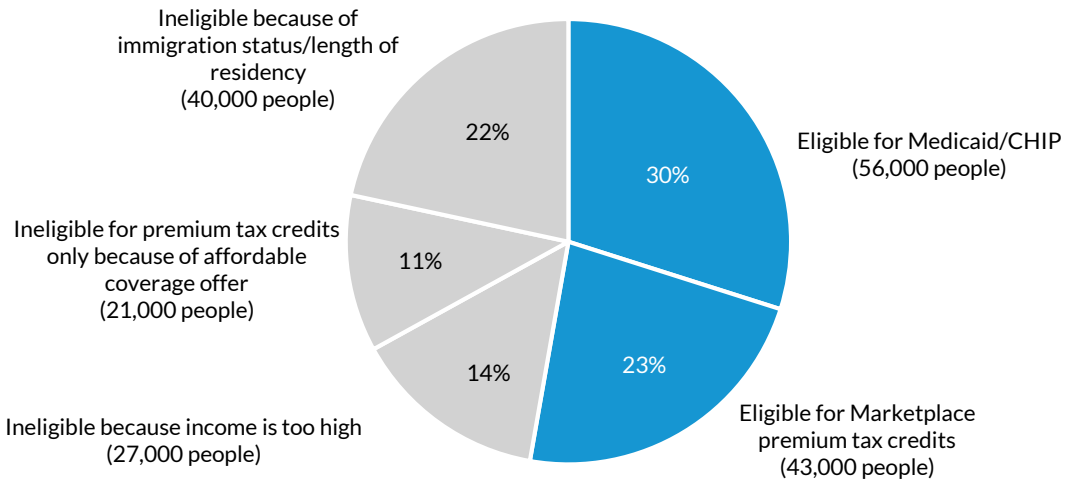
URBAN INSTITUTE

Source: Urban Institute Health Insurance Policy Simulation Model.
Notes: CHIP = Children's Health Insurance Program. Data include those below age 65 not enrolled in Medicare. Because 915,000 New Mexicans are eligible for Medicaid/CHIP and 721,000 are ineligible for both Medicaid/CHIP and Marketplace premium tax credits, the bars representing these groups extend beyond the chart.

Thus, most uninsured New Mexico residents (53 percent) are eligible for free or subsidized insurance (figure 4). Almost 30 percent of the uninsured are eligible for Medicaid or CHIP (56,000 people), and more than a fifth (23 percent) are eligible for premium tax credits for private health coverage in the Marketplace (43,000 people). More than one-fifth of the uninsured (40,000 people) are ineligible for subsidies or Medicaid because of their immigration status. Approximately a quarter of uninsured New Mexicans are ineligible for free or subsidized insurance for other reasons; 14 percent have incomes too high to qualify for subsidies and 11 percent have an offer of insurance coverage through their or a family member's employer deemed affordable according to the ACA that makes them ineligible for subsidies.

FIGURE 4

Uninsured Nonelderly New Mexicans, by Eligibility for Medicaid/CHIP and Marketplace Premium Tax Credits, 2019



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Source: Urban Institute Health Insurance Policy Simulation Model.
Notes: CHIP = Children's Health Insurance Program. Data include those below age 65 not enrolled in Medicare.

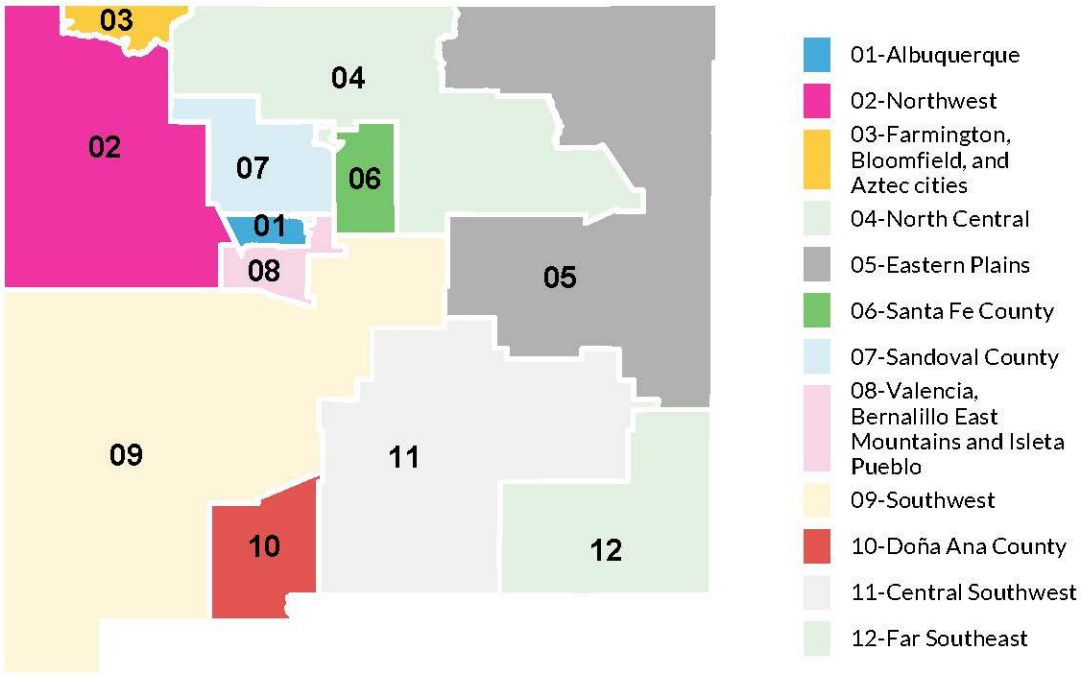
As discussed further below, the large share of uninsured New Mexicans eligible for free or subsidized health insurance suggests there may be strategies for policymakers to pursue that would increase awareness of eligibility or ease the enrollment process, potentially reducing uninsurance in the state.

The Uninsured by Substate Region

The number of uninsured people varies significantly across the state, and thus area of residence is another important variable to consider when designing strategies for increasing coverage. A separate supplemental table displays additional detail for the uninsured population in each of 12 substate regions.[2] Figure 5 identifies these 12 regions, the smallest sections of the state we can analyze with our data. About 30 percent of the uninsured (55,000 people) live in Albuquerque (figure 6). The two regions with the next highest shares of the uninsured include Northwest New Mexico (11 percent, or 21,000 people) and Doña Ana County (10 percent, or 19,000 people). Northwest New Mexico also has the highest uninsurance rate at about 16 percent. Figure 7 shows the uninsured share of each region's population.

FIGURE 5

Substate Regions of New Mexico, 2019



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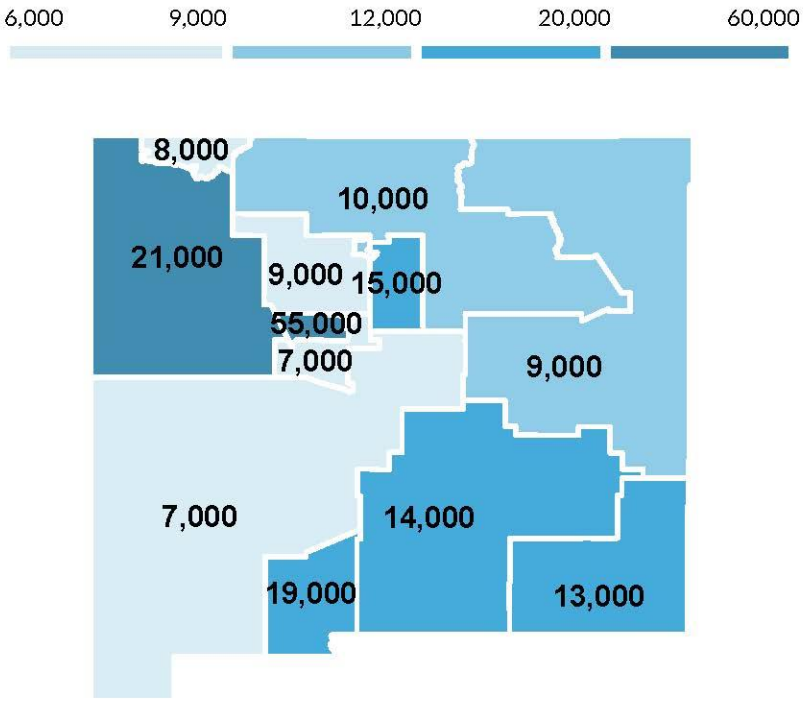
Source: Urban Institute Health Insurance Policy Simulation Model.
Note: Data include those below age 65 not enrolled in Medicare.

FIGURE 6

Distribution of 187,000 Uninsured Nonelderly New Mexicans, by Substate Region, 2019

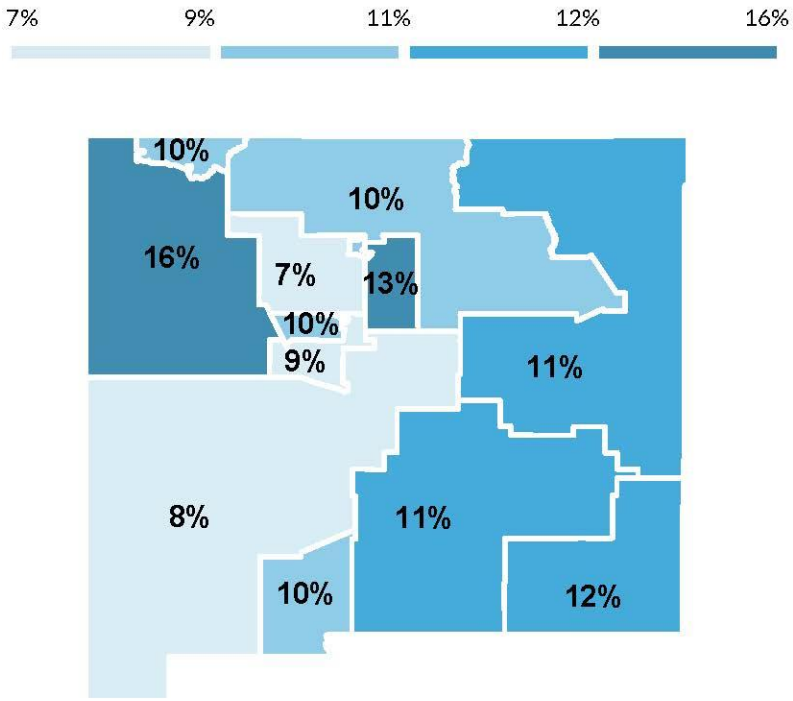


URBAN **INSTITUTE**

Source: Urban Institute Health Insurance Policy Simulation Model.
Note: Data include those below age 65 not enrolled in Medicare.

FIGURE 7

Uninsurance Rates among Nonelderly New Mexicans, by Substate Region, 2019



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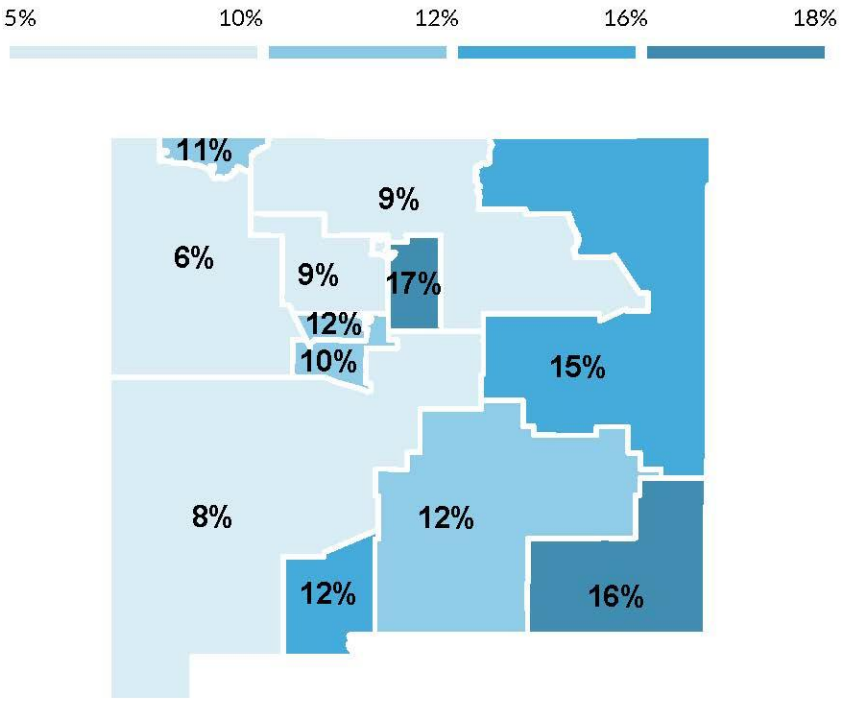
Source: Urban Institute Health Insurance Policy Simulation Model.
Note: Data include those below age 65 not enrolled in Medicare.

Because Hispanic residents account for more than half of the uninsured in New Mexico, we also break down their uninsurance rate by region (figure 8). Santa Fe County, Far Southeast New Mexico, and Eastern Plains have the highest uninsurance rates among Hispanic residents.

Eligibility for free or subsidized health insurance also varies noticeably by region. In Northwest New Mexico, 80 percent of all uninsured people are eligible for Medicaid or CHIP or Marketplace subsidies (figure 9). In the Eastern Plains, 67 percent of all uninsured people are eligible for free or subsidized health coverage, either through Medicaid/CHIP or the Marketplace. More than half of the uninsured are eligible for some assistance program in 7 of the 12 regions.

FIGURE 8

Uninsurance Rates among Nonelderly Hispanic New Mexicans, by Substate Region, 2019

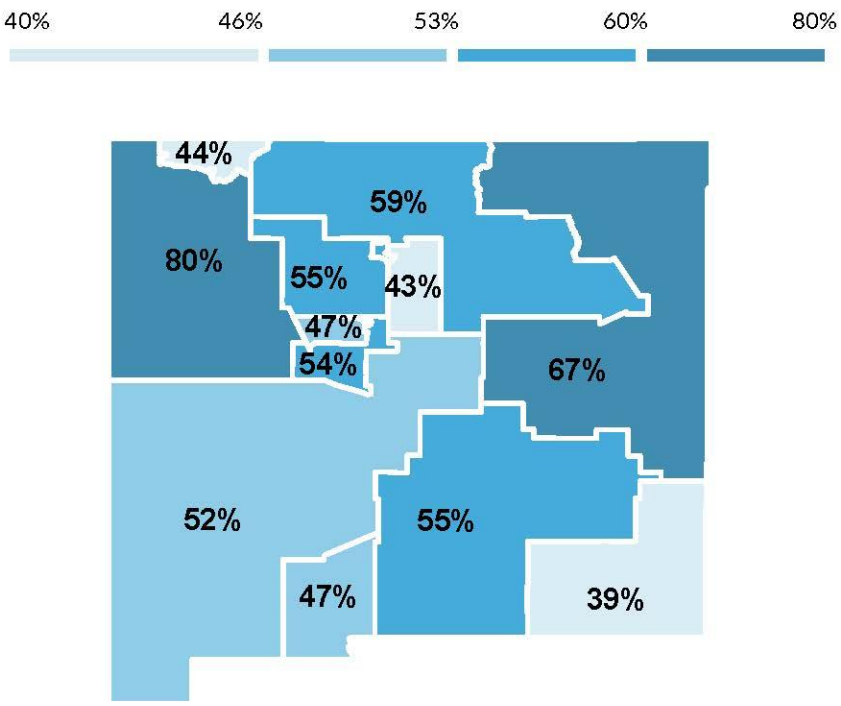


URBAN **INSTITUTE**

Source: Urban Institute Health Insurance Policy Simulation Model.
Note: Data include those below age 65 not enrolled in Medicare.

FIGURE 9

Share of Uninsured Nonelderly New Mexicans Eligible for Medicaid or Marketplace Subsidies, by Substate Region, 2019



URBAN INSTITUTE

Source: Urban Institute Health Insurance Policy Simulation Model.
Note: Data include those below age 65 not enrolled in Medicare.

Implications for New Mexico Outreach and State Policy

The Uninsured Eligible for Medicaid or CHIP

Only 6.1 percent of New Mexico residents eligible for Medicaid or CHIP are uninsured, indicating that these programs already reach many eligible people. However, if further outreach and enrollment assistance efforts can reach the remainder, such efforts could substantially reduce uninsurance. About 30 percent of all uninsured New Mexicans are eligible for Medicaid or CHIP, as are 58 percent of uninsured American Indians (table 1) and about 57 percent of uninsured children in New Mexico (table

A.1). Given that Medicaid and CHIP coverage are available at no or very low cost, outreach and enrollment efforts targeting these populations have strong potential to increase coverage.

In addition, over half of uninsured New Mexicans (56.4 percent) eligible for Medicaid or CHIP live in households that report SNAP receipt (table A.1). Thus, more fully coordinating Medicaid and SNAP renewal and enrollment could help identify and enroll more eligible uninsured people. In fact, several states already have such initiatives in place, and they could serve as models for New Mexico (Wagner and Huguelet 2016).

The Uninsured Eligible for Marketplace Premium Tax Credits

At 29 percent, the uninsurance rate for those eligible for premium tax credits is several times higher than the uninsurance rate for those eligible for Medicaid and CHIP (table A.1). This differential likely owes to several factors, including the higher household cost associated with subsidized Marketplace coverage, lower awareness of eligibility, and greater complexity involved in enrolling in and choosing a Marketplace plan. Though affordability remains an issue for some, greater outreach and enrollment assistance could help increase Marketplace coverage. A combination of the following state policies could maximize coverage: additional targeted outreach and enrollment assistance, supplemental premium tax credits and/or cost-sharing assistance, and a state individual mandate.

The Uninsured Ineligible for Financial Assistance

One quarter of uninsured New Mexicans either have incomes too high to qualify for financial assistance or are disqualified for premium tax credits because they or a family member have been offered coverage deemed affordable under the ACA (figure 4). One way to increase enrollment among those ineligible for financial assistance is to reduce unsubsidized premiums in the nongroup market, and a growing number of states have implemented reinsurance programs to do so. Also, a state individual mandate would reverse any adverse selection into the insurance pool caused by the loss of the federal mandate. Another option is extending state-funded premium tax credits to groups ineligible for the federal credits.

Methods

We used the Urban Institute's Health Insurance Policy Simulation Model to provide estimates of the detailed characteristics of New Mexico's uninsured population under age 65. HIPSM is based on a large, representative sample of the US population. The data underlying the model are drawn from two merged years of the American Community Survey (ACS) and consist of more than 6 million observations nationally. These data enable HIPSM to produce reliable, state-representative estimates. HIPSM has a large sample size for New Mexico, composed of about 40,000 original ACS observations. For 2019, the model aligns to the latest available enrollment data for Medicaid and qualified health plans in each state.

We project New Mexico's population in 2019 using estimates from the University of New Mexico's Geospatial and Population Studies. Specifically, we started with the population and age distribution of New Mexico in the 2017 ACS and with comparable 2020 projections from the University of New Mexico. We then estimated the 2019 population by linear interpolation between the two.

The superiority of using a microsimulation model rather than survey data for this analysis is three-fold. First, we can reliably project the survey data a few years into the future using information from demographers on expected population growth. This projection results in more timely and useful estimates for policymakers. Second, we edit and align key variables in the survey data to better match more accurate sources of information. For example, we align the insurance coverage reported in the ACS with administrative enrollment data by total and critical subtotals. This is important because the distribution of enrollment by type of Medicaid eligibility can affect the characteristics of the uninsured. For example, Medicaid and CHIP are crucial programs for children's coverage, so seemingly small differences in child Medicaid/CHIP enrollment between a survey and administrative data can affect the calculation of children's uninsurance rates. Third, we build detailed models based on current laws and regulations to calculate individuals' eligibility for Medicaid and Marketplace subsidies. No survey includes data on eligibility for assistance that people do not report receiving. This permits us to estimate the number of uninsured people eligible for but not enrolled in programs that could provide them with free or subsidized insurance coverage. Thus, HIPSM yields powerful and useful information for policymakers seeking to better understand the characteristics of their uninsured population.

As noted, the standard HIPSM model incorporates publicly available data on Medicaid and Marketplace enrollment in each state. For this analysis, we customized the model based on detailed enrollment information provided by New Mexico and estimates of the number of uninsured New

Mexicans in the latest available census surveys. Specifically, we customized HIPSM for New Mexico based on the following:

- Medicaid and CHIP enrollment by detailed eligibility type for the nonelderly, including people with disabilities, Medicaid expansion adults, parents and caretaker adults, and nondisabled children, focusing on those eligible for full benefits, rather than waivers that only cover certain services
- per capita costs of Medicaid/CHIP enrollees by the aforementioned eligibility types
- Medicaid enrollment among American Indians
- Marketplace enrollees by receipt of premium tax credits and cost-sharing reductions
- the distribution of Marketplace enrollees by age and sex
- the number of uninsured New Mexicans from the latest year of the ACS for which edits from the Integrated Public Use Microdata Series and our edits are available (2017); based on changes in Medicaid and marketplace enrollment since 2017, we estimate that the number of uninsured New Mexicans in 2019 should be between 185,000 and 196,000, and our calibrated model has 187,000

The ACS is designed to produce statistically valid estimates down to local areas called public use microdata areas (PUMAs), which have roughly the same population. New Mexico has 18 PUMAs, and we used them to define 12 regions within New Mexico that correspond with major cities, counties, or groups of counties. Albuquerque is split into six PUMAs, which we combined. One PUMA, which combines the cities of Farmington, Bloomfield, and Aztec, does not follow county boundaries. However, the characteristics of residents in this PUMA are notably different from those in surrounding regions in ways that affect this analysis, so we kept this PUMA separate.

Conclusion

At 10.5 percent, New Mexico's uninsurance rate is lower than the national average. Uninsurance rates are especially low among the lowest-income residents, many of whom are eligible for and enrolled in Medicaid. But, 187,000 residents remain uninsured. American Indians have the highest uninsurance rate relative to other racial and ethnic groups, but Hispanics make up more than half of the state's uninsured population. Additionally, more than half of the uninsured are eligible for Medicaid, CHIP, or subsidized coverage in the Marketplace. These estimates highlight opportunities to increase coverage in New Mexico.

Appendix A. Characteristics of Nonelderly Uninsured New Mexicans, by Eligibility for Free or Subsidized Health Insurance

TABLE A.1

Characteristics of the Nonelderly Uninsured in New Mexico, by Eligibility for Medicaid/CHIP and Marketplace Subsidies, 2019

	Eligible for Medicaid/CHIP			Eligible for Marketplace Subsidy			Ineligible		
	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)
Total	**56**	**100.0**	**6.1**	**43**	**100.0**	**29.0**	**88**	**100.0**	**12.2**
Modified adjusted gross income as a percentage of FPL									
<= 138% FPL	49	87.8	6.3	-	NA	NA	23	25.9	76.4
139–200% FPL	5	8.5	6.0	12	28.7	26.5	20	22.1	27.1
200–400% FPL	2	3.8	3.6	30	70.9	30.2	23	26.7	9.7
> 400%	-	NA	NA	-	NA	NA	22	25.4	5.9
Adjusted gross income									
<$1	19	34.0	10.3	-	NA	NA	2	2.0	43.3
$1–10,000	10	18.4	5.8	-	NA	NA	4	5.1	62.6
$10,000–25,000	14	25.5	5.2	12	28.7	34.0	18	20.0	32.4
$25,000–50,000	8	14.3	4.6	24	55.7	31.7	29	32.8	20.8
$50,000–75,000	3	5.8	5.0	5	12.3	20.8	17	19.0	10.8
$75,000–100,000	-	NA	NA	1	3.0	14.6	8	8.7	5.6
> $100,000	-	NA	NA	-	NA	NA	11	12.4	4.9
Race/ethnicity									
Non-Hispanic white	7	11.8	2.9	13	29.7	24.7	19	21.6	6.0
Hispanic	27	48.8	5.6	20	46.3	28.6	57	65.1	17.9
Non-Hispanic black	-	NA	NA	-	NA	NA	2	2.6	15.7
Asian and Pacific Islander	-	NA	NA	-	NA	NA	1	1.6	8.4
American Indian/Alaska Native	21	38.0	13.2	8	18.9	37.3	7	8.5	17.1
Other	-	NA	NA	-	NA	NA	-	NA	NA

	Eligible for Medicaid/CHIP			Eligible for Marketplace Subsidy			Ineligible		
	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)
Age									
0–18	17	30.5	4.6	2	4.0	12.8	11	12.2	7.0
19–34	19	33.2	7.9	24	56.4	46.3	31	34.9	18.6
35–54	15	26.8	7.7	14	32.6	27.8	37	41.8	13.8
55–64	5	9.6	4.7	3	7.0	9.3	10	11.1	7.3
Sex									
Male	28	50.7	6.5	27	63.8	33.8	50	56.5	13.2
Female	28	49.3	5.8	15	36.2	23.1	38	43.5	11.2
Education level	**39**	**100.0**	**7.1**	**41**	**100.0**	**30.6**	**77**	**100.0**	**13.6**
Less than high school	13	34.4	7.1	4	10.7	30.6	22	28.5	13.6
High school	16	41.8	12.6	16	39.2	42.8	28	35.8	50.0
Some college	7	19.3	7.4	13	32.1	32.1	17	22.1	17.7
College graduate	2	4.5	4.6	7	18.0	29.4	11	13.6	10.4
English proficiency	**39**	**100.0**	**7.1**	**41**	**100.0**	**30.6**	**77**	**100.0**	**13.6**
Speaks English very well or better	26	66.5	7.1	39	94.4	30.6	49	63.3	13.6
Does not speak English very well or is less proficient	13	33.5	21.8	2	5.6	24.0	28	36.7	49.3
Employment status									
Family									
No workers	25	44.0	8.9	5	12.5	25.0	8	8.6	23.0
Only part-time worker(s)	4	7.9	4.5	2	4.1	20.8	5	5.6	25.4
One full-time worker	23	41.7	5.0	29	67.2	30.7	56	64.0	14.7
More than one full-time worker	4	6.4	4.8	7	16.2	28.5	19	21.7	6.7
Individual	*39*	*100.0*	*7.1*	*41*	*100.0*	*30.6*	*77*	*100.0*	*13.6*
Not working	26	68.0	8.0	7	16.3	25.7	16	20.1	24.3
Part-time	3	8.6	5.3	3	6.1	24.4	6	7.7	16.5
Full-time	9	23.5	6.1	32	77.6	32.5	56	72.2	12.0
Employer offer for health coverage in the family									
No offer	47	83.5	8.7	38	88.7	38.9	40	45.9	37.8
At least one family member has an employer coverage offer	9	16.5	2.4	5	11.3	9.7	48	54.1	7.8
Major industry	**12**	**100.0**	**5.9**	**31**	**100.0**	**29.5**	**60**	**100.0**	**11.9**
Agriculture, forestry, fishing, and hunting	1	8.2	19.9	-	NA	NA	2	3.3	25.5

	Eligible for Medicaid/CHIP			Eligible for Marketplace Subsidy			Ineligible		
	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)
Mining	-	NA	NA	-	NA	NA	3	5.1	17.4
Manufacturing	-	NA	NA	-	NA	NA	4	6.4	12.5
Construction	1	12.0	9.3	6	18.8	47.4	8	13.1	25.2
Wholesale and retail trade	1	11.1	3.6	5	15.2	35.5	8	14.1	14.3
Transportation and utilities		NA	NA	-	NA	NA	3	4.3	8.9
Information	-	NA	NA	-	NA	NA	-	NA	NA
Financial activities	-	NA	NA	1	4.9	36.2	2	3.5	7.9
Professional and business services	-	NA	NA	3	10.2	31.6	5	8.1	8.1
Educational and health services	1	9.3	2.3	5	17.1	30.6	10	16.3	7.1
Leisure and hospitality	4	29.8	8.9	4	13.4	42.0	10	17.5	30.8
Other services	2	14.9	13.3	2	6.2	33.9	3	5.8	15.9
Public administration	-	NA	NA	1	4.4	6.7	1	1.7	2.7
Firm size	**9**	**100.0**	**4.8**	**26**	**100.0**	**30.0**	**52**	**100.0**	**11.3**
1–49 people	3	36.8	5.4	16	62.5	42.8	19	35.7	19.2
50–99 people	-	NA	NA	1	4.6	27.6	2	3.7	8.4
100–499 people	-	NA	NA	2	9.4	33.6	6	12.4	12.1
500–999 people	-	NA	NA	-	NA	NA	2	3.8	7.6
1,000+ people	3	39.1	4.1	5	20.3	15.1	23	44.5	8.9
Citizenship status									
Individual									
US citizen	38	68.5	4.4	42	97.5	29.1	44	50.1	6.8
Noncitizen	18	31.5	38.6	1	2.5	25.7	44	49.9	58.9
Family									
All US citizens	35	63.4	4.5	40	93.4	29.0	42	47.7	6.7
At least one noncitizen	20	36.6	15.7	3	6.6	29.2	46	52.3	48.0
Family SNAP receipt									
No SNAP receipt	24	43.6	4.6	34	80.5	26.9	76	86.3	11.2
At least one family member receives SNAP	32	56.4	8.1	8	19.5	42.3	12	13.7	28.4
Self-reported health status									
All nonelderly New Mexicans									
Excellent	13	23.0	5.8	11	25.4	31.7	21	23.3	10.0
Very good	12	21.9	5.4	14	33.8	30.2	28	31.8	11.8
Good	19	34.2	6.6	13	31.5	28.0	29	32.7	13.7

	Eligible for Medicaid/CHIP			Eligible for Marketplace Subsidy			Ineligible		
	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)	1,000s of uninsured	% of total	Uninsurance rate (%)
Fair	8	14.4	6.8	3	6.0	19.2	9	9.8	16.2
Poor	4	6.4	6.5	1	3.3	35.6	2	2.5	14.1
Nonelderly New Mexicans, excluding children	*39*	*100.0*	*7.1*	*41*	*100.0*	*30.6*	*77*	*100.0*	*13.6*
Excellent	6	15.7	6.5	10	24.9	34.1	17	21.8	11.3
Very good	7	18.5	5.7	14	34.8	32.3	25	31.8	12.4
Good	15	38.1	8.2	13	30.8	29.0	25	32.8	16.0
Fair	7	18.7	7.8	3	6.3	20.1	8	10.8	17.3
Poor	4	9.1	7.1	1	3.3	35.8	2	2.7	15.9
Geography									
Albuquerque	13	22.8	4.8	13	30.0	28.7	29	32.9	11.3
Northwest	13	24.1	14.5	3	7.3	28.6	4	4.6	16.3
Farmington, Bloomfield, and Aztec cities	1	1.9	2.7	3	6.1	40.2	5	5.4	12.7
North Central	4	6.5	6.7	2	5.7	20.6	4	4.7	11.0
Eastern Plains	4	6.4	7.6	3	6.2	32.1	3	3.5	10.8
Santa Fe County	4	6.9	7.8	3	6.5	23.7	9	9.9	15.0
Sandoval County	3	4.9	5.2	2	4.9	23.6	4	4.5	7.1
Valencia, Bernalillo East Mountains, and Isleta Pueblo	2	3.8	5.1	2	4.3	28.6	3	3.8	9.7
Southwest	2	3.4	3.7	2	3.8	23.0	3	3.7	13.6
Doña Ana County	5	8.5	4.5	4	10.0	29.2	10	11.5	15.6
Central Southwest	3	5.9	4.8	4	10.0	45.6	6	6.9	13.3
Far Southeast	3	4.8	6.1	2	5.2	30.2	8	8.6	14.4

Source: Urban Institute. Health Insurance Policy Simulation Model.

Notes: CHIP = Children's Health Insurance Program. FPL = federal poverty level. Dashes indicate that data were suppressed for being smaller than 1,000, or no record exists. NA means the category does not apply. Data include those below age 65 not enrolled in Medicare. The upper end of income ranges is not inclusive. For example, $10,000–25,000 includes incomes greater than or equal to $10,000 but less than $25,000. Estimates of workers by major industries and firm size exclude active-duty military members or those unemployed; firm size estimates exclude additional workers who do not report firm size.

Notes

[1] Family income by FPL adjusts for family size. For example, the FPL for a single adult is lower than that for a family of multiple people. Family income by adjusted gross income does not adjust for family size, but these statistics provide useful reference points for policymakers. People with negative adjusted gross incomes are displayed in their own group; in many cases, these individuals and families have business losses and would otherwise have middle incomes.

[2] The supplemental table is available at https://www.urban.org/research/publication/uninsured-new-mexico/characteristics-of-the-nonelderly-uninsured-new-mexico-puma-groups.

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POLICY INSIGHT

What Is Rural? Challenges And Implications Of Definitions That Inadequately Encompass Rural People And Places

ABSTRACT Monitoring and improving rural health is challenging because of varied and conflicting concepts of just what *rural* means. Federal, state, and local agencies and data resources use different definitions, which may lead to confusion and inequity in the distribution of resources depending on the definition used. This article highlights how inconsistent definitions of *rural* may lead to measurement bias in research, the interpretation of research outcomes, and differential eligibility for rural-focused grants and other funding. We conclude by making specific recommendations on how policy makers and researchers could use these definitions more appropriately, along with definitions we propose, to better serve rural residents. We also describe concepts that may improve the definition of and frame the concept of rurality.

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Awareness of the issues facing rural America has increased over the past few years. These issues have, unfortunately, focused on negative experiences, such as the opioid crisis, failing economies, and population declines. With this awareness has come renewed energy to better understand rural areas, particularly their health issues. This is evident in the numerous articles and editorials in major newspapers—such as the *New York Times*, *Washington Post*, and *Wall Street Journal*—that have outlined the plight of health care in rural America.[1–4]

Research that focuses on rural areas and the health of rural residents is not new. In 1912, more than a hundred years ago, the *American Journal of Public Health* published a report on typhoid in rural Virginia.[5] Other early scholarship described the need for a different approach to health in rural environments because of resource limitations, physician supply, and effectiveness of the delivery system.[6–9] Even then, a challenge to the field was defining rurality. A 1938 article wrestled with the definition of *rural* as a continuum, fostering the notion that what is rural depends upon context, agency, or area of work being studied.[10]

In 1987 Congress formed the Federal Office of Rural Health Policy (FORHP) within the Health Resources and Services Administration (HRSA) to advise the secretary of the Department of Health and Human Services about rural health issues within federal policy. This was followed by rural health research and programs in other agencies, such as the Veterans Health Administration. Since then, FORHP and other agencies have worked to provide support to rural communities, providers, and state offices of rural health, as well as extensive funding for policy-relevant rural health research. The field of rural health research has since expanded, producing evidence about rural disparities in such areas as access to care, outcomes of care, disease prevalence, and mortality rates. Federal programs and policies require formal eligibility criteria that define rurality, yet those criteria might not align

with a more nuanced local reality. In addition, not all federal programs use the same definition, which leads to confusion among communities that may be eligible for some programs but not others.

Thus, the purpose of this article is to describe various definitions of *rural* that are used in federal policy and other contexts and the implications of that usage. Additionally, we discuss other methods for identifying rural places and offer recommendations for research and policy changes to better serve rural residents.

Common Definitions

Some definitions of *rural* depend upon administratively determined boundaries such as counties, ZIP Code Tabulation Areas, and census tracts.[11] While these can be useful, they do not always capture cohesive areas. Communities often span these areas, census tracts, counties, and even states but are considered separate because of these administrative boundaries. Moreover, common measures of rurality mask the diversity of culture, demographics, resources, and needs present in these areas.

Many definitions of *rural* start with those used by the Census Bureau. Urbanized areas are any combinations of census tracts or blocks that contain 50,000 or more residents, while urban clusters are clusters of census tracts or blocks containing 2,500–50,000 residents. Because the Census Bureau does not define *rural* per se, any tract or block outside of these two urban categories is often considered rural.[12,13]

The Office of Management and Budget (OMB) uses these census designations to define Metropolitan and Micropolitan Statistical Areas at the county level. Generally speaking, the OMB forms core-based statistical areas using a combination of the census definition and commuting patterns by residents of adjacent counties. These units are then classified as metropolitan or micropolitan, depending on whether they are centered on an urbanized area (metropolitan) or an urbanized cluster of more than 10,000 residents (micropolitan).[14]

Of note, the core-based statistical area designations are not intended to define rurality, a practice explicitly warned against in the OMB guidance: "The Metropolitan and Micropolitan Statistical Area Standards do not produce an urban-rural classification, and confusion of these concepts can lead to difficulties in program implementation. Counties included in Metropolitan and Micropolitan Statistical Areas and many other counties may contain both urban and rural territory and population."[14]

Despite this warning, many government agencies and federal research programs use Metropolitan Statistical Area and non–Metropolitan Statistical Area as urban and rural designations, respectively. For example, the public-use data in the Behavioral Risk Factor Surveillance System survey,[15] as well as data in many of the products of the National Center for Health Statistics,[16] include this designation as a rural-urban indicator. This leads to a large body of literature that depends upon an arguably poor measure of rurality.

The Department of Agriculture's Economic Research Service has created two additional county schemes. Urban Influence Codes divide counties into groups based on their size and adjacency to other county types. Rural-Urban Continuum Codes provide a designation that is also based upon the OMB county designations.[17] Similar to the Urban Influence Codes, these codes are categorized by population size and adjacency to metropolitan areas. Both sets of codes were last updated in 2013.

Using a smaller level of geography, rural-urban commuting area codes are based on census tract rather than county.[18] Like the OMB designation, these codes consider population density, commuting patterns, and adjacency. The use of census tracts provides a more precise and nuanced range of categories. These codes are updated with each decennial census. A ZIP code–based approximation is also commonly used.

Recognizing that areas on the rural continuum vary in size, population density, and distance to urban resources, the Economic Research Service has also developed Frontier and Remote Area Codes. These codes are ZIP code based and specific to rural places, unlike many classifications that begin with urban areas and leave rural ones to be defined as a residual. The codes provide four options for categorizing a ZIP code, based on the size of the biggest city or town in that ZIP code and the travel distance to a larger city or town. The most restrictive definition considers a place to be in a frontier or remote area if it is at least fifteen minutes away from a city or town of 2,500–9,999 people and an hour or more away from a city or town of 50,000 or more people.[19] The least restrictive definition categorizes a place as a frontier or remote area if it has fewer than 50,000 people, the majority of whom live an hour or more from urban areas of 50,000 or more people. The Economic Research Service created this four-tier indicator in recognition of the fact that researchers and policy makers may need different thresholds, depending on the nature of their question or the types of goods and services to which they are measuring access.

These are not the only rural definitions or designations in use. Other classifications include

It is not unusual for a location to meet the rurality criteria for one program (such as CMS) but not another (such as HRSA).

the Economic Research Service's natural amenities scale[20] and County Typology Codes;[21] the Department of Veterans Affairs' unique rurality definitions, at least before 2015;[22] and the Index of Relative Rurality.[23] One could easily tabulate fifteen different definitions used at the federal level,[24] and adding program-specific and nonfederal definitions would further expand this list.

These various definitions make determining the rurality of an area difficult. To aid in this, the Rural Health Information Hub has developed a tool called "Am I Rural?" that provides the status for a specific address or location, based on various rural definitions and eligibility for Centers for Medicare and Medicaid Services (CMS) or HRSA programs.[25] It is not unusual for a location to meet the rurality criteria for one program (such as CMS) but not another (such as HRSA). These discrepancies make program planning, community development, and providing health care resources difficult for areas caught in the middle.

A natural tension exists between the need for an official definition and the more subjective notion of what it means to be rural. The perception of a community as rural may be driven by factors beyond geographic proximity to urbanized areas. A 2017 study that compared this perception to actual designations clearly indicates this disconnect.[26] In that study 15 percent of respondents who lived in metropolitan areas considered themselves rural, as did 26 percent of respondents residing in an urban cluster. There was also regional variation: 42 percent of urbanized area residents in the Middle Atlantic region considered themselves urban, compared to only 25 percent in the South Atlantic region. Nine percent of residents of metropolitan counties with a population of at least one million considered themselves rural, representing 23 percent of all rural respondents.

This suggests that self-reported rurality may differ from that defined strictly by geographic measures; it also suggests that people living in the same area may have different senses of their rurality. For example, someone who commutes thirty minutes to the central city may have a different sense of connectedness to the urbanized area than a retiree who rarely leaves home. This is further bolstered by work that indicates that rural health disparities are a function not just of geographic location, but also of culture and economic opportunity.[27]

Beyond Geography

Regardless of the definition, researchers, policy makers, media, and residents frequently ascribe particular attributes to rural and urban areas that might not be representative, inclusive, or even accurate. For example, there are different perceptions of demographic composition (such as composition by age, sex, and race/ethnicity), social factors (marital status, education, and political views), and economic structures (farming, logging, or mineral-dependent economies). It is not uncommon for the popular media to equate *rural* with white farmers, despite the large nonwhite farming contingent and the many rural areas that are not dependent on farming.[28,29]

Some perceptions are accurate, however, when rurality is associated with variations in some population characteristics. For example, residents of nonmetropolitan counties are generally older and in poorer health, compared to residents of metropolitan counties.[30] Recognizing that rurality reflects a breadth of demographic, social, economic, and health system characteristics, it may be useful, if not more practical, to measure those underlying characteristics directly instead of using a strictly geographic definition of rurality—that is, whether or not a place is rural, and how rural it is determined to be.[31] Some rural advocates have argued that researchers and policy makers should move past comparisons of rural and urban areas alone and focus on these underlying factors.[32] A better understanding of how these underlying characteristics influence health care access, quality, and outcomes could inform more effective and equitable health policies.

Case Study: Closures Of Obstetric Units

Two recent studies of rural maternity care illustrate how conducting research and interpreting the findings' implications for rural residents, hospitals, and communities are complicated by various definitions of *rural* and by the limitations of available data.

The first study examined whether pregnant

rural residents gave birth locally or traveled to urban hospitals.[33] A subsequent analysis studied women with complicated pregnancies, including women with opioid use disorder.[34] In these analyses rurality was based upon whether the patient's address on the hospital discharge form was in a "rural" county.

This simple measure was confounded by the fact that the variable was not consistently measured over time. For the subanalysis of rural residents with complicated pregnancies, trends over time were important because of the opioid epidemic's becoming a crucial public health issue. Unfortunately, the data set changed its gradient measure of county rurality in 2007, requiring the analysis to focus only on a dichotomous rural-urban measure.[35] It is likely that there were differences over time among rural residents that were not identified, owing to these data limitations.

The second study examined research documenting the extent of recent rural hospital obstetric unit closures and their consequences.[36,37] The data for this research came from three different sources, and the only common unit of measurement across these was the county. Thus, rural counties were defined as nonmetropolitan based on the OMB definition. Further possible distinctions included by population density (noncore versus micropolitan) and by adjacency to urban counties. After consulting with rural community leaders and clinicians and reviewing prior literature, the researchers conducted analyses for loss of services using the population density measure, and the consequences of the loss of services were determined based on adjacency.[38] In both cases, there were important differences in service loss and the consequences across types of rural counties, but the interpretation was still limited by the fact that the analysis was conducted at the county level—which masked any variability within the county by rurality.

The town of Winnsboro, South Carolina, is a real-life example of how these definitions might not work as expected. Winnsboro is within an urban cluster but is located in a county that is 78 percent rural (according to the Census Bureau). According to CMS, this area is eligible for a rural health clinic, as it is not in an urbanized area. This is helpful, because it is also a Health Professional Shortage Area for primary, dental, and mental health care. Unfortunately, because of its proximity to Columbia, this area and its entire county are not eligible for any FORHP funding (the county is designated as part of the Columbia core-based statistical area). This limits the funding it can obtain for needed services and programs. The community is certainly not unique in having this discrepancy.

It is incumbent upon the researcher to clearly define how rurality is operationalized in their work.

Furthermore, if one examines the list of closed rural hospitals[39] tracked by the University of North Carolina, at the time of publication, 39 of the 160 hospitals that closed since 2005 (nearly 25 percent) were located in metropolitan core-based statistical areas, although many of them were designated as critical access or Medicare-dependent hospitals.

County Heterogeneity

Counties vary tremendously in size and population. County sizes range from just 13.2 square miles to more than 20,000 square miles (and up to 147,805 square miles if Alaska boroughs are included), while populations range from eighty-eight to more than ten million residents. Given these differences, treating counties as a single unit can mask important heterogeneity within a given county and affect research and policy outcomes. For example, Maine and Indiana are roughly the same in terms of area, but Maine has sixteen counties while Indiana has ninety-two. As a result, even Maine's urban counties are large enough to contain numerous rural spaces that are far (up to 100 to miles or more) from counties' urban centers. Using a county-level definition of *rural*, hospital discharge data for Maine indicate that 39 percent of deliveries in 2017 were rural. Using rural-urban commuting area codes, this rate increases to 57 percent—a difference that is large and meaningful for policy.

This concern is also illustrated by the obstetric unit closures case study described above, where some of the magnitude of services loss was not captured in the maternity analyses. For example, St. Louis County, Minnesota, is the largest county east of the Mississippi River, stretching from the Canadian border to the southernmost port on Lake Superior. It contains Duluth—Minnesota's fourth-largest city, with a population of 86,293—making the county metropolitan

by the OMB definition. However, it also contains Voyageurs National Park and the million-acre Boundary Waters Canoe Area Wilderness. In 2015 the hospital in the town of Ely (population: 3,460) stopped providing obstetric care, dramatically reshaping local access to maternity services. Had this closure occurred a year earlier, it would not have shown up in the rural obstetric closure analysis[36] because of the use of the county as a unit of analysis (and its county being deemed metropolitan).

Choosing The Best Definition

Given the variety of definitions of *rural*, determining which to use may be difficult. However, the decision can be guided by practical considerations, such as the purpose of the analysis, the intended audience for the research, funding sources, history, and data collection methods (exhibit 1). These considerations can help guide decisions on which definition of *rural* to use for any particular analysis. Regardless, the wide variety of definitions means that it is incumbent upon the researcher to include the specific definition and clearly define how rurality is operationalized in their work.

Moving Toward A Better Understanding

While we recommend using the above approach to choosing the proper definition of *rural*, given the current environment, we acknowledge that more work should be done toward improving the process of choosing such definitions. Current definitions of *rural* focus on the absence of an element—for example, an area has few people or is far from larger cities. What if definitions of rurality instead included both deficits and assets? Such a shift in thinking could go a long way toward addressing the multiple health disparities visible in rural America. With such a framework, a better definition of *rural* might be possible—one that includes the concepts that measure assets.

From a rural health standpoint, these assets could include the primary care supply, distance to the nearest trauma center, and availability of resources such as healthy food outlets and public transit. However, many other factors might be just as important. For example, being within a relatively short distance of an urban or higher-resource area may suggest positive access, but only if the rural population has access to resources that would enable them to travel (for example, access to a vehicle). And how would one take into account barriers to travel such as natural barriers (mountains, rivers, and lakes), state lines, and so on? Rural residents may also face economic and workplace barriers such as being un- or underinsured and having limited paid leave for medical care. Given these factors, should a definition of *rural* also include socioeconomic measures, such as household income or employment status?

What other factors would lead to a more comprehensive definition of *rural*? What if the natural environment—such as the percentage of tree coverage, natural amenities (rivers, lakes, and so on), and weather—were included (as the natural amenities scale does)?[20] Many areas across the US are defined as being urban or metropolitan but are visually rural—that is, there are large open spaces and a low density of population or buildings. Classic examples include Ely, Minnesota (mentioned above), the Grand Canyon (in the same county as Flagstaff, Arizona),

EXHIBIT 1

Practical considerations for defining rurality

Consideration	Question	Application
Purpose of analysis	What unit of geographic analysis best corresponds to the purpose?	Is rurality capturing highly localized resources, access to relatively diffuse resources (for example, primary care), or proximity to scarce resources (such as a Level I trauma center)? Population density, RUCA, and FAR, respectively, might be the best choices.
Intended audience	Does the definition of rurality produce findings that are understandable and useful to the target audience?	Will the language be understood by a broader audience? Terms such as *noncore*, *adjacency*, and even *micropolitan* may be difficult for lay audiences to understand and could lead to misunderstood results.
Funding source	Is the study financially supported by a funding body?	Does the funder have specific needs or requirements for how rurality is assessed?
History	How has prior research defined rurality?	Does maintaining consistency with prior research help clarify definitions of rurality or create further confusion?
Data collection	How will the analysis be conducted in a practical sense?	Is the appropriate level of analysis the county, ZIP code, or census tract? Should rurality account for community behaviors, population density, or adjacency to urban areas?

SOURCE Authors' analysis. **NOTES** RUCA is rural-urban commuting area code. FAR is Frontier and Remote Area Code.

and Winnsboro, South Carolina (as noted above, in close proximity to the Columbia metropolitan area).

Relatedly, it is important to consider local residents' perceptions. If a majority of the people living in an area believe that they are rural, a definition of *rural* should reflect that as well.

Taking these considerations into account would require a more nuanced and detailed method for defining rurality. This could also mean moving away from categorical or dichotomous definitions (urban versus rural) to a continuous definition, similar to the concept proposed in 1938 by William Meserole.[10] One measure, the Index of Relative Rurality, does take this approach, using counties as the unit of assessment.[23] The index is based on four factors—population size, population density, remoteness, and built-up area—and results in a continuous index of values that range from 0 (a very low level of rurality) to 100 (a very high level). This numerical approach offers the flexibility and scalability that are missing from other definitions of *rural* and could also be applied broadly to any geographic area for which data are available. This measure is not as widely known as others, but the Henry J. Kaiser Family Foundation has been using it as its rurality indicator.[40]

We suggest that a definition of *rural* could be operationalized as an index and incorporate measures from a variety of areas, such as population density, travel or distance, geographic isolation, resources, socioeconomic characteristics, local perceptions or culture, and amenities (For a visual representation of what such an index would include, see online appendix exhibit A1.)[41] Each component would include several submeasures to contribute to the category. For example, resource submeasures could include numbers of providers per 1,000 population, hospitals, or home health agencies. Each category could also be weighted, essentially granting some categories more influence than others. In this example, population density would have the highest weight, while amenities would have the lowest. The components of each category, how they were indexed, and how the weights were assigned could all be adjusted to create an overall rural index that would indicate an area's rurality on a continuous scale.

An index would also lend utility to a definition of *rural* by providing information on the factors that drive a particular area's rurality. For example, two areas might have very similar index values, but one's value would be driven by a low population density while the other's value would driven by socioeconomic characteristics. Recognizing these differences in resources would help local, state, and federal policy makers better target and adjust interventions and identify the service needs of each area, instead of using a one-size-fits-all approach.

An index would lend utility to a definition by providing information on the factors that drive a particular area's rurality.

Any movement toward new, expanded, or refined ways of defining rurality must take into account the use of existing definitions. With federal and state agencies using varying definitions for eligibility determinations and planning purposes, it would be challenging to overhaul the entire system so that it used a single commonly used measure. It might be wise, in both the short and long terms, to use some sort of combined approach, similar to those of FORHP and HRSA more broadly. A county is eligible for the rural programs of these agencies if it is "rural"—or, if the county is metropolitan, if it is in a rural census tract. Using such a combined approach, and replacing the second criterion with the use of the rural index score, might be a more comprehensive approach than the population density–based census tract that is currently used.

Policy attention and additional resources are needed in rural communities, yet current definitions of rurality might not accurately and fully represent the concept. These current definitions also render a location rural by one definition and urban in another. Regardless of how definitions of *rural* do or do not evolve in the future, a more consistent and appropriate usage of the methodologies would benefit policy makers, researchers, and communities. This would include a definitive statement of what measures (or methods) were used to classify the area and a recognition of the sensitivity (and limitations) of those methods. We also encourage all who report rural findings to present data at the smallest possible unit (ZIP Code Tabulation Areas, census tracts, and the like). Finally, having a facilitated conversation about the move toward a refined or more inclusive definition of *rural* would

be fruitful, particularly if facilitated by a federal stakeholder, such as HRSA. If this occurred, it would be vital for representative members of rural communities—such as community leaders, scholars, advocates, and residents—to be included in such a process so that their perspectives are fully appreciated and captured.

A concerted effort to explore these options, particularly on the part of rural health researchers, would lend credibility to alternative approaches and aid in the move toward better-informed policy. ■

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41 To access the appendix, click on the Details tab of the article online.

6 Charts About Public Opinion On The Affordable Care Act

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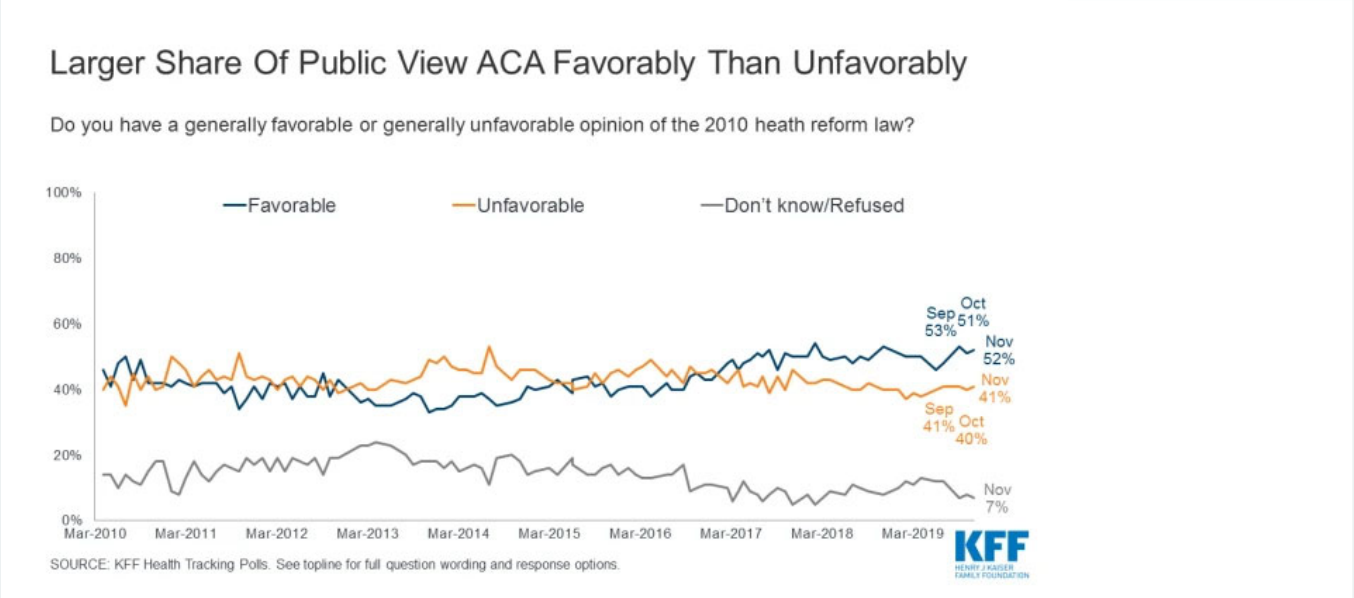
Cailey Muñana (https://www.kff.org/person/cailey-munana/), and

Mollyann Brodie (https://www.kff.org/person/mollyann-brodie/) (https://twitter.com/Mollybrodie)

Published: Nov 27, 2019

#1: Attitudes Toward the ACA Continue To Be More Favorable Than Unfavorable

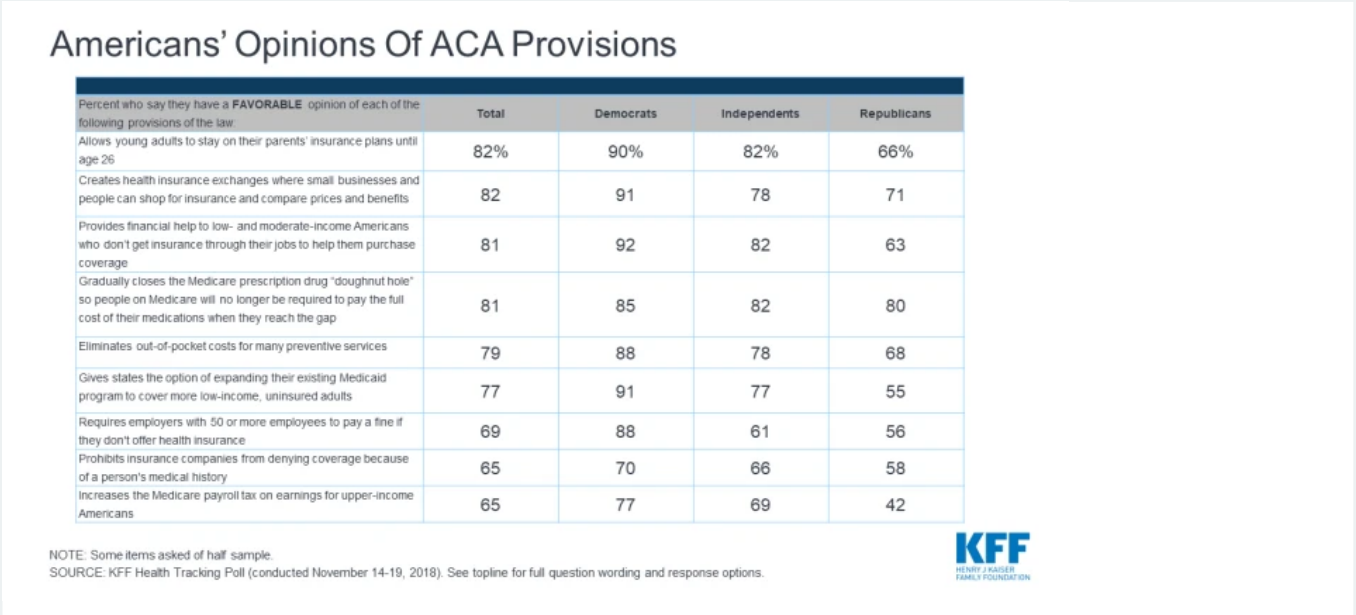
Following Republican efforts to repeal the Affordable Care Act (ACA) in the summer of 2017, KFF Health Tracking Polls have found a slight uptick in overall favorability towards the 2010 health care law. The most recent KFF Tracking Poll (https:// .kff.org/health-reform/poll-finding/kff-health-tracking-poll-november-2019/) shows over half of the public (52%) hold favorable opinions of the ACA while about four in ten (41%) hold a negative opinion of the law. Across partisans, over eight in ten Democrats (83%) have a favorable view of the ACA compared to roughly half of independents (52%) and a much smaller share of Republicans (22%). Explore more demographic breakdowns using our ACA interactive (https:// .kff.org/interactive/kaiser-health-tracking-poll-the-publics-views-on-the-aca/#?response=Favorable--Unfavorable&aRange=twoYear).



igure 1 Larger Share of Public View ACA Favorably Than Unfavorably J

2: Americans Continue To Hold Favorable Opinions Of Many ACA Provisions

Many of the ACA's provisions continue to be quite popular, even across party lines. A majority of the public – regardless of party identification – hold favorable views of almost all of the ACA's J major provisions. Most popular are allowing young people to stay on their parents' insurance J plans until age 26, establishment of the ACA marketplaces, financial help for some Americans J who buy their own insurance, closing the Medicare "doughnut hole," and eliminating out-of- J pocket costs for preventive care.

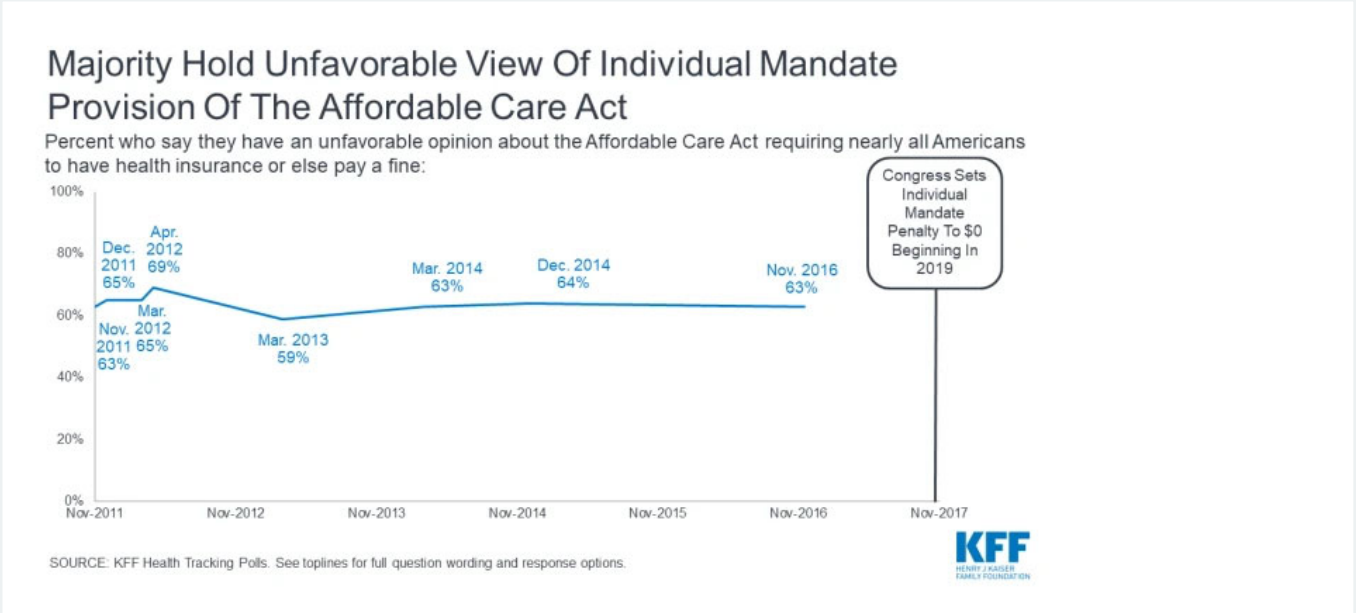


Percent who say they have a **FAVORABLE** opinion of each of the following provisions of the law:	Total	Democrats	Independents	Republicans
Allows young adults to stay on their parents' insurance plans until age 26	82%	90%	82%	66%
Creates health insurance exchanges where small businesses and people can shop for insurance and compare prices and benefits	82	91	78	71
Provides financial help to low- and moderate-income Americans who don't get insurance through their jobs to help them purchase coverage	81	92	82	63
Gradually closes the Medicare prescription drug "doughnut hole" so people on Medicare will no longer be required to pay the full cost of their medications when they reach the gap	81	85	82	80
Eliminates out-of-pocket costs for many preventive services	79	88	78	68
Gives states the option of expanding their existing Medicaid program to cover more low-income, uninsured adults	77	91	77	55
Requires employers with 50 or more employees to pay a fine if they don't offer health insurance	69	88	61	56
Prohibits insurance companies from denying coverage because of a person's medical history	65	70	66	58
Increases the Medicare payroll tax on earnings for upper-income Americans	65	77	69	42

Figure 2: Americans Opini ns Of ACA Pr visi ns

#3: The Least P pular ACA Pr visi n Is No L nger In Effect

In previous (https://www.kff.org/health-costs/poll-finding/kaiser-health-tracking-poll-november-2016/) KFF Health Tracking Polls, one of the ACA's provisions – the individual mandate which required J nearly all Americans have health insurance or pay a fine – was consistently viewed unfavorably by a majority of the public. Since the law's passage, about six in ten Americans viewed theJ individual mandate unfavorably. As part of the federal tax bill passed in 2017, Congress zeroed out the dollar amount and percentage of income penalties imposed by the individual mandate. J



igure : Majority Hold Unfavorable View Of Individual Mandate Provision Of The Affordable Care Act

#4: Partisans Are plit On The upreme Court Overturning The ACA And In Their Worry About How Current Legal Battle May Affect Their Own Coverage

Earlier this year, the U.S. Court of Appeals for the 5th Circuit heard oral arguments in Texas v. United States, the court case challenging the future of the ACA. This case stems from a lawsuit brought by Republican state attorneys general and supported by the Trump administration in which a federal judge ruled the entire ACA invalid. If the judge's decision takes effect, a host of ACA provisions will be eliminated, chief among them are the ACA's protections for people with pre-existing medical conditions. These provisions prohibit insurance companies from denying coverage based on a person's medical history (known as guaranteed issue), and prohibit insurance companies from charging those with pre-existing conditions more for coverage (known as community rating). While the public is divided on whether they would like to see the Supreme Court overturn the entire ACA, a slight majority (56%) say they are "worried" that they or someone in their family will lose health insurance coverage in the future if the Supreme Court overturns the health care law. There are stark partisan differences on both of these questions as Democrats are more likely than their Republican counterparts to say that they would not like to see the law overturned and to say they worry about losing health coverage if the law is overturned. Independents are more divided on both questions. J

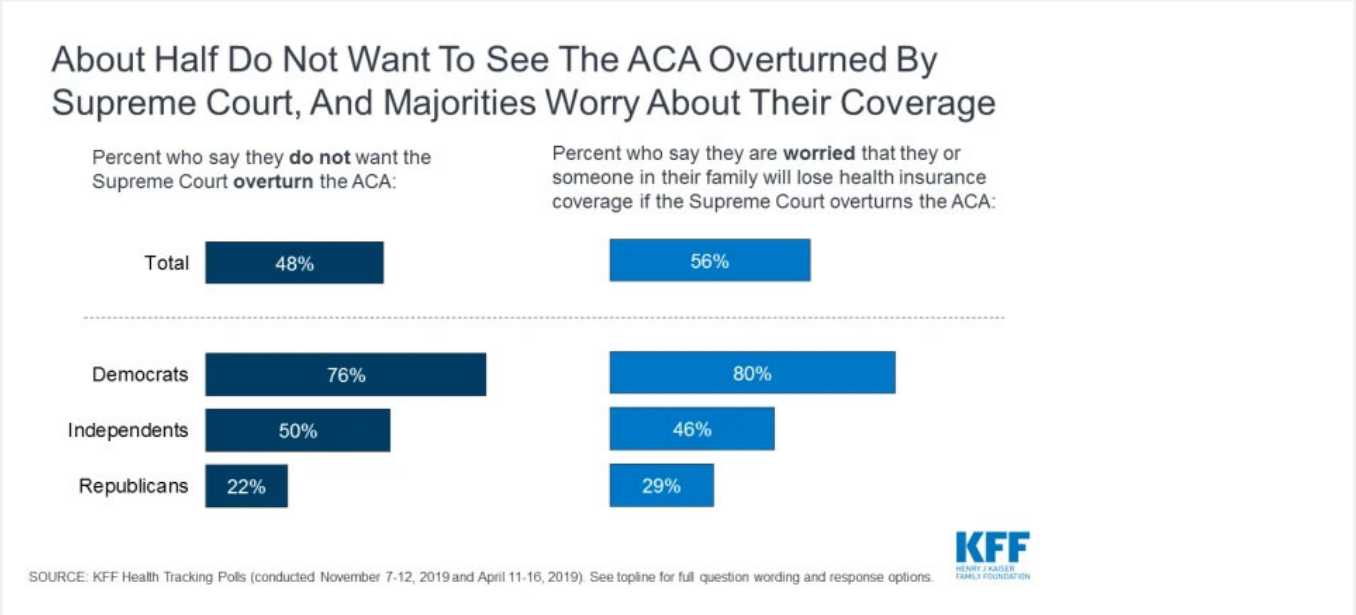


Figure 4: About Hal Do Not Want To See the ACA Overturned By Su reme Court, And Ma orities Worry About Their Coverage

#5: Most Say It Is Important That ACA Provisions Remain In Place

With the ACA and its various provisions under legal threat from the ongoing federal court case (Texas v. U.S.), the July 2019 (https://www.kff.org/health-reform/poll-finding/kff-health-tracking-poll-july-2019/v) KFF Health Tracking Poll finds a majority of the public say it is important for many of the ACA provisions to be kept in place. Yet, as with anything related to the ACA, there are partisan differences, with smaller shares of Republicans saying it is "very important" for some of the less popular provisions to remain in place.

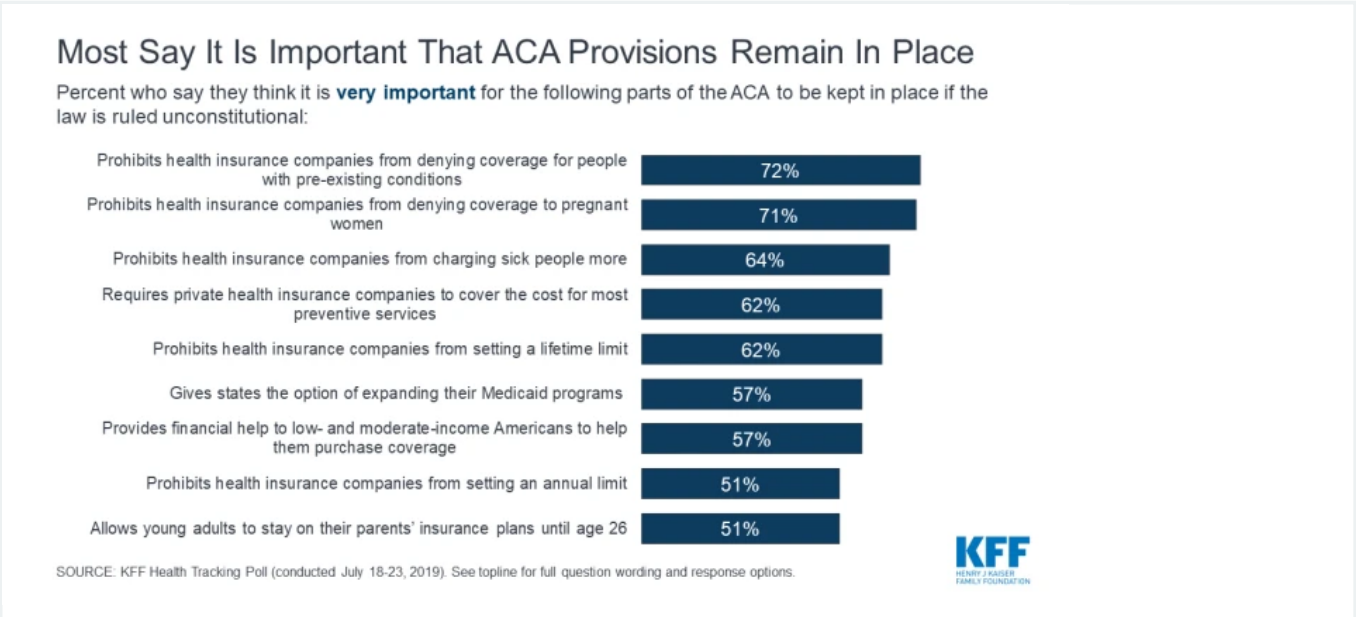


Figure 5: Most Say It Is Important That ACA Provisions Remain In Place

#6: Pre-Existing Conditions Impact Large Shares Of The Public

A KFF analysis (https://www.kff.org/health-reform/issue-brief/pre-existing-condition-prevalence-for-individuals-and-families/) estimates that 27% of adults ages 18-64 have a pre-existing condition that would have led to a denial of insurance in the individual market prior to the implementation of the ACA. An even larger share of the public believes they or someone in their family may belong in this category. According to the most recent survey data, about six in ten of the public say they or someone in their household suffers from a pre-existing medical condition, such as asthma, diabetes, or high blood pressure.[1] J

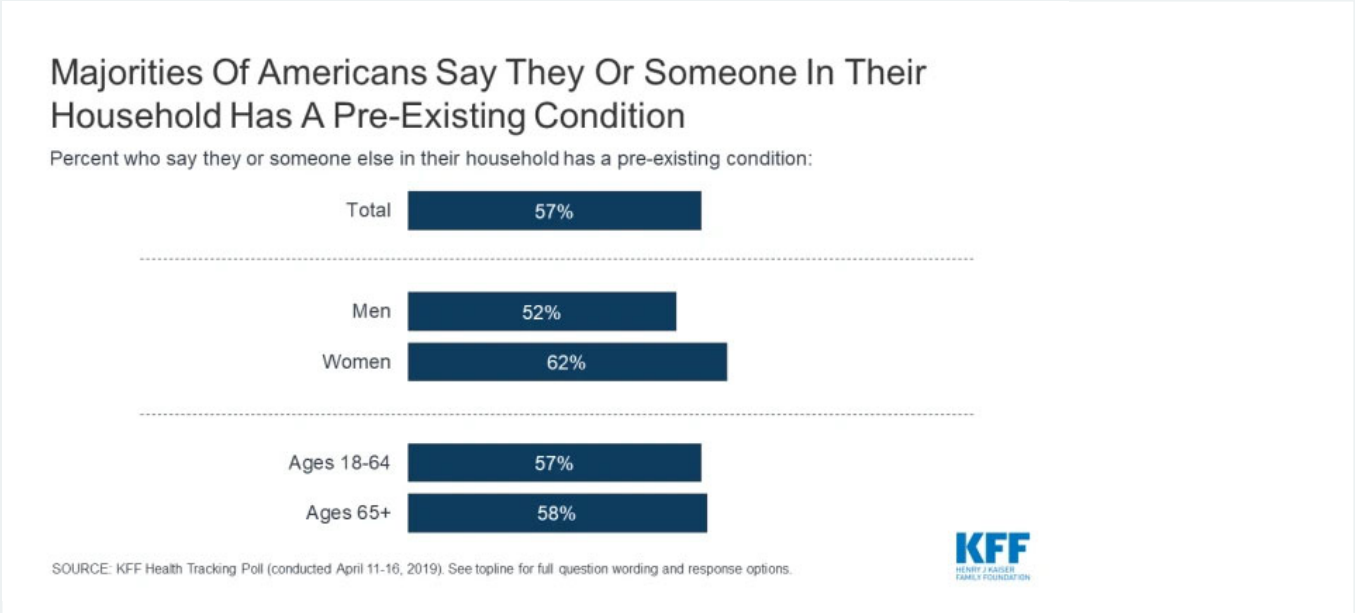
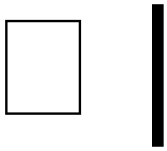


Figure 6: Majorities Of merica s Say They Or Someo e I Their Household Has A Pre-Existi g Co ditio

Endnotes J

1. This estimate is a household measure of all groups and does not classify pre-existing conditions by whether they are or not a “deniable” condition.
   ← Return to text (https://www.kff.org/health-reform/poll-finding/6-charts-about-public-opinion-on-the-affordable-care-act/#endnote_link_433507-1)



COMMENTARY Health Care Reform

How Trump's Sunshine Rules Will Boost Transparency in Health Care Prices

Nov 27th, 2019 4 min read

Robert E. Moffit, Ph.D.
Senior Fellow
Moffit specializes in health care and entitlement programs, especially Medicare.

KEY TAKEAWAYS

The president's combination of rule changes should directly benefit patients.

Markets, including health care markets, cannot work unless consumers have reliable information on the price and quality of the services they are buying.

Health care is a huge, complex, and growing sector of the American economy, and it is largely insulated from consumer power.

President Donald Trump recently announced major administrative actions that would lift the veil on health prices for hospital procedures and services covered by health insurance.

As Alex Azar, secretary of the Department of Health and Human Services, declared "Today's transparency announcement may be a more significant change to American health care markets than any other single thing we've done, by shining light on the costs of our shadowy system and finally putting the American patient in control."

The president's combination of rule changes should directly benefit patients. They would enable patients to get vital information on what they will pay for scheduled medical procedures and services–the vast majority of such items and services–in an easy-to-understand, plain English, online format.

The Trump policy could stimulate intense price competition among hospitals and thus enable patients, as well as insurers and employers, to secure significant health care savings.

In short, the policy promises to increase the power of individuals and families by giving them greater control over their health care dollars and decisions.

Ma kets, including health ca e ma kets, cannot o k unless consume s have eliable info mation on the price and quality of the services they are buying. Yet most of us are largely in the dark about the cost of common medical procedures, let alone why they cost what they cost.

Health care is a huge, complex, and growing sector of the American economy, and it is largely insulated from consumer power.

Annually, Americans spend more per capita ($10,739) and in the aggregate ($3.5 trillion) than any other advanced country. Yet real price information is obscured by layers of complex third-party payment arrangements between health insurers and hospitals and other medical professionals.

Securing such information in a clean, clear fashion ranges from the difficult to the impossible. That means it's almost impossible for patients to budget for health care needs and shop around.

Trump's transparency initiative, announced Nov. 15, is a direct attack on this pervasive obscurity. Pursuant to the president's recent executive order the departments of Health and Human Services, Treasury, and Labor are jointly proposing a major "Transparency in Coverage" rule that would give Americans "real time, personalized access to cost sharing information" in their health plans.

This not only would include clarity of out-of-pocket costs for all "covered services," but also the "negotiated rates" for in-network providers and insurance payment amounts for the services of "out of network" doctors. The rule would require that insurers provide this information through an easily accessible public website, so persons will know the price of medical services beforehand. No more surprises.

HHS also is finalizing a second major rule "Price Transparency Requirements for Hospitals," that would require all hospitals to give patients information on their "standard charges" for their medical items and services, including "payer-specific" charges and the "minimum and maximum" negotiated rates among hospitals and insurers and providers.

Hospitals also would be required to post this charge information online for up to 300 "shoppable" medical services and procedures, meaning medical services or procedures that patients can schedule as opposed to being provided under emergency conditions. Designed to give hospitals plenty of lead time to prepare, the final rule is scheduled to take effect on Jan. 1, 2021.

As a recent blog post for Health Affairs notes both Trump initiatives (consuming 549 pages of regulatory text) are more far reaching than any previous official attempt at price transparency. Not surprisingly, the American Hospital Association, among others, already has signaled a court challenge. |

H pefully, the Trump admi istrati will prevail. Amerika's h spital a d i sura ce markets are b th highly concentrated, a trend due to government policy and accelerated by President Barack Obama's Affordable Care Act, popularly known as Obamacare.

Neither is working well. Millions of Americans are often unclear about the true costs of their health insurance; hospital bills for the same procedures are often radically different in the same geographic areas; and patients are often mystified or shocked by unforeseen hospital charges.

If consumers, and employers especially use price information, the Trump administration's measures also could stimulate stronger competition–opening up new options for patients and resulting in more robust health care markets and ultimately lower costs for individual patients and their families.

Still, a word of caution is in order. While administration officials intend to improve conditions in the nation's troubled health care markets, they should take special care that they neither hinder nor pre-empt innovative state transparency efforts, such as the leading hospital pricing and performance standards adopted in Maryland and several other states.

Moreover, administration officials should realize that that this rule-making is no substitute for broader reform, and that will require Congress to act.

One key reason patients don't have price information today: layers and layers of government laws and regulations that keep insurers and providers from working directly for consumers.

Trump has taken steps to address this, but to really fix the problem, Congress must reform the health insurance markets so that ordinary Americans are able to buy personal, portable, and affordable coverage from any source of their choosing, without either a tax penalty or a regulatory restriction.

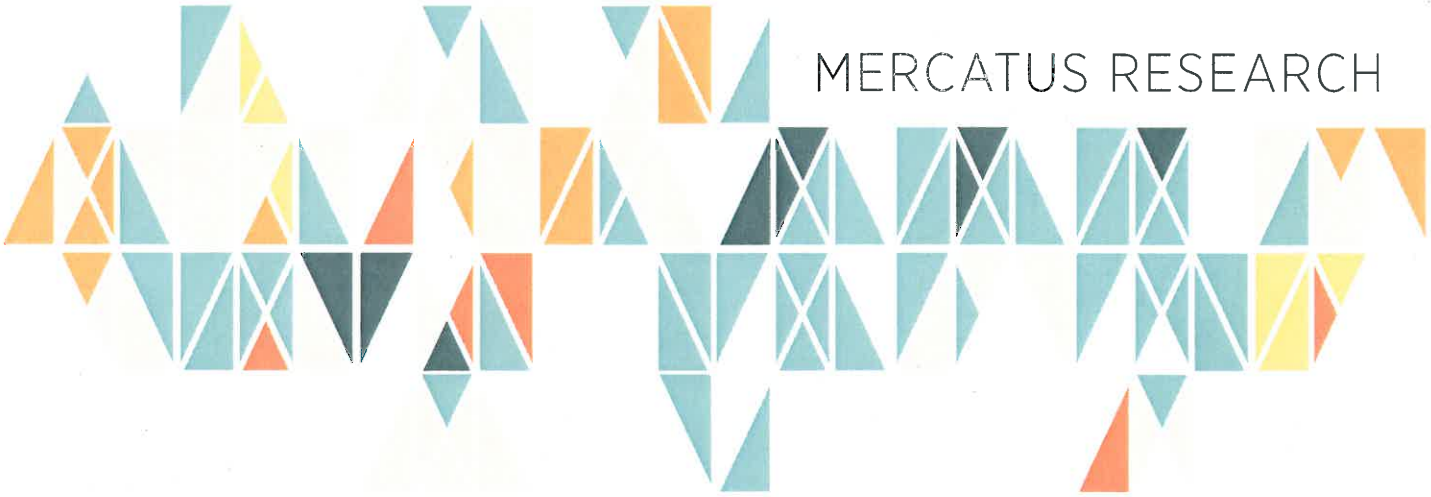
A place to start: End Obamacare's regulatory overkill in the individual and small group markets, which has collapsed choice and competition in health plans while saddling middle-class families with exorbitant insurance costs. The Health Care Choices Proposal backed by a variety of conservative policy analysts, would reverse these negative dynamics and significantly lower costs and expand choices.

Real reform is a step-by-step process. No single rule or piece of legislation will transform the giant health care sector of the American economy. The Trump administration's price transparency agenda, however, is a big step in the right direction.

This piece originally appeared in The Daily Signal

The ACA's Medicaid Expansion: A Review of Ineligible Enrollees and Improper Payments

Brian C. Blase and Aaron Yelowitz



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Brian C. Blase and Aaron Yelowitz. "The ACA's Medicaid Expansion: A Review of Ineligible Enrollees and Improper Payments." Mercatus Research, Mercatus Center at George Mason University, Arlington, VA, November 2019.

ABSTRACT

Enrollment in state-optional Medicaid expansions has significantly exceeded even the most optimistic forecasts. The open-ended federal financing of new adult Medicaid enrollees at elevated match rates—in excess of 90 percent—creates incentives for states and healthcare providers to improperly enroll new beneficiaries and inadequately monitor costs and eligibility. Several sources find that many states have done a poor job ensuring Medicaid enrollment only of those who meet eligibility requirements. First, several federal audits find massive problems with both incomplete and incompetent reviews and large-scale improper eligibility determinations. We summarize recent work that estimates causal effects of Medicaid expansions on enrollment. Using the publicly available American Community Survey, we demonstrate large increases in potentially improper enrollment from 2012 to 2017 in many expansion states across the United States. The evidence points to egregious eligibility errors in many states, including Arkansas, California, Colorado, Kentucky, Louisiana, Montana, New Mexico, New York, Oregon, Rhode Island, Washington, and West Virginia. Other expansion states have had much lower rates of improper enrollment. We offer recommendations to Congress, the Centers for Medicare and Medicaid Services, and the Congressional Budget Office on ways to confront improper enrollment in Medicaid, including both fundamental reform of program financing and meaningful federal oversight.

JEL codes: I1, I3, H7, H3, H5

Keywords: Medicaid, Medicaid improper payments, Affordable Care Act, Medicaid Expansion, Medicaid eligibility

This paper can be accessed at https://www.mercatus.org/publications/healthcare/aca-medicaid-expansion.

Improper payments in Medicaid—the joint federal and state welfare program to cover healthcare and long-term care services—have been a significant concern for decades,[1] and the substantial changes brought about by the Affordable Care Act (ACA) have exacerbated the problem. The ACA has resulted in millions of new enrollees in the Medicaid program. Before the ACA took effect, states received payments from the federal government to cover eligible enrollees, generally low-income children, pregnant women, adult caretakers, disabled individuals, and seniors. The payments were open-ended and a function of state per capita income: the federal government reimbursed half of the cost in wealthier states and about three-quarters of the cost in poorer states. As a result of this financing structure, states had diminished incentives to be judicious with program expenditures. The financing structure also resulted in creative state financing techniques that often gave the appearance of expenditures but were just accounting tricks used in order to maximize federal reimbursement.[2]

The ACA created another category of enrollees—the newly eligible Medicaid expansion group. For this population, states received a much higher federal reimbursement rate—equal to 100 percent from 2014 to 2016, gradually declining to 90 percent in 2020, where it is scheduled to remain. States make most of the critical decisions about Medicaid. They oversee eligibility and set payment rates. The financing structure for the Medicaid expansion presents states with incentives to classify individuals—both those already eligible for Medicaid under previous criteria and those formerly ineligible for Medicaid—as newly

1. The Government Accountability Office (GAO) designated Medicaid as a high-risk program in 2003. According to GAO, "The size, growth, and diversity of the joint federal-state Medicaid program present oversight challenges. . . . Since [2003], we have made more than 270 recommendations related to the program." GAO, "High-Risk Series: Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas" (GAO-19-157SP, Report to Congressional Committees, March 2019), 250.
2. Teresa A. Coughlin, Stephen Zuckerman, and Joshua McFeeters, "Restoring Fiscal Integrity to Medicaid Financing?," *Health Affairs* 26, no. 5 (2007); Brian C. Blase, "Medicaid Provider Taxes: The Gimmick That Exposes Flaws with Medicaid's Financing" (Mercatus Research, Mercatus Center at George Mason University, Arlington, VA, 2016).

eligible. Additionally, healthcare interest groups in the states, such as hospitals and insurers offering Medicaid managed care, generally benefit from maximizing Medicaid enrollment, particularly at the elevated rate. Insurers, in particular, have reaped large profits from the Medicaid expansion—profitability that may be driven by receiving large monthly payments from the government for people who use little, if any, healthcare services.[3]

Of the two potential Medicaid program integrity concerns related to enrollment, this paper addresses the issue of the enrollment of individuals who have income above Medicaid's eligibility threshold. We generally find robust evidence that many Medicaid enrollees have income that exceeds eligibility thresholds. Unsurprisingly, the high degree of improper enrollment is overwhelmingly concentrated in states that adopted the Medicaid expansion, although there is significant variation across states—evidence that different states have enforced income-related eligibility rules to much different degrees. Previous work by University of Pennsylvania economics doctoral student Molly Frean, MIT economist Jonathan Gruber, and Harvard economist Benjamin D. Sommers, using the Census Bureau's American Community Survey, found that most initial enrollees in the Medicaid expansion were previously eligible for Medicaid.[4] Some of these individuals were misclassified as newly eligible enrollees, although the extent of the misclassification is unclear.[5]

States that expanded Medicaid also experienced much more robust Medicaid enrollment than they expected. California, for example, enrolled nearly four times as many people as expected.[6]

Three separate pieces of evidence show that the magnitude of improper Medicaid enrollment in the aftermath of the ACA's Medicaid expansion is substantial. First, the Department of Health and Human Services (HHS) Office of the Inspector General (OIG) conducted seven audits in 2014 and 2015 within four states (California, Colorado, Kentucky, and New York) and has found large numbers of both ineligible and potentially ineligible Medicaid enrollees. To provide some context, one audit found that 65 of 125 sampled enrollees in California's Medicaid program were either improperly enrolled or potentially improperly

3. Council of Economic Advisers, *The Profitability of Health Insurance Companies*, March 2018.
4. Molly Frean, Jonathan Gruber, and Benjamin D. Sommers, "Disentangling the ACA's Coverage Effects—Lessons for Policymakers," *New England Journal of Medicine* 375 (October 2016).
5. Brian Blase, "New Gruber Study Raises Major Questions about Obamacare's Medicaid Expansion," *Forbes*, November 27, 2016.
6. Jonathan Ingram and Nicholas Horton, "ObamaCare Expansion Enrollment Is Shattering Projections: Taxpayers and the Truly Needy Will Pay the Price" (Foundation for Accountable Government, Naples, FL, November 16, 2016), 3.

enrolled.[7] The OIG classifies enrollees as potentially ineligible if the case file does not contain enough information to make an eligibility determination. Systemic errors include neglecting to obtain proper documentation; failing to properly verify income eligibility; misclassifying individuals, including into the newly eligible category; and failing to properly verify citizenship. State audits in Louisiana and Oregon also showed significant problems with how those states were conducting eligibility reviews for Medicaid.

Second, eligibility audits that restarted in 2019 by the Centers for Medicare and Medicaid Services (CMS), after being canceled from fiscal years 2014 through 2017 by the Obama administration, show significant problems in how states are conducting eligibility reviews.[8] On November 18, 2019, CMS released a report estimating a national improper payment rate for Medicaid in fiscal year (FY) 2019 of $57.36 billion, or 14.9 percent of federal expenditures.[9] These amounts jumped from $36.25 billion and 9.79 percent in FY 2018. In fact, since the improper payment rate reported is a three-year rolling average and the FY 2019 report contains two years of audits that did not assess eligibility, the true improper payment rate in FY 2019 was likely in excess of 20 percent of program spending, or more than $75 billion.[10] According to CMS, the increase in improper payments is "driven by high levels of observed eligibility errors."[11]

> Some of the most consistent findings included states maintaining insufficient documentation to substantiate that income and other information was appropriately verified, failures to conduct timely and appropriate annual redeterminations, and claiming beneficiaries under incorrect eligibility categories that provide a higher federal matching rate than was appropriate. Eligibility errors of this nature are particularly concerning as it can indicate that individuals are allowed to remain enrolled in the program

7. OIG, *California Made Medicaid Payments on Behalf of Non–Newly Eligible Beneficiaries Who Did Not Meet Federal and State Requirements*, December 2018.
8. Centers for Medicare and Medicaid Services, "2019 Estimated Improper Payment Rates for Centers for Medicare & Medicaid Services (CMS) Programs," CMS Fact Sheet, November 18, 2019, https://www.cms.gov/newsroom/fact-sheets/2019-estimated-improper-payment-rates-centers-medicare-medicaid-services-cms-programs.
9. Centers for Medicare and Medicaid Services, "2019 Estimated Improper Payment Rates for Centers for Medicare & Medicaid Services (CMS) Programs."
10. Aaron Yelowitz and Brian Blase, "Medicaid Improper Payments Are Much Worse Than Reported," *Cato at Liberty*, November 20, 2019.
11. Centers for Medicare and Medicaid Services, "Fiscal Year (FY) 2019 Medicare Fee-for-Service Improper Payment Rate Is Lowest since 2010 While Data Points to Concerns with Medicaid Eligibility" (press release, November 19, 2019).

during times in which they do not qualify, potentially diverting limited resources that could otherwise be invested in better serving vulnerable populations.[12]

Finally, population-level survey data matching health insurance coverage with income shows a sizable increase in Medicaid enrollment among people making more than 138 percent of the federal poverty level (FPL).[13] In nine expansion states, Medicaid enrollment by working-age adults with incomes above 138 percent of the FPL rose by 3.0 percentage points (from 2.7 percent to 5.7 percent, an increase of 111 percent of the base rate in 2012–2013, before the expansion). Medicaid enrollment by working-age adults with income above 138 percent of the FPL increased over time—it was more than twice as large in 2017 (3.7 percentage points) as in 2014 (1.5 percentage points).

The new data analysis in this paper shows that Medicaid enrollment of working-age adults who report having annual income above eligibility thresholds varied significantly across the country. The nine states with the largest percentage point change in Medicaid enrollment of adults with income above 138 percent of the FPL (New Mexico, California, Kentucky, Rhode Island, West Virginia, Oregon, Washington, Arkansas, and Colorado) all experienced a more than doubling of the percentage enrolled in Medicaid. There are some areas, such as New York City and Los Angeles, where the problem is so egregious that it may be a sign of purposeful abuse of the program rules and potentially of fraud. The analysis cuts the data in numerous ways to demonstrate the robustness of the conclusion that improper Medicaid enrollment in many states is large and has grown over time.

Congress and CMS should take steps to address the problem of improper Medicaid enrollment. Although the political bar is high, Congress should pass legislation to fundamentally reform the Medicaid program so that states have proper incentives to spend taxpayer money judiciously. The most responsibility for dealing with improper Medicaid enrollment falls on CMS—an agency that since the ACA was enacted has failed to prioritize program integrity. CMS needs to make appropriate recoveries on behalf of federal taxpayers; place additional requirements on how states conduct eligibility determinations and ensure that those requirements are followed; and require eligibility redeterminations in states, and in particular hot-spot areas within states, where the problem is espe-

12. Centers for Medicare and Medicaid Services, "Fiscal Year (FY) 2019 Medicare Fee-for-Service Improper Payment Rate Is Lowest since 2010."
13. Charles J. Courtemanche, James Marton, and Aaron Yelowitz, "Medicaid Coverage across the Income Distribution under the Affordable Care Act" (NBER Working Paper No. 26145, National Bureau of Economic Research, Cambridge, MA, August 2019), 5.

cially egregious. The Congressional Budget Office (CBO) can help Congress in its work by properly assessing the data and by learning from the numerous government audits in order to incorporate the extent of improper Medicaid enrollment into its baseline. Unfortunately, CBO failed to appreciate the powerful incentive that states face, owing to the elevated reimbursement rate, to bring as much under the expansion umbrella as possible.

This paper first lays out the background of the ACA's Medicaid expansion and explains the incentives that the elevated reimbursement rate creates for states regarding the expansion population. It then discusses evidence of improper enrollment—enrollment far in excess of expectations, government audits showing problems with states' eligibility processes, and population survey data demonstrating that many people with income above eligibility thresholds gained Medicaid enrollment by 2017. The paper then reviews the key contribution from our research—the variation of improper Medicaid enrollment across states and localities, with a focus on the "hot spots" where the growth in Medicaid enrollment among those with income above the eligibility thresholds has been most significant. The paper concludes with recommendations for Congress, CMS, and CBO on how to address the problem of improper Medicaid enrollment.

BACKGROUND ON THE EXPANSION

In a September 2016 paper for the Mercatus Center at George Mason University, one of us (Brian Blase) wrote about the problematic incentives created by Medicaid's financing structure, including the elevated reimbursement rate for the expansion population, as well as about evidence that both expansion enrollment and spending were far above expectations:[14]

> Before the ACA's expansion of the program, Medicaid was primarily used by seniors and the disabled to finance healthcare and long-term care expenses and also by lower-income children and their mothers as well as pregnant women to finance healthcare expenses. . . .[15]
>
> The ACA significantly expanded Medicaid eligibility to include nondisabled, working-age adults with income below 138 percent of the FPL. It also created a much higher federal

14. Brian C. Blase, "Evidence Is Mounting: The Affordable Care Act Has Worsened Medicaid's Structural Problems" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, September 2016), 17, 19.
15. Blase, "Evidence Is Mounting," 3.

> reimbursement rate for this expansion population relative to the rate for traditional Medicaid populations. If states adopted the expansion, the federal government would reimburse states for 100 percent of state spending on expansion enrollees—those enrollees with income between 138 percent of the FPL and the state's previous eligibility thresholds—from 2014 through 2016. The federal share phases down to 90 percent in 2020, where it is scheduled to remain in perpetuity.[16]

The Supreme Court made Medicaid expansion optional for states,[17] but the federal government's large financial inducements have led 36 states and the District of Columbia to adopt the expansion thus far.[18]

According to the ACA, states are only entitled to receive the elevated reimbursement rate for people with income below 138 percent of the FPL who do not meet the requirements to be eligible under another category.[19] States determine whether applicants are eligible.

INCENTIVES FROM THE EXPANSION'S ELEVATED REIMBURSEMENT RATE

In his 2016 Mercatus paper, Blase argued that the open-ended federal reimbursement of state Medicaid expenditures "produces substantial spending and lessens the incentive of both the states and the federal government to ensure that the spending provides adequate value":[20]

16. Blase, 5.
17. In a 7–2 decision in June 2012, the Supreme Court ruled that the ACA Medicaid expansion, which threatened all existing federal Medicaid funding if states did not expand, was unconstitutional. In the opinion, Chief Justice Roberts stated, "In this case, the financial 'inducement' Congress has chosen is much more than 'relatively mild encouragement'—it is a gun to the head." National Federation of Independent Business et al. v. Sebelius, 567 U.S. 519, 581 (2012).
18. The following states have not expanded their Medicaid programs: Alabama, Florida, Georgia, Kansas, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Wisconsin, and Wyoming.
19. Before the ACA's Medicaid expansion, some adults were "categorically eligible" if they met criteria such as pregnancy, disability, or having a child in addition to having low income. The ACA defines a "newly eligible" beneficiary as "an individual who is not under 19 years of age (or such higher age as the State may have elected) and who, on the date of enactment of the [ACA], is not eligible under the State plan or under a waiver of the plan for full benefits or for benchmark coverage." Patient Protection and Affordable Care Act, 42 U.S.C. § 13966 (2010); Social Security Act § 1905(y)(2)(A).
20. Blase, "Evidence Is Mounting," 7.

> The traditional federal financing structure makes Medicaid spending relatively cheaper than other areas of state spending, and it incentivizes states to spend additional amounts on Medicaid, as $1 of state funds brings between $1 and $3 of federal funds. The exact rate—dubbed the federal medical assistance percentage (FMAP)—varies inversely with state per capita income. The open-ended reimbursement also presents states with an incentive to artificially inflate Medicaid expenditures through schemes like provider taxes in order to increase federal funds received by the state. As an illustration, Oregon state representative Mitch Greenlick referred to provider taxes as a "dream tax" for states, declaring, "We collect the tax from the hospitals, we put it up as a match for federal money, and then we give it back to the hospitals."[21] . . .
>
> An additional unfortunate effect of Medicaid's open-ended matching grant structure is to discourage both states and the federal government from conducting effective program oversight. As an illustration of the disincentive for states, a state with a 60 percent federal match rate only receives $1 in savings for every $2.50 it identifies in wasteful spending.[22]

The ACA's Medicaid expansion exacerbated the incentives for careless spending because the elevated reimbursement rate provides states with little, if any, incentive to be cost conscious with respect to the expansion population or to ensure they are making lawful claims on the US Treasury for Medicaid expenditures:

> The elevated match rate presents states with incentives to (1) boost ACA Medicaid enrollment and to categorize Medicaid enrollees as ACA expansion enrollees and (2) create high fees for services commonly used by expansion enrollees as well as high capitated payment rates for the insurers participating in the state's Medicaid managed care program. The healthcare interest groups within the states, particularly hospitals and insurers,

21. Blase, "Evidence Is Mounting," 8; quoting Peter Wong, "Oregon House Extends Hospital Tax," *Portland Tribune*, March 11, 2015.
22. Blase, "Evidence Is Mounting," 10.

benefit from the higher enrollment and the higher rates with the large costs overwhelmingly dispersed to federal taxpayers.[23] . . .

Although the reimbursement rate declines after 2016, it is scheduled to remain at 90 percent or above indefinitely, and state financing gimmicks such as provider taxes or intergovernmental transfers mean that the effective federal reimbursement rate will be several percentage points higher than the statutory amount. States will likely be minimally more cost conscious when the rate declines only slightly.[24] . . .

The enhanced reimbursement rate has also led to more calls from policymakers to view Medicaid as an engine for economic stimulus instead of as a welfare program. For example, the Obama administration has prioritized Medicaid expansion, aggressively promoting it as in states' financial interests.[25]

Blase quotes the White House Council of Economic Advisers: "By expanding Medicaid, States can pull billions in additional Federal funding into their economies every year, with no State contribution over the next three years and only a modest one thereafter for coverage of newly eligible people."[26]

ENROLLMENT MUCH HIGHER THAN EXPECTED

By the summer of 2015, expansion states had experienced significantly higher enrollment and spending than had been expected. Initial enrollment in Kentucky and Washington State was more than double what was projected. In California, initial enrollment was nearly three times what was projected. The Associated Press also reported that enrollment numbers in Michigan, New Mexico, Ohio, and Oregon were all well above expectations.[27]

In December 2016, the Foundation for Government Accountability released a study comparing the high-end enrollment projections of the 24 states

23. Blase, 20.
24. Blase, 21. The "intergovernmental transfers" referenced here are "payments from local government entities, often Medicaid providers such as county nursing homes or state university hospitals, to the state government." Blase, 4.
25. Blase, 23.
26. Blase, 23; quoting Council of Economic Advisers, *Missed Opportunities: The Consequences of State Decisions Not to Expand Medicaid*, July 2014.
27. Christina A. Cassidy, "Medicaid Enrollment Surges under Expanded Program; States Worry about Paying for Added Care," *U.S. News & World Report*, July 19, 2015.

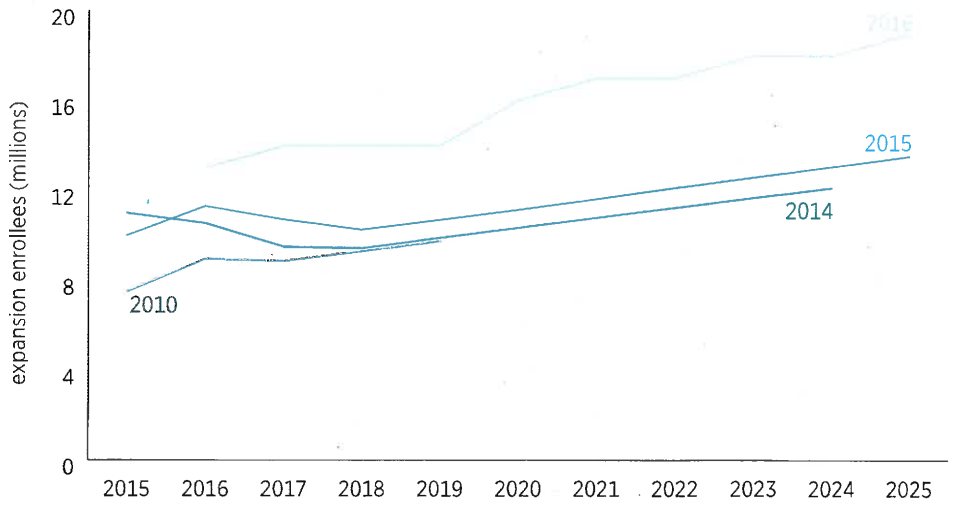
that expanded with actual enrollment figures.[28] Overall, these states enrolled more than twice as many people as projected, and *every single state* had enrollment in excess of its high-end projection.[29] By May 2016, California's enrollment of 3.8 million people in the Medicaid expansion was particularly excessive—more than four times as many people as projected.[30]

In March 2016, CBO reported that "the number of people estimated to have been enrolled in Medicaid in 2015 who were made eligible for the program by the ACA was significantly higher than . . . previously projected."[31] Although in this report CBO downgraded the speed with which it expected states would adopt the expansion, it increased its estimates of ACA expansion enrollees by about two million people in 2015 and about four million people in 2025 relative to the projections contained in its 2015 baseline.[32]

Figure 1 is taken from Brian Blase's 2016 paper and shows how CBO's estimates of Medicaid expansion enrollment increased over time.[33] The 2010, 2014, and 2015 estimates are adjusted for CBO's 2016 assumptions of state adoption of the expansion. This is important because figure 1 aims to show the change in estimates of Medicaid expansion enrollees in expansion states—not CBO's estimates of how many states would adopt the expansion. For example, in 2010, CBO assumed all states would adopt the expansion. In its 2014 and 2015 reports, CBO expected a faster rate of state adoption than in its 2016 report. Adjusting CBO's prior year estimates to account for its 2016 assumptions of state adoption of the

28. Jonathan Ingram and Nicholas Horton, "ObamaCare Expansion Enrollment Is Shattering Projections: Taxpayers and the Truly Needy Will Pay the Price" (Foundation for Government Accountability, Naples, FL, November 16, 2016).
29. Ingram and Horton, "ObamaCare Expansion Enrollment," 3.
30. Ingram and Horton, 13.
31. Congressional Budget Office, *Federal Subsidies for Health Insurance Coverage for People under Age 65: 2016 to 2026*, March 2016. In 2016, CBO reported the number of people enrolled who were classified as newly eligible (states received the elevated reimbursement rate) and the number of people enrolled in Medicaid as a result of the ACA. The second group contains people who were eligible without the ACA but who chose to enroll as a result of the ACA—because of increased outreach efforts, for example. Before 2016, CBO had only reported the latter figure, and CBO decided to stop reporting this number after 2016, only reporting the enrollees who were made eligible for Medicaid by the ACA. On the basis of the 2016 estimate, CBO expected about 3 million people to enroll in Medicaid as a result of the expansion who were already eligible. In CBO's May 2019 estimate, it projected a total of 12 million newly eligible enrollees from 2019 through 2021, rising to 13 million in 2022 and then rising to 14 million in 2025. The increase, according to CBO, is mostly the result of additional states adopting the expansion. CBO's 2019 estimate accounts for the elimination of the individual mandate penalty, which it expects will reduce Medicaid enrollment by about one million people each year.
32. Congressional Budget Office, *Federal Subsidies for Health Insurance Coverage*.
33. See Blase, "Evidence Is Mounting," 16.

FIGURE 1. CONGRESSIONAL BUDGET OFFICE PROJECTIONS OF MEDICAID ENROLLMENT



Note: The 2010, 2014, and 2015 estimates are adjusted for the Congressional Budget Office's 2016 assumptions of state adoption of the expansion.

Sources: Congressional Budget Office and Joint Committee on Taxation to Nancy Pelosi, Speaker of the US House of Representatives, March 20, 2010, https://www.cbo.gov/sites/default/files/111th-congress-2009-2010/costestimate/amendreconprop.pdf; Congressional Budget Office, *Updated Estimates of the Effects of the Insurance Coverage Provisions of the Affordable Care Act*, April 2014; Congressional Budget Office, "Insurance Coverage Provisions of the Affordable Care Act—CBO's March 2015 Baseline," accessed November 15, 2019, https://www.cbo.gov/sites/default/files/recurringdata/51298-2015-03-aca.pdf; Congressional Budget Office, *Federal Subsidies for Health Insurance Coverage for People under Age 65: 2016 to 2026*, March 2016.

ACA Medicaid expansion[34] shows that Medicaid expansion enrollment in states that adopted the expansion is much higher than CBO expected when the ACA passed in 2010, as well as much higher than the estimates in CBO's 2014 and 2015 reports. In essence, figure 1 shows that far more people are enrolling in Medicaid in expansion states—upwards of 50 percent more—than was expected by CBO when the ACA became law.

GOVERNMENT AUDITS SHOW SEVERE PROBLEMS WITH MEDICAID ELIGIBILITY PROCESS

On November 18, 2019, CMS released its annual report on improper payments in federal healthcare programs.[35] The challenges with Medicaid are severe and

34. This is important since the degree to which states were projected to adopt the expansion significantly impacts CBO's estimates of expansion enrollment. In 2010, before the US Supreme Court made the expansion optional, CBO expected all states to adopt the expansion. Between 2014 and 2016, CBO expected that states would be slower to adopt the expansion.

35. Centers for Medicare and Medicaid Services, "2019 Estimated Improper Payment Rates for Centers for Medicare & Medicaid Services (CMS) Programs."

growing, and CMS flagged eligibility errors as the core reason.[36] We estimate that the true improper payment rate in Medicaid now exceeds 20 percent of total federal spending—an amount greater than $75 billion.[37]

As of September 2019, the HHS OIG has published results from a series of audits covering periods in 2014 and 2015 in four states (California, Colorado, Kentucky, and New York) for beneficiaries enrolled as newly eligible. The OIG has also released eligibility audits for non–newly eligible adults in California, Kentucky, and New York. The audits demonstrate that states are failing to properly assess eligibility for Medicaid.

Consistent errors include neglecting to obtain proper documentation, failing to properly verify income eligibility, misclassifying individuals mostly into the newly eligible category, and failing to properly verify citizenship. Some of these enrollment errors lead to incorrect and often higher federal reimbursement for individuals who would qualify for Medicaid under a category other than the newly eligible category, while others lead to enrolling individuals who are completely ineligible for Medicaid. There are also many "potentially ineligible" enrollees, described by the OIG as "beneficiaries for whom there was no documentation to support that [the state] redetermined eligibility as required."[38] The sheer number of potentially ineligible enrollees is evidence that states have not been following proper guidelines. Here are some specific findings:

- California's "eligibility determination systems lacked functionality or eligibility caseworkers made errors.... The State agency did not properly input application information and verify income or lawful presence."[39] The OIG "identified a weakness in the State agency's procedures related to determining eligibility for individuals who may not have intended to apply for Medicaid.... The State agency's procedures may pose a risk that individuals are determined eligible for Medicaid without their knowledge."[40] Of the 150-person sample enrolled as newly eligible individuals, the OIG found that the state incorrectly or potentially incorrectly enrolled 25 percent of

36. Centers for Medicare and Medicaid Services, "Fiscal Year (FY) 2019 Medicare Fee-for-Service Improper Payment Rate Is Lowest since 2010."
37. Yelowitz and Blase, "Medicaid Improper Payments Are Much Worse Than Reported."
38. OIG, *California Made Medicaid Payments on Behalf of Non-Newly Eligible Beneficiaries.*
39. OIG, *California Made Medicaid Payments on Behalf of Newly Eligible Beneficiaries Who Did Not Meet Federal and State Requirements*, February 2018, 17.
40. OIG, *California Made Medicaid Payments on Behalf of Newly Eligible Beneficiaries*, 9.

them.[41] The OIG estimated that there were more than 366,000 ineligible and 79,000 potentially ineligible Medicaid beneficiaries in California.[42]

- In Colorado, "contrary to the provisions of its own verification plan, [the state] relied on self-attestations rather than income verifications."[43] There were "system and procedural errors related to eligibility determinations, as well as human errors made by Colorado staff and caseworkers."[44] In addition, "lags in both the eligibility system and the State agency's reasonable compatibility process . . . delayed disenrollment."[45] Of the 60-person sample of newly eligible enrollees, the OIG found that the state incorrectly or potentially incorrectly enrolled 28 percent of them.[46] The OIG estimated that there were more than 85,000 ineligible and 13,000 potentially ineligible Medicaid beneficiaries in Colorado.[47]
- In New York, of the 130-person sample enrolled as newly eligible individuals, the OIG found that the state incorrectly or potentially incorrectly enrolled 31 percent of them.[48] The OIG estimated that there were more than 47,000 ineligible Medicaid beneficiaries in New York. The OIG's report points to one example in which a beneficiary was enrolled after attesting to an income of approximately $35,000 with a household size of one—the income threshold is $16,105 for a household size of one.[49] The state made "human or system errors related to new eligibility determination processes."[50] In addition, "the State agency did not always maintain applications or documentation to support eligibility determinations."[51] A

41. OIG, *California Made Medicaid Payments on Behalf of Newly Eligible Beneficiaries*, 9.
42. OIG, *California Made Medicaid Payments on Behalf of Newly Eligible Beneficiaries*, 9.
43. OIG, *Colorado Did Not Correctly Determine Medicaid Eligibility for Some Newly Enrolled Beneficiaries*, August 2019, 8.
44. OIG, *Colorado Did Not Correctly Determine Medicaid Eligibility for Some Newly Enrolled Beneficiaries*.
45. OIG, *Colorado Did Not Correctly Determine Medicaid Eligibility for Some Newly Enrolled Beneficiaries*, 8.
46. OIG, *Colorado Did Not Correctly Determine Medicaid Eligibility for Some Newly Enrolled Beneficiaries*, 8.
47. OIG, *Colorado Did Not Correctly Determine Medicaid Eligibility for Some Newly Enrolled Beneficiaries*, 8.
48. OIG, *New York Did Not Correctly Determine Medicaid Eligibility for Some Newly Enrolled Beneficiaries*, January 2018.
49. OIG, *New York Did Not Correctly Determine Medicaid Eligibility for Some Newly Enrolled Beneficiaries*, 7.
50. OIG, *New York Did Not Correctly Determine Medicaid Eligibility for Some Newly Enrolled Beneficiaries*, 6.
51. OIG, *New York Did Not Correctly Determine Medicaid Eligibility for Some Newly Enrolled Beneficiaries*, 6.

separate OIG estimate concerning non–newly eligible beneficiaries found that the state incorrectly or potentially incorrectly enrolled 15 percent of applicants.[52] The OIG estimated that "New York made Federal Medicaid payments of $520.3 million on behalf of 383,893 ineligible beneficiaries and $1.3 billion on behalf of 618,057 potentially ineligible beneficiaries during our 6-month audit period."[53]

- Kentucky "did not always meet Federal and State requirements when making eligibility determinations because of human and system errors."[54] The OIG estimated that there were nearly 35,000 potentially ineligible Medicaid beneficiaries in Kentucky.[55]

A separate OIG California audit showed enormous problems with the state's eligibility procedures.[56] The OIG found that fewer than half of sampled enrollees in California's Medicaid program were correctly enrolled:

> For our sample of 125 beneficiaries, California made payments on behalf of 60 eligible beneficiaries. However, for the remaining 65 beneficiaries, California made payments on behalf of ineligible beneficiaries (e.g., a beneficiary who did not meet the income requirement for the medically needy coverage group) and potentially ineligible beneficiaries. On the basis of our sample results, we estimated that California made Medicaid payments of $959.3 million ($536 million Federal share) on behalf of 802,742 ineligible beneficiaries and $4.5 billion ($2.6 billion Federal share) on behalf of 3.1 million potentially ineligible beneficiaries.[57]

California agreed with these findings. According to California's Health and Human Services Agency, these deficiencies occurred because (1) the counties experienced a "massive influx of applications [for Medicaid] and vast changes in policy brought forth by the ACA," (2) caseworkers made errors, and (3) system

52. OIG, *New York Did Not Correctly Determine Medicaid Eligibility for Some Non–Newly Eligible Beneficiaries*, July 2019.
53. OIG, *New York Did Not Correctly Determine Medicaid Eligibility for Some Non–Newly Eligible Beneficiaries*.
54. OIG, *Kentucky Did Not Correctly Determine Medicaid Eligibility for Some Newly Enrolled Beneficiaries*, May 2017.
55. OIG, *Kentucky Did Not Correctly Determine Medicaid Eligibility for Some Newly Enrolled Beneficiaries*.
56. OIG, *California Made Medicaid Payments on Behalf of Non–Newly Eligible Beneficiaries*.
57. OIG, *California Made Medicaid Payments on Behalf of Non–Newly Eligible Beneficiaries*.

delays occurred during a system conversion. The state agency could not explain why the counties did not always have sufficient documentation (e.g., notes in the case files) to support eligibility determinations and redeterminations. Finally, the state agency used the eligibility determination of a public assistance program other than Medicaid without CMS approval and misinterpreted a waiver that was granted by CMS when determining the Medicaid eligibility of beneficiaries.[58] Perhaps most strikingly, the state made payments on behalf of two sampled beneficiaries who had not applied for Medicaid.[59]

In addition to undergoing federal audits, several states have conducted their own audits, and these have also found problems with the way eligibility procedures were implemented. A Louisiana audit focused on only a portion of its Medicaid expansion enrollees: those whose incomes raise questions about potential ineligibility.[60] The audit found serious deficiencies in the eligibility determination process. These include Louisiana's decision to rely on the federally facilitated marketplace determination, egregious caseworker errors, and infrequent checks of wage data. An Oregon audit found that the state's Medicaid agency did not prioritize ensuring that the program was running efficiently, lacked tools to detect improper payments, and failed to act swiftly when trying to determine who was eligible for Medicaid:

> Once officials worked through a backlog of 115,200 Medicaid recipients, an approximate 41 percent of enrollees were found ineligible. "Failure to address this issue in a timely fashion resulted in approximately $88 million in avoidable expenditures (from March 1 to Aug. 31, 2017)," the audit states.
>
> While the audit was underway, The Oregonian/OregonLive reported an additional $74 million of improper payments were made. A recent change of leadership also prompted the

58. OIG, *California Made Medicaid Payments on Behalf of Non–Newly Eligible Beneficiaries.*
59. OIG, *California Made Medicaid Payments on Behalf of Non–Newly Eligible Beneficiaries*, 16: The State agency made payments on behalf of two sampled beneficiaries who did not apply for Medicaid. These beneficiaries had completed a SNAP application. The State agency was authorized to make Medicaid eligibility determinations on the basis of individuals' eligibility for SNAP. According to CMS guidance, SNAP applicants can indicate that they want to apply for Medicaid by, for example, checking a box on the SNAP application. However, in response to the application question, "Are you interested in applying for Medi-Cal?" the two sampled beneficiaries answered "no." In addition, the case files for these two beneficiaries did not have any documentation to support that they applied for Medicaid.
60. Louisiana Department of Health, *Medicaid Eligibility: Wage Verification Process of the Expansion Population*, Medicaid Audit Unit Report, November 8, 2018.

disclosure of another $112 million of wrongful payments, first reported by The Portland Tribune.[61]

APPROXIMATING IMPROPER ENROLLMENT

University of Kentucky economist Charles Courtemanche and his coauthors examined Medicaid enrollees who reported income above eligibility thresholds in an August 2019 working paper for the National Bureau of Economic Research, using the publicly available American Community Survey (ACS) from 2012 to 2017. This study used a difference-in-differences analysis, contrasting the trends in expansion states and nonexpansion states. The nine states selected as expansion states had not expanded Medicaid eligibility to any childless, working-age adults (age 19 to 64) before 2014.[62] The authors included several robustness checks. For instance, they looked at respondents who would have had no obvious alternative pathway to qualify for Medicaid.[63]

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61. Lauren Dake, "Oregon Health Authority Misspent Millions, State Audit Finds," *Oregon Public Broadcasting*, November 29, 2017.

62. See Charles J. Courtemanche et al., "Early Impacts of the Affordable Care Act on Health Insurance Coverage in Medicaid Expansion and Non-expansion States," *Journal of Policy Analysis and Management* 36, no. 1 (2017); Courtemanche, Marton, and Yelowitz, "Medicaid Coverage across the Income Distribution" (2019). In the 2017 paper, Courtemanche and his coauthors documented expansion status, and in the 2019 paper, Courtemanche, Yelowitz, and their coauthor discuss early expansions among 18 adopting states. They explain,

> The new expanders were 9 states that expanded Medicaid in 2014 and had not implemented earlier broad-based Medicaid expansions for adults. They include Arkansas, Kentucky, Michigan, Nevada, New Hampshire, New Mexico, North Dakota, Ohio, and West Virginia. None of these states implemented the expansions early, and none had subgroups (other than pregnant women) eligible for coverage above 138% of the FPL. The never expanders were 12 states that did not expand by 2019 (and had not implemented earlier expansions). They include Alabama, Florida, Georgia, Kansas, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, South Dakota, Texas, and Wyoming. In these states, the Medicaid income eligibility threshold was between 17 to 54% of the FPL for adult caretakers in families. For childless adults, none of these states extended eligibility for coverage.

Two states that are non-adopters (Tennessee and Wisconsin) are excluded because they had some previous partial expansion. See table 1 in Robert Kaestner et al., "Effects of ACA Medicaid Expansions on Health Insurance Coverage and Labor Supply," *Journal of Policy Analysis and Management* 36, no. 3 (2017).

63. Medicaid offers coverage to a number of low-income groups that are classified as "categorically needy." These include pregnant women, children, Supplemental Security Income recipients (elderly, blind, and disabled individuals), and parents or caretakers of dependent children. See "List of Medicaid Eligibility Groups: Mandatory Categorically Needy," accessed November 13, 2019, https://www.medicaid.gov/medicaid-chip-program-information/by-topics/waivers/1115/downloads/list-of-eligibility-groups.pdf.

Courtemanche and his coauthors found that nine expansion states had significantly higher Medicaid coverage after implementation compared to twelve nonexpansion states. The authors' most noteworthy finding was of significant increases in enrollment among people who report incomes above 138 percent of the FPL. In the nine expansion states, Medicaid enrollment by working-age adults with incomes above 138 percent of the FPL rose by 3.0 percentage points (from 2.7 percent to 5.7 percent, an increase of 111 percent of the base rate in 2012–2013, before the expansion). Such enrollment increased over time—it was more than twice as large in 2017 (3.7 percentage points) as in 2014 (1.5 percentage points).

There are several reasons why an adult with income above 138 percent of the FPL could qualify for Medicaid. These include having lower income during the month when he or she applied for coverage, being pregnant, or having a disability. However, people in households with income above 138 percent of the FPL generally should not be enrolled in Medicaid.

Given that approximately 17.4 million working-age adults had incomes exceeding the Medicaid threshold in the nine selected states, these findings translate into many improperly enrolled individuals. For example, if 3 percent of all people with incomes above 138 percent of the FPL were enrolled in Medicaid, that translates into more than 500,000 people in just the nine expansion states. In 2017, the nine selected states accounted for nearly one-fifth of the total population in the 32 expansion states,[64] meaning that if other expansion states had similar patterns of improper enrollment, the nationwide ineligible count would be scaled up by a factor of five.

This analysis has limitations, which Courtemanche and his coauthors acknowledged and largely addressed.[65] Nonetheless, several critics mischaracterized the study and results, apparently in an attempt to downplay the problem of improper enrollment. The criticisms largely focused on the quality of the ACS data, in particular the classification of respondents based on annual income (since Medicaid eligibility is determined monthly and income can be volatile),

64. For population totals, see "Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2018 (NST-EST2018-01)," spreadsheet, accessed November 14, 2019, available at US Census Bureau, "State Population Totals and Components of Change: 2010–2018," https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-total.html. For expansion status, see Kaiser Family Foundation, "Status of State Action on the Medicaid Expansion Decision," accessed November 14, 2019, https://www.kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/.

65. Courtemanche, Marton, and Yelowitz, "Medicaid Coverage across the Income Distribution."

as well as on issues related to the complexity of family structure and measurement of health insurance coverage. The substance of the findings—that improper Medicaid enrollment has significantly increased in expansion states—is robust across a wide variety of specifications that address each concern.[66]

The essential insight of the study by Courtemanche and his coauthors is illustrated in figure 2, where the sample is restricted to ACS respondents with reported income at or above 250 percent of the FPL (approximately $65,000 for a family of four). Far fewer people who have income above 250 percent of the FPL for the year will have income in any month low enough that they qualify for Medicaid. Among people with income above 250 percent of the FPL, there was sizable growth in Medicaid enrollment in expansion states relative to nonexpansion states. The difference between the two lines in figure 2 is approximately the effect of states' decision to adopt the Medicaid expansion.

IMPROPER ENROLLMENT HOT SPOTS

State-Level Analysis

We use the 2012 and 2017 ACS to describe the likely magnitude of Medicaid enrollment of people who report annual income above the Medicaid eligibility

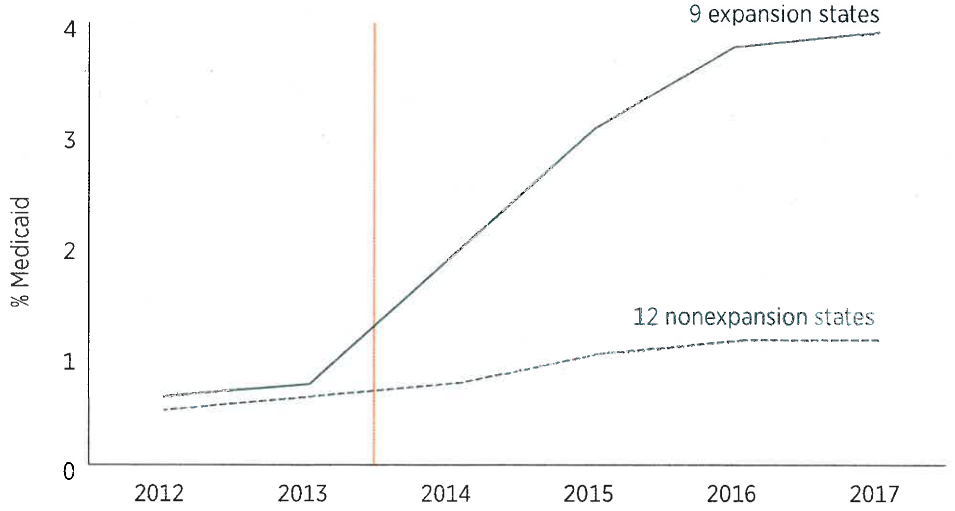
66. For these criticisms, see Judith Solomon and Matt Broaddus, "New Claims by Opponents of Medicaid Expansion Rest on Faulty Analysis," Center on Budget and Policy Priorities, September 18, 2019; Tricia Brooks, "What Some Researchers Get Wrong about Medicaid's Income Eligibility Requirements," *Health Affairs*, September 19, 2019. Aaron Yelowitz addresses these concerns in "Improper Medicaid Enrollment Following ACA Expansion," *Health Affairs*, November 15, 2019.

One criticism relates to income volatility in the ACS, since income is measured annually. People who had low income in the month they applied for Medicaid would likely have been properly enrolled even if it turns out that their annual income exceeds 138 percent of the FPL. To address this, we also conducted an analysis for individuals with annual incomes exceeding 250 percent of the FPL (approximately $65,000 for a family of four): see Courtemanche, Marton, and Yelowitz, "Medicaid Coverage across the Income Distribution." Our substantive conclusions scarcely change.

Another issue raised by the critics is the complexity of household size for calculating Medicaid eligibility. The household definition in the ACS includes unmarried partners, in-laws, roommates, and other individuals who should not be counted in determining the household size or income for Medicaid. We examined the results by restricting the sample to nuclear families, where all individuals in the household consist of a household head and his or her children or a couple and their children. Once again, we find significant effects of the expansion on potentially improper enrollment.

Finally, a meaningful share of ACS respondents appear to misreport their source of insurance coverage. However, public health insurance coverage tends to be underreported in such surveys, and recent research comparing ACS responses to administrative counts finds that "starting in 2014, there was a large undercount in expansion states that was absent in nonexpansion states," leading to "downwardly biased estimates of the effect of expansion on means-tested coverage in the ACS relative to administrative records." Michel Boudreaux et al., "Medicaid Expansion and the Medicaid Undercount in the American Community Survey," *Health Services Research*, October 10, 2019, 7.

FIGURE 2. AVERAGE ANNUAL MEDICAID ENROLLMENT AMONG ADULTS AGE 19–64 WITH INCOMES ABOVE 250 PERCENT OF THE FEDERAL POVERTY LEVEL



Note: Orange line indicates implementation of the ACA's Medicaid expansion.

Source: Charles J. Courtemanche, James Marton, and Aaron Yelowitz, "Medicaid Coverage across the Income Distribution under the Affordable Care Act" (NBER Working Paper No. 26145, National Bureau of Economic Research, Cambridge, MA, August 2019).

thresholds.[67] The year 2012 was likely the last year before the effects of the ACA expansion were observed, and the year 2017 was chosen because, as we write this

67. The ACS has been used in many peer-reviewed studies that examine the Affordable Care Act and Medicaid expansions, including studies that examine their effects on Medicaid coverage. See Molly Frean, Jonathan Gruber, and Benjamin D. Sommers, "Premium Subsidies, the Mandate, and the Medicaid Expansion: Coverage Effects of the Affordable Care Act," *Journal of Health Economics* 53 (2017); Courtemanche et al., "Early Impacts of the Affordable Care Act"; Julie L. Hudson and Asako S. Moriya, "Medicaid Expansion for Adults Had Measurable 'Welcome Mat' Effects on Their Children," *Health Affairs* 36, no. 9 (2017); Aparna Soni, Michael Hendryx, and Kosali Simon, "Medicaid Expansion under the Affordable Care Act and Insurance Coverage in Rural and Urban Areas," *Journal of Rural Health* 33, no. 2 (2017); Fredric Blavin et al., "Medicaid versus Marketplace Coverage for Near-Poor Adults: Effects on Out-of-Pocket Spending and Coverage," *Health Affairs* 37, no. 2 (2018); Pinar Karaca-Mandic et al., "The Volume of TV Advertisements during the ACA's First Enrollment Period Was Associated with Increased Insurance Coverage," *Health Affairs* 36, no. 4 (2017).

In addition, the ACS is one of the primary sources used by the federal government to evaluate health insurance coverage, including state-level estimates of the uninsured rate. The Census Bureau notes, "The ACS, which has a larger sample size than the CPS ASEC, provides an estimate of health insurance coverage at the time of the interview.... The larger sample size offers an opportunity to look at coverage rates for smaller geographies, such as for all 50 states and the District of Columbia." Edward R. Berchick, Jessica C. Barnett, and Rachel D. Upton, *Health Insurance Coverage in the United States: 2018*, Current Population Reports, P60-267(RV) (Washington, DC: US Government Printing Office, 2019). See also, for example, figure 8 in Berchick, Barnett, and Upton, *Health Insurance Coverage in the United States: 2018*.

study, it is the latest year for which the data are available.[68] We examine Medicaid enrollment at the state level, the metropolitan level (through the 378 CBSAs or core-based statistical areas), and the sub-state level (through the 2,351 PUMAs or public use microdata areas, the finest level of geography within the public version of the ACS, comprising sub-state areas of 100,000 or more people).[69] Our comprehensive data on states, CBSAs, and PUMAs for Medicaid coverage rates are available online in spreadsheet format.[70]

We assess two types of coverage outcomes—whether ACS respondents list Medicaid as their exclusive source of health insurance coverage and whether they list Medicaid as a source of coverage.[71] First, we show Medicaid enrollment for respondents with incomes at or above 138 percent of the FPL, 200 percent of the FPL, and 250 percent of the FPL. The results for 138 percent of the FPL provide a sense of the likely overall number people in households with income above eligibility thresholds. Some of the people with income above these thresholds, particularly those close to the 138 percent threshold, may have been eligible for Medicaid during the month in which they applied or because of another circumstance—this could lead to an overestimation of improper enrollment. However, public health insurance coverage tends to be underreported in the ACS, and this would lead to an underestimation of improper enrollment.[72]

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68. In addition, we begin our analysis in 2012 rather than in an earlier year because the geographical identifiers used in the ACS to identify local areas changed between 2011 and 2012.

69. In assigning CBSAs to respondents in the ACS, we follow the procedure used in Courtemanche et al., "Early Impacts of the Affordable Care Act." For the 378 CBSAs presented in the tables and figures, sample sizes range from 270 to 91,973 respondents when we examine adults age 19 to 64 ("Group 1") with income at or above 138 percent of the FPL. Our maps do not display Alaska or Hawaii (or associated CBSAs or PUMAs), but they are included in our analysis.

70. These data are available at https://www.mercatus.org/publications/healthcare/aca-medicaid-expansion.

71. The ACS questionnaire asks, "Is this person CURRENTLY covered by any of the following types of health insurance or health coverage plans?" One possible answer is "Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability." See US Census Bureau, "The American Community Survey Questionnaire," 2017.

72. Ithai Z. Lurie and James Pearce compared health insurance sources from the IRS tax form 1095 to measures from various surveys. For individuals younger than age 65, administrative tax data revealed 75.6 million covered life-years from all public insurance sources, while the point-of-interview measure in the ACS revealed 66.6 million individuals. Lurie and Pearce, "Health Insurance Coverage from Administrative Tax Data" (Working Paper 117, Department of the Treasury, Office of Tax Analysis, Washington, DC, 2019). Michel Boudreaux and his coauthors found that "starting in 2014, there was a large undercount in expansion states that was absent in nonexpansion states," leading to "downwardly biased estimates of expansion on means-tested coverage in the ACS relative to administrative records." The undercount exceeded 10 percent in expansion states for every year between 2014 and 2016, with ACS data missing approximately 3.9 million Medicaid enrollees. In contrast, nonexpansion states had Medicaid enrollment counts far closer to those of administrative sources. See Boudreaux et al., "Medicaid Expansion and the Medicaid Undercount," 1, 5.

A key reason we look at higher income thresholds is that, at higher income thresholds, income volatility is a much less significant concern. Benjamin D. Sommers and health policy professor Sara Rosenbaum note that income volatility could be important for Medicaid enrollment in the case of adults with incomes under 200 percent of the FPL. Looking at the population of adults who were initially ineligible for Medicaid based on monthly income (meaning they started in the analysis with a monthly income that exceeded the Medicaid threshold but was under 200 percent of the FPL), Sommers and Rosenbaum estimate that nearly 30 percent of this population would have experienced a decline in income within six months that would make them eligible for Medicaid. Sommers and Rosenbaum's analysis examined Medicaid eligibility, not Medicaid enrollment; respondents who experience an income decline may still have coverage from another source, such as employer-sponsored health insurance. Importantly, the authors suggest that people with income above 200 percent of the FPL for the year are unlikely to qualify for Medicaid during that year: "Most people with incomes of 200–400 percent of poverty receive insurance through their employers and are unlikely to participate in Medicaid or exchange plans in large numbers; therefore, they were not included in the sample."[73]

In the ACS, respondents report current health insurance coverage and annual income, yet Medicaid eligibility is determined in the month of application. The biggest potential measurement concern is for individuals who had recent declines in income (meaning their current monthly income is low even though their annual income is high). Such respondents would properly qualify for Medicaid based on their low current monthly income, yet the annual measure could suggest they are ineligible. Consequently, we examine Medicaid enrollment at two higher thresholds—200 and 250 percent of the FPL—in addition to examining enrollment at 138 percent of the FPL. Our choice of the 200 percent threshold is consistent with studies on income volatility that dismiss volatility as a substantive issue above 200 percent of the FPL.[74] Our choice of the 250 percent threshold follows earlier work one of us (Aaron Yelowitz) participated in.[75] A threshold of 250 percent of the FPL translates into examining respondents that

73. Benjamin D. Sommers and Sara Rosenbaum, "Issues in Health Reform: How Changes in Eligibility May Move Millions Back and Forth between Medicaid and Insurance Exchanges," *Health Affairs* 30, no. 2 (February 2011): 229.

74. Sommers and Rosenbaum, "Issues in Health Reform," 229.

75. Aaron Yelowitz, "How Did the ACA Affect Health Insurance Coverage in Kentucky?" (Schnatter Institute Working Paper, John H. Schnatter Institute for the Study of Free Enterprise, Lexington, KY, September 2016); Courtemanche, Marton, and Yelowitz, "Medicaid Coverage across the Income Distribution."

are reporting income of nearly $30,000 above the Medicaid eligibility threshold for a family of four.

In addition to examining Medicaid enrollment for several income thresholds, we also explore different groupings of adults with increasingly stringent screens. Our core sample includes all adults age 19 to 64 ("Group 1"). We then narrow the sample to exclude adults who might be categorically eligible for Medicaid because of pregnancy, disability, Supplemental Security Income or Social Security income, or public assistance income ("Group 2"). We narrow further by excluding individuals with imputations on age, insurance sources, pathways to categorical eligibility, labor market outcomes, or income sources ("Group 3").[76] Next, we narrow to respondents who also reported full-time, full-year work, to help control for income volatility ("Group 4").[77] Finally, we narrow to respondents who also report living in nuclear families ("Group 5"). The narrowest grouping based on both income and other characteristics—respondents with high incomes (e.g., 250 percent of the FPL or higher) and without obvious pathways to Medicaid other than the ACA expansions (e.g., excluding those who are categorically eligible), and higher-quality survey responses (e.g., excluding imputations), who additionally work full-time, full-year and live in nuclear families—should be extremely unlikely to have Medicaid coverage.

Table 1 shows the overall magnitude of Medicaid enrollment of 19–64-year-old adults with incomes at or above 138 percent of the FPL in all 50 states and Washington, DC. We present results for all states in descending order based on *changes* in overall Medicaid enrollment. We largely account for eligibility through other means by looking at the change over time. The table also shows the change over time for people who report having only Medicaid coverage.[78]

By looking at the change from 2012 to 2017, we largely account for people who had coverage through an alternative eligibility grouping, as well as accounting for inherent problems with the survey approach. Not surprisingly, the states with the largest increases are all expansion states, although not all of

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76. When survey respondents do not provide a self-reported answer to a question, the ACS provides an answer for the respondent using a "hot-deck" procedure. This is known as "imputation." The procedure uses actual answers from other respondents with similar characteristics, and it could create measurement error that looks like improper enrollment. See US Census Bureau, "2015 American Community Survey Research and Evaluation Report Memorandum Series #ACS15-RER-07," July 10, 2015.

77. For a respondent to be classified as having full-time, full-year work, he or she must report working 50 or more weeks per year and 40 or more hours per week.

78. Appendix table 1 shows population counts for adults ages 19–64 with income at or above 138 percent of the FPL in 2012 and 2017. One can multiply the populations with the percentages in table 1 to estimate counts of Medicaid coverage. Population counts for all groups—Groups 1 through 5—are shown.

TABLE 1. STATE-LEVEL ANALYSIS: MEDICAID COVERAGE FOR ADULTS AGE 19-64 ("GROUP 1") WITH INCOMES AT OR ABOVE 138 PERCENT OF THE FEDERAL POVERTY LEVEL

	Medicaid only			Medicaid		
State	2012 (%)	2017 (%)	Change (pp)	2012 (%)	2017 (%)	Change (pp)
New Mexico	4.9	13.3	8.4	7.3	17.3	10.0
California	4.2	11.9	7.6	6.1	14.4	8.3
Kentucky	2.4	8.5	6.1	4.9	11.9	7.1
Rhode Island	3.7	10.3	6.7	6.1	13.2	7.1
West Virginia	3.1	8.2	5.2	5.3	11.6	6.4
Oregon	2.7	7.9	5.3	4.9	11.0	6.0
Washington	2.3	7.4	5.2	4.1	10.2	6.0
Arkansas	2.3	7.1	4.8	5.0	10.7	5.7
Colorado	2.9	7.8	4.9	4.4	10.1	5.6
Louisiana	3.5	7.8	4.3	5.9	11.2	5.3
Montana	2.0	5.8	3.9	3.4	8.7	5.3
New York	6.8	11.2	4.4	8.9	14.1	5.2
Alaska	2.5	6.6	4.2	4.9	10.0	5.1
Nevada	1.7	6.4	4.7	3.3	8.4	5.1
Arizona	4.3	8.2	3.9	6.3	10.9	4.7
Ohio	2.8	7.0	4.2	4.3	9.1	4.7
Connecticut	5.1	8.5	3.4	6.7	10.8	4.1
Michigan	3.4	6.9	3.5	6.0	10.0	4.0
Minnesota	3.5	6.9	3.4	4.9	8.9	4.0
Illinois	3.5	6.9	3.3	4.9	8.4	3.5
Maryland	3.8	6.7	2.9	5.6	9.1	3.5
New Jersey	3.2	6.4	3.2	4.9	8.3	3.4
Vermont	8.9	11.6	2.6	12.7	16.0	3.3
Pennsylvania	3.2	5.8	2.6	5.3	8.5	3.2
Massachusetts	8.5	11.1	2.6	11.5	14.7	3.1
Indiana	2.2	4.7	2.5	3.8	6.7	2.9
New Hampshire	1.5	4.0	2.5	3.2	6.1	2.8
Iowa	2.7	4.9	2.2	5.1	7.6	2.5
Tennessee	3.2	4.8	1.5	5.4	7.6	2.2
North Dakota	1.3	3.1	1.8	2.0	4.1	2.1
District of Columbia	9.3	11.0	1.7	11.9	13.9	2.0
North Carolina	2.5	3.5	1.0	4.3	6.0	1.7
South Carolina	2.8	4.0	1.2	5.1	6.8	1.7
Idaho	1.9	2.8	0.9	4.4	5.8	1.4
Alabama	2.3	3.1	0.8	5.0	6.3	1.3
Florida	3.3	4.1	0.9	5.2	6.5	1.3

	Medicaid only			Medicaid		
State	2012 (%)	2017 (%)	Change (pp)	2012 (%)	2017 (%)	Change (pp)
Hawaii	5.4	6.0	0.6	7.0	8.3	1.2
Georgia	2.1	2.8	0.7	4.0	5.1	1.1
Virginia	1.5	2.2	0.7	2.5	3.5	1.0
Nebraska	1.0	2.1	1.1	2.7	3.5	0.8
Wyoming	1.8	2.4	0.6	3.9	4.7	0.8
Wisconsin	3.8	4.1	0.3	6.0	6.7	0.7
Missouri	2.2	2.7	0.6	3.9	4.5	0.6
Oklahoma	2.1	2.4	0.4	3.7	4.2	0.6
Kansas	1.4	1.9	0.4	3.0	3.5	0.5
South Dakota	0.8	1.5	0.6	2.6	3.1	0.5
Texas	2.5	2.7	0.2	4.1	4.6	0.5
Mississippi	3.3	3.4	0.0	6.4	6.8	0.4
Utah	2.0	2.2	0.2	3.8	4.1	0.3
Delaware	6.6	5.6	−1.0	9.7	8.5	−1.2
Maine	5.8	4.0	−1.8	8.8	7.4	−1.4
United States	**3.5**	**6.5**	**3.0**	**5.4**	**9.0**	**3.6**
Expansion by 2017	**4.0**	**8.5**	**4.5**	**6.0**	**11.1**	**5.2**
No expansion by 2017	**2.6**	**3.2**	**0.6**	**4.4**	**5.4**	**1.0**

Note: The abbreviation "pp" means percentage points. "Medicaid only" means the respondent reported Medicaid as his or her only source of current health insurance coverage, and "Medicaid" means the respondent reported Medicaid as a source of current coverage. All numbers are rounded to the tenths place. The final three rows report population-weighted coverage rates across the United States, as well as Medicaid expansion status by 2017.

Source: Authors' tabulation of the 2012 and 2017 American Community Survey and Kaiser Family Foundation, "Status of State Action on the Medicaid Expansion Decision as of November 15, 2019," accessed November 19, 2019, https://www.kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D.

them implemented the Medicaid expansion in 2014.[79] As noted earlier, the nine states with the largest percentage point change (New Mexico, California, Kentucky, Rhode Island, West Virginia, Oregon, Washington, Arkansas, and Colorado) all experienced a more than doubling of the percentage of adults with income above 138 percent of the FPL enrolled in Medicaid. In New Mexico, for example, 17.3 percent of all adults with incomes exceeding 138 percent of the FPL reported being enrolled in Medicaid in 2017, up from 7.3 percent in 2012. The bottom of the table breaks out states by their expansion status in 2017. For states that expanded, the change in enrollment for adults with incomes at or

79. Of the top 12 states listed in table 1, California, Rhode Island, Oregon, Washington, Colorado, and New York had some form of early Medicaid expansion. Courtemanche et al., "Early Impacts of the Affordable Care Act." Montana and Louisiana implemented the ACA expansions in 2016.

above 138 percent of the FPL was 5.2 percentage points, while the change for nonexpansion states was 1.0 percentage points.

Table 2 illustrates the top 12 states (from table 1) in terms of changes in coverage rates for people with income above the thresholds of 138 percent, 200 percent, and 250 percent of the FPL. We also include, for each income threshold, the overall ranking across the 50 states and Washington, DC (e.g., Kentucky has the third-highest ranking of Medicaid enrollment by people with income exceeding 138 percent of the FPL, the fourth-highest by people with income exceeding 200 percent of the FPL, and the fifth-highest by people with income exceeding 250 percent of the FPL). The ordering of states is quite consistent across the income thresholds. For example, four states—New Mexico, California, Kentucky, and Rhode Island—appear in the top five states overall with respect to percentage point changes. For adults with incomes at or above 250 percent of the FPL, Medicaid coverage increased from 4.1 percent to 10.7 percent in New Mexico, from 3.7 percent to 9.3 percent in California, and from 3.6 percent to 8.5 percent in Rhode Island.

In table 3, we focus on Medicaid expansion states that exhibited very small changes in enrollment among working-age adults with income above 138 percent of the FPL. As in table 2, we include for each threshold the overall ranking. While table 2 shows that seven expansion states saw enrollment increase among this group by at least 6.0 percentage points, table 3 shows that such enrollment increased by less than 3.0 percentage points in seven jurisdictions. In Delaware, enrollment among this group *fell* from 9.7 percent to 8.5 percent from 2012 to 2017, a decline of 1.2 percentage points. Other expansion jurisdictions with relatively small increases include Hawaii; Washington, DC; North Dakota; Iowa; New Hampshire; and Indiana. North Dakota is particularly noteworthy for having both very low enrollment and a small change over time (growing from 2.0 percent to 4.1 percent). Importantly, tables 2 and 3 suggest that some states are doing a much better job assessing eligibility for Medicaid than other states.

Table 4 presents the change over time for respondents least likely to qualify for Medicaid. These respondents (whom we have called Group 5) work full-time (40-plus hours per week) and full-year (50-plus weeks per year), live in nuclear families, do not meet criteria for categorical eligibility, do not have imputed values, and have income in excess of 250 percent of the FPL. Although Group 5's Medicaid participation rates are lower, there was a significant increase in respondents reporting Medicaid coverage. Three states—California, New York, and West Virginia—experienced coverage rises of 1.1 percentage points or more. To put that in perspective, the number of people with Medicaid coverage who are extremely unlikely to meet the legal requirements of the program increased

TABLE 2. STATE-LEVEL ANALYSIS, VARY INCOME THRESHOLD, GROUP 1 ONLY: MEDICAID EXPANSION STATES WITH LARGEST CHANGES IN MEDICAID COVERAGE FOR ADULTS AGE 19–64

	Income at or above 138% of the federal poverty level						
	Medicaid only			Medicaid			
State	2012 (%)	2017 (%)	Change (pp)	2012 (%)	2017 (%)	Change (pp)	Rank
New Mexico	4.9	13.3	8.4	7.3	17.3	10.0	1
California	4.2	11.9	7.6	6.1	14.4	8.3	2
Kentucky	2.4	8.5	6.1	4.9	11.9	7.1	3
Rhode Island	3.7	10.3	6.7	6.1	13.2	7.1	4
West Virginia	3.1	8.2	5.2	5.3	11.6	6.4	5
Oregon	2.7	7.9	5.3	4.9	11.0	6.0	6
Washington	2.3	7.4	5.2	4.1	10.2	6.0	7
Arkansas	2.3	7.1	4.8	5.0	10.7	5.7	8
Colorado	2.9	7.8	4.9	4.4	10.1	5.6	9
Louisiana	3.5	7.8	4.3	5.9	11.2	5.3	10
Montana	2.0	5.8	3.9	3.4	8.7	5.3	11
New York	6.8	11.2	4.4	8.9	14.1	5.2	12
	Income at or above 200% of the federal poverty level						
	Medicaid only			Medicaid			
State	2012	2017	Change	2012	2017	Change	Rank
New Mexico	3.5	9.7	6.1	5.4	13.3	7.9	1
California	3.0	9.0	6.1	4.6	11.3	6.7	2
Rhode Island	2.4	7.7	5.3	4.3	10.1	5.7	3
Kentucky	1.6	6.1	4.5	3.5	8.8	5.3	4
Washington	1.5	5.6	4.1	3.0	7.9	4.9	5
Colorado	2.0	6.0	4.0	3.2	7.9	4.8	6
Oregon	1.7	5.8	4.0	3.5	8.3	4.8	7
West Virginia	2.1	5.8	3.7	3.9	8.6	4.7	8
New York	4.8	8.7	3.9	6.5	11.1	4.6	9
Arkansas	1.4	4.9	3.5	3.8	8.0	4.2	11
Louisiana	2.4	5.6	3.2	4.3	8.3	4.0	12
Montana	1.4	3.8	2.4	2.4	5.9	3.4	17
	Income at or above 250% of the federal poverty level						
	Medicaid only			Medicaid			
State	2012	2017	Change	2012	2017	Change	Rank
New Mexico	2.6	7.5	4.9	4.1	10.7	6.6	1
California	2.2	7.4	5.1	3.7	9.3	5.6	2
Rhode Island	1.9	6.3	4.4	3.6	8.5	4.9	3
Oregon	1.3	4.8	3.5	2.8	7.1	4.3	4
Kentucky	1.0	4.7	3.6	2.8	6.9	4.2	5

(continued)

TABLE 2. STATE-LEVEL ANALYSIS, VARY INCOME THRESHOLD, GROUP 1 ONLY: MEDICAID EXPANSION STATES WITH LARGEST CHANGES IN MEDICAID COVERAGE FOR ADULTS AGE 19–64 (*CONTINUED*)

	Income at or above 250% of the federal poverty level						
	Medicaid only			Medicaid			
State	2012	2017	Change	2012	2017	Change	Rank
Washington	1.2	4.7	3.5	2.5	6.7	4.2	6
West Virginia	1.4	4.7	3.4	3.0	7.2	4.2	7
Colorado	1.5	4.9	3.4	2.5	6.4	3.9	8
New York	3.8	7.2	3.3	5.4	9.3	3.9	9
Louisiana	1.8	4.5	2.7	3.4	6.9	3.5	11
Arkansas	1.1	4.0	2.9	3.2	6.5	3.3	14
Montana	0.7	2.7	2.0	1.4	4.4	3.0	17

Note: The abbreviation "pp" means percentage points. The top 12 states (all expansion states) for 138 percent of the federal poverty level are included in the first panel and subsequently presented in the next two panels. Their ranks (out of 51 jurisdictions) are presented in the final column (e.g., Arkansas ranked 8 out 51 for the 138 percent threshold and 11 out of 51 for the 200 percent threshold). The state must have expanded Medicaid by 2016 to be included in the table. "Medicaid only" means the respondent reported Medicaid as his or her only source of current health insurance coverage, and "Medicaid" means the respondent reported Medicaid as a source of current coverage. All numbers are rounded to the tenths place.

Source: Authors' tabulation of the 2012 and 2017 American Community Survey.

TABLE 3. STATE-LEVEL ANALYSIS, VARY INCOME THRESHOLD, GROUP 1 ONLY: EXPANSION STATES WITH SMALLEST CHANGES IN MEDICAID COVERAGE FOR ADULTS AGE 19–64

	Income at or above 138% of the federal poverty level						
	Medicaid only			Medicaid			
State	2012 (%)	2017 (%)	Change (pp)	2012 (%)	2017 (%)	Change (pp)	Rank
Delaware	6.6	5.6	−1.0	9.7	8.5	−1.2	50
Hawaii	5.4	6.0	0.6	7.0	8.3	1.2	37
District of Columbia	9.3	11.0	1.7	11.9	13.9	2.0	31
North Dakota	1.3	3.1	1.8	2.0	4.1	2.1	30
Iowa	2.7	4.9	2.2	5.1	7.6	2.5	28
New Hampshire	1.5	4.0	2.5	3.2	6.1	2.8	27
Indiana	2.2	4.7	2.5	3.8	6.7	2.9	26
Massachusetts	8.5	11.1	2.6	11.5	14.7	3.1	25
Pennsylvania	3.2	5.8	2.6	5.3	8.5	3.2	24
Vermont	8.9	11.6	2.6	12.7	16.0	3.3	23
New Jersey	3.2	6.4	3.2	4.9	8.3	3.4	22
Illinois	3.5	6.9	3.3	4.9	8.4	3.5	20

	Income at or above 200% of the federal poverty level						
	Medicaid only			Medicaid			
State	2012	2017	Change	2012	2017	Change	Rank
Delaware	5.0	4.2	−0.9	7.7	7.1	−0.6	51
District of Columbia	7.2	8.1	0.8	9.4	10.4	1.0	36
Hawaii	3.9	4.8	0.9	5.2	6.8	1.5	31
Iowa	1.9	3.2	1.3	3.6	5.2	1.6	30
Indiana	1.3	3.0	1.8	2.4	4.5	2.1	28
North Dakota	0.6	2.5	2.0	1.1	3.3	2.2	27
New Hampshire	1.1	3.1	2.0	2.4	4.8	2.4	26
Pennsylvania	2.1	4.2	2.1	3.8	6.3	2.5	24
Vermont	6.0	8.4	2.4	9.1	11.6	2.5	25
Illinois	2.3	4.9	2.6	3.4	6.2	2.8	21
New Jersey	2.2	4.8	2.6	3.7	6.5	2.8	23
Massachusetts	6.4	9.0	2.6	8.9	12.0	3.1	19
	Income at or above 250% of the federal poverty level						
	Medicaid only			Medicaid			
State	2012	2017	Change	2012	2017	Change	Rank
Delaware	4.6	3.7	−0.9	7.0	6.2	−0.8	51
Iowa	1.4	2.5	1.1	3.0	4.0	1.0	35
District of Columbia	5.2	6.2	1.0	7.1	8.3	1.1	33
North Dakota	0.4	1.5	1.1	1.0	2.3	1.3	31
Hawaii	3.6	4.2	0.6	4.6	6.0	1.4	29
Indiana	1.1	2.3	1.3	2.0	3.6	1.6	26
New Hampshire	1.0	2.3	1.3	2.1	3.7	1.6	27
Pennsylvania	1.7	3.3	1.7	3.2	5.2	2.0	25
Illinois	1.8	3.9	2.1	2.7	5.0	2.3	23
New Jersey	1.7	4.0	2.3	3.2	5.6	2.4	22
Vermont	4.0	5.9	1.9	6.2	8.6	2.5	21
Massachusetts	4.9	7.6	2.7	7.0	10.2	3.2	16

Note: The abbreviation "pp" means percentage points. The bottom 12 expansion states for 138 percent of the federal poverty level are included in the first panel and subsequently presented in the next two panels. Their ranks (out of 51 jurisdictions) are presented in the final column. States must have expanded Medicaid by 2016 to be included in the table. "Medicaid only" means the respondent reported Medicaid as his or her only source of current health insurance coverage, and "Medicaid" means the respondent reported Medicaid as a source of current coverage. All numbers are rounded to the tenths place.

Source: Authors' tabulation of the 2012 and 2017 American Community Survey.

TABLE 4. STATE-LEVEL ANALYSIS: MEDICAID COVERAGE FOR ADULTS AGE 19–64; NOT CATEGORICALLY ELIGIBLE; NO IMPUTED VALUES; FULL-TIME, FULL-YEAR WORKERS; NUCLEAR FAMILIES ("GROUP 5") WITH INCOMES AT OR ABOVE 250 PERCENT OF THE FEDERAL POVERTY LEVEL

	Medicaid only			Medicaid		
State	2012 (%)	2017 (%)	Change (pp)	2012 (%)	2017 (%)	Change (pp)
California	0.2	1.6	1.4	0.2	1.7	1.5
New York	0.4	1.4	1.0	0.5	1.5	1.1
West Virginia	0.1	0.8	0.7	0.1	1.2	1.1
Arkansas	0.0	0.8	0.8	0.1	0.9	0.8
Colorado	0.3	1.0	0.7	0.4	1.1	0.8
Hawaii	0.1	0.7	0.6	0.1	0.8	0.8
Kentucky	0.0	0.8	0.8	0.1	0.8	0.8
Massachusetts	0.9	1.6	0.7	1.0	1.7	0.7
New Jersey	0.2	0.8	0.7	0.2	0.9	0.7
Vermont	1.1	1.4	0.3	1.1	1.8	0.7
Washington	0.2	0.8	0.7	0.2	0.9	0.7
Maryland	0.1	0.7	0.5	0.2	0.8	0.6
Nevada	0.0	0.6	0.6	0.1	0.7	0.6
Louisiana	0.1	0.5	0.5	0.1	0.6	0.5
Michigan	0.1	0.5	0.4	0.1	0.6	0.5
Minnesota	0.4	0.8	0.4	0.5	0.9	0.5
Oregon	0.1	0.5	0.4	0.1	0.6	0.5
Rhode Island	0.4	0.8	0.4	0.4	0.8	0.5
Connecticut	0.5	0.8	0.3	0.5	0.9	0.4
Delaware	0.0	0.3	0.3	0.0	0.5	0.4
Florida	0.1	0.4	0.3	0.1	0.6	0.4
Idaho	0.0	0.1	0.1	0.0	0.4	0.4
Illinois	0.2	0.6	0.4	0.3	0.6	0.4
Montana	0.0	0.3	0.3	0.0	0.4	0.4
Ohio	0.0	0.4	0.3	0.1	0.4	0.4
Arizona	0.2	0.4	0.2	0.2	0.5	0.3
New Hampshire	0.0	0.3	0.2	0.0	0.3	0.3
New Mexico	0.5	0.5	0.1	0.6	0.9	0.3
South Carolina	0.1	0.3	0.3	0.1	0.4	0.3
Tennessee	0.1	0.3	0.3	0.1	0.4	0.3
Indiana	0.1	0.2	0.2	0.1	0.3	0.2
Texas	0.1	0.2	0.2	0.1	0.3	0.2
Utah	0.0	0.1	0.1	0.0	0.2	0.2
Wisconsin	0.1	0.4	0.2	0.2	0.4	0.2
Alabama	0.0	0.1	0.1	0.0	0.1	0.1
Alaska	0.0	0.7	0.7	0.7	0.8	0.1

	Medicaid only			Medicaid		
State	2012 (%)	2017 (%)	Change (pp)	2012 (%)	2017 (%)	Change (pp)
Missouri	0.1	0.1	0.0	0.1	0.1	0.1
North Carolina	0.0	0.1	0.1	0.1	0.2	0.1
North Dakota	0.0	0.1	0.1	0.0	0.1	0.1
Pennsylvania	0.2	0.2	0.1	0.2	0.3	0.1
Virginia	0.0	0.1	0.1	0.0	0.1	0.1
Georgia	0.0	0.1	0.0	0.1	0.1	0.0
Iowa	0.1	0.1	0.0	0.2	0.2	0.0
Nebraska	0.0	0.1	0.1	0.1	0.1	0.0
Oklahoma	0.0	0.1	0.0	0.1	0.1	0.0
District of Columbia	0.9	1.1	0.2	1.5	1.4	−0.1
Kansas	0.0	0.0	0.0	0.1	0.1	−0.1
Mississippi	0.1	0.1	0.0	0.3	0.2	−0.1
South Dakota	0.1	0.0	−0.1	0.1	0.0	−0.1
Wyoming	0.0	0.0	0.0	0.1	0.0	−0.1
Maine	0.3	0.2	−0.2	0.4	0.2	−0.2

Note: The abbreviation "pp" means percentage points. "Medicaid only" means the respondent reported Medicaid as his or her only source of current health insurance coverage, and "Medicaid" means the respondent reported Medicaid as a source of current coverage. All numbers are rounded to the tenths place.

Source: Authors' tabulation of the 2012 and 2017 American Community Survey.

by 750 percent in California (from 0.2 percent to 1.7 percent), by 200 percent in New York (from 0.5 percent to 1.5 percent), and by 1,100 percent in West Virginia (from 0.1 percent to 1.2 percent). Four of the states with OIG audits that showed problematic Medicaid expansion eligibility—California, New York, Colorado, and Kentucky—all appear in the top seven states with respect to gains in coverage among those who are extremely unlikely to be eligible. (The other states are West Virginia, Arkansas, and Hawaii.)[80]

In table 5, we illustrate the effect of narrowing the sample but holding the threshold constant at 138 percent of the FPL. In other words, we move from Group 1 to Group 5 for households that report income above 138 percent of the FPL. For each grouping, we again include the overall ranking across the 50 states and Washington, DC. For Group 1, there is a large growth in Medicaid enrollment, rising by between 5.2 and 10.0 percentage points between 2012 and 2017 among the top 12 states.

80. Note that Hawaii appears on a list with small changes in improper enrollment (table 3) as well as on one with large changes in improper enrollment (table 4).

TABLE 5. STATE-LEVEL ANALYSIS, VARYING GROUP, INCOME AT OR ABOVE 138 PERCENT OF THE FEDERAL POVERTY LEVEL: MEDICAID EXPANSION STATES WITH LARGEST CHANGES IN MEDICAID COVERAGE FOR ADULTS AGE 19–64

	Group 1: All Adults Age 19–64						
	Medicaid only			Medicaid			
State	2012 (%)	2017 (%)	Change (pp)	2012 (%)	2017 (%)	Change (pp)	Rank
New Mexico	4.9	13.3	8.4	7.3	17.3	10.0	1
California	4.2	11.9	7.6	6.1	14.4	8.3	2
Kentucky	2.4	8.5	6.1	4.9	11.9	7.1	3
Rhode Island	3.7	10.3	6.7	6.1	13.2	7.1	4
West Virginia	3.1	8.2	5.2	5.3	11.6	6.4	5
Oregon	2.7	7.9	5.3	4.9	11.0	6.0	6
Washington	2.3	7.4	5.2	4.1	10.2	6.0	7
Arkansas	2.3	7.1	4.8	5.0	10.7	5.7	8
Colorado	2.9	7.8	4.9	4.4	10.1	5.6	9
Louisiana	3.5	7.8	4.3	5.9	11.2	5.3	10
Montana	2.0	5.8	3.9	3.4	8.7	5.3	11
New York	6.8	11.2	4.4	8.9	14.1	5.2	12
	Group 2: Same as Group 1, Except Excluding Categorically Eligible						
	Medicaid only			Medicaid			
State	2012	2017	Change	2012	2017	Change	Rank
California	2.7	10.3	7.6	3.2	11.5	8.3	1
New Mexico	3.3	10.5	7.2	4.0	12.3	8.3	2
Kentucky	0.8	6.7	5.9	1.3	8.0	6.7	3
Rhode Island	2.2	7.9	5.7	2.6	9.0	6.4	4
Oregon	1.4	6.4	5.0	1.9	7.9	6.0	6
West Virginia	1.2	6.1	4.8	1.5	7.2	5.7	7
Washington	1.1	5.9	4.7	1.7	7.1	5.4	8
Colorado	2.0	6.4	4.4	2.6	7.7	5.1	9
New York	5.5	9.9	4.4	6.3	11.3	5.0	10
Arkansas	1.0	5.1	4.1	1.7	6.6	4.9	11
Montana	0.6	4.5	3.9	0.7	5.4	4.7	12
Louisiana	1.7	5.9	4.1	2.5	7.1	4.6	13
	Group 3: Same as Group 2, Except Excluding Imputed Values						
	Medicaid only			Medicaid			
State	2012	2017	Change	2012	2017	Change	Rank
California	2.3	9.2	7.0	2.4	9.7	7.3	1
New Mexico	2.9	8.4	5.4	3.3	9.5	6.2	2
Kentucky	0.4	5.9	5.4	0.5	6.3	5.8	3
West Virginia	0.8	5.3	4.4	0.9	5.8	5.0	4
Oregon	1.0	5.4	4.4	1.2	5.9	4.8	5

Washington	0.9	5.3	4.4	1.1	5.7	4.6	6
New York	4.6	8.6	4.0	5.0	9.2	4.3	8
Arkansas	0.8	4.5	3.8	0.9	5.1	4.2	9
Montana	0.3	4.2	3.9	0.4	4.5	4.2	10
Rhode Island	2.0	6.0	4.0	2.1	6.3	4.2	11
Colorado	1.7	5.2	3.6	1.8	5.7	3.8	12
Louisiana	1.4	5.2	3.8	1.7	5.6	3.8	13

	Group 4: Same as Group 3, Except Excluding Non–Full-Time, Full-Year Workers						
	Medicaid only			Medicaid			
State	2012	2017	Change	2012	2017	Change	Rank
California	0.9	4.7	3.8	1.0	5.1	4.0	1
New Mexico	1.3	4.1	2.8	1.6	4.7	3.1	3
Kentucky	0.0	2.7	2.6	0.1	2.9	2.8	4
New York	1.8	4.3	2.5	2.0	4.7	2.7	5
Oregon	0.2	2.4	2.1	0.3	2.6	2.4	6
Arkansas	0.2	2.3	2.1	0.3	2.6	2.3	7
West Virginia	0.4	2.1	1.7	0.5	2.6	2.1	8
Colorado	0.8	2.5	1.7	0.8	2.9	2.0	9
Louisiana	0.4	2.5	2.1	0.7	2.7	2.0	10
Rhode Island	0.9	2.9	2.0	1.1	3.0	1.9	11
Washington	0.3	2.1	1.8	0.4	2.3	1.9	12
Montana	0.1	1.8	1.7	0.1	1.9	1.8	13

	Group 5: Same as Group 4, Except Excluding Non-nuclear Families						
	Medicaid only			Medicaid			
State	2012	2017	Change	2012	2017	Change	Rank
California	0.6	3.5	2.9	0.7	3.8	3.1	1
New Mexico	1.4	3.5	2.1	1.7	4.3	2.6	2
Oregon	0.2	2.1	2.0	0.2	2.5	2.3	3
New York	1.4	3.4	1.9	1.5	3.6	2.1	5
Arkansas	0.1	1.9	1.8	0.3	2.2	1.9	6
Kentucky	0.0	1.8	1.8	0.1	2.0	1.9	7
West Virginia	0.2	1.6	1.3	0.2	2.0	1.7	8
Colorado	0.7	2.0	1.3	0.8	2.3	1.5	10
Montana	0.0	1.3	1.3	0.0	1.5	1.4	11
Rhode Island	1.0	2.5	1.5	1.2	2.6	1.4	13
Washington	0.3	1.5	1.3	0.4	1.8	1.4	14
Louisiana	0.2	1.5	1.3	0.4	1.7	1.3	15

Note: The abbreviation "pp" means percentage points. The top 12 states (all expansion states) for Group 1 are included in the first panel and subsequently presented in the next four panels. Their ranks (out of 51 jurisdictions) are presented in the final column (e.g., Arkansas ranked 8 out 51 for Group 1, ranked 11 out of 51 for Group 2, etc.). The state must have expanded Medicaid by 2016 to be included in the table. "Medicaid only" means the respondent reported Medicaid as his or her only source of current health insurance coverage, and "Medicaid" means the respondent reported Medicaid as a source of current coverage. All numbers are rounded to the tenths place.

Source: Authors' tabulation of the 2012 and 2017 American Community Survey.

Group 2 excludes respondents who could likely qualify for Medicaid through categorically eligible pathways, including those who reported (1) having a baby in the past year, (2) having a disability, (3) having Supplemental Security Income or Social Security income, or (4) having income from public assistance. Medicaid enrollment significantly declines for people with income above 138 percent of the FPL who do not satisfy one of these four criteria. For example, the percentage of people who report Medicaid as their source of coverage in California falls from 6.1 percent to 3.2 percent in 2012. Nonetheless, the *change* in Medicaid enrollment in California between 2012 and 2017 is 8.3 percentage points for Group 2—similar to the change in the full sample. Since this trend excluded those with likely alternative pathways to Medicaid, the change over time is likely a measure of growth in improper enrollment. Similar patterns emerge in other states. After excluding people who would likely be eligible for Medicaid through categorically eligible pathways, coverage still soared between 2012 and 2017. For example, in California, Colorado, and Kentucky—three states examined in recent OIG audits—the change in participation is similar in percentage point terms between the full sample and narrowed sample, suggesting that the growth in improper enrollment occurred among non–categorically eligible groups.

Progressing from the second to third panel of table 5, we next exclude individuals whose data include imputed values. Imputation—which uses actual answers from other respondents with similar characteristics to the respondent—could create measurement error. In all cases, Medicaid coverage is lower for Group 3. In most cases, the percentage point change in coverage between 2012 and 2017 is smaller for Group 3. (For instance, there is a 7.3 percentage point increase in Medicaid enrollment in California for Group 3, versus an 8.3 percentage point increase for Group 2). In all cases, the magnitude of the change over time remains large, and the state rankings are very similar to those of earlier groupings. For example, California, New Mexico, and Kentucky all rank in the top three states in both Group 2 and Group 3.

Next, moving to Group 4, the sample is restricted to full-time, full-year (FTFY) workers. This exclusion leads to lower Medicaid coverage rates for several reasons. First, focusing on FTFY workers removes from the sample people with a great deal of income volatility. Among the group of respondents with incomes at or above 138 percent of the FPL, average income is higher for FTFY workers, which will also reduce Medicaid participation rates. Second, the availability of employer-sponsored health insurance is higher among FTFY workers than in the complete sample, as is take-up. Finally, the employer mandate may

modestly increase employer-sponsored health insurance coverage, thus lowering Medicaid coverage. As can be seen by comparing states in Group 3 and Group 4, Medicaid participation in 2012 is much lower after these exclusions. For example, in California, Medicaid participation falls from 2.4 percent to 1.0 percent among FTFY workers in 2012. However, there is still substantial (but smaller) growth between 2012 and 2017 (a 4.0 percentage point increase in Medicaid coverage among FTFY workers versus a 7.3 percentage point increase without this restriction). Similar patterns emerge in other states, such as Alaska, Arkansas, Kentucky, New Mexico, New York, Oregon, and West Virginia.

The fifth panel imposes the final restriction, focusing on respondents living in nuclear families (i.e., the household consists of the head, spouse if present, and related children). Such a restriction does not materially change the conclusions. Baseline participation rates in 2012 are quite similar for Group 4 and Group 5, while the growth from 2012 to 2017 modestly decreases.

Taken as a whole, the analysis reveals a number of states where improper Medicaid enrollment is likely significant, and the conclusions are robust to different data specifications. California, Kentucky, New Mexico, Oregon, and West Virginia appeared near the top for all five groupings. Alaska, Arkansas, Colorado, and New York appeared near the top in four of the five groupings. Of these nine states, the OIG audits have investigated four and have found serious problems with the way those states are conducting eligibility reviews.

In addition, the analysis has examined Medicaid participation far from the eligibility threshold of 138 percent of the FPL. For thresholds of 138 percent, 200 percent, and 250 percent of the FPL, eight states consistently appear at the top in terms of a sizable share of the state population enrolled in Medicaid. These states include California, Colorado, Kentucky, New Mexico, Oregon, Rhode Island, Washington, and West Virginia.

Metropolitan-Level and PUMA-Level Analysis

We next turn to examining sub-state geographies: CBSAs and PUMAs. Following methods used by Courtemanche and his coauthors, we identify 378 metropolitan CBSAs in the ACS.[81] Figure 3 illustrates the broadest potentially improper enrollment measure: Medicaid coverage in 2017 for adults age 19 to 64 at or above 138 percent of the FPL. Table 6 provides estimates for the 44 cities within the

81. Courtemanche et al., "Early Impacts of the Affordable Care Act."

FIGURE 3. MEDICAID ENROLLMENT RATE (PERCENT) BY CORE-BASED STATISTICAL AREA, 2017

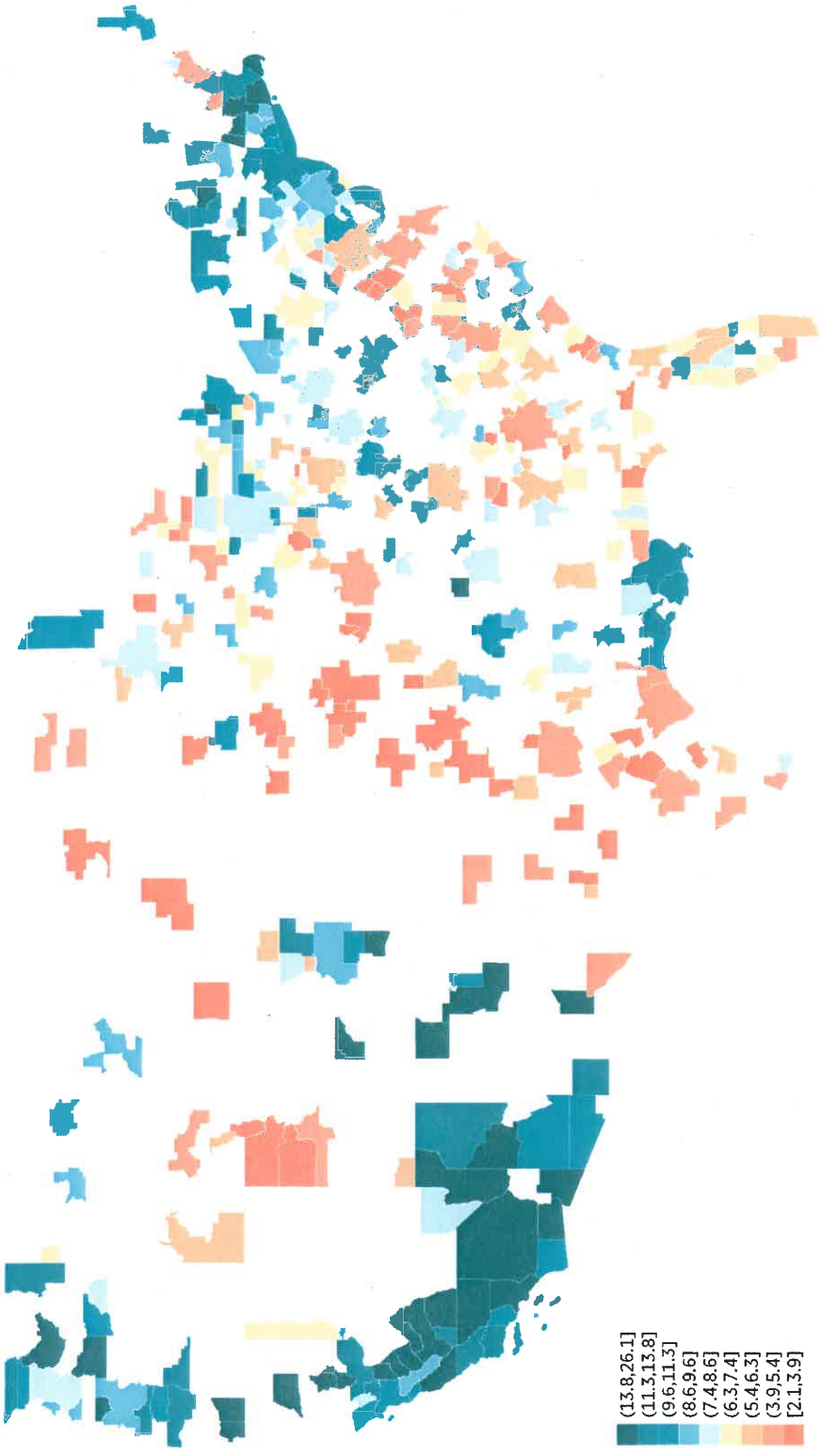


TABLE 6. ANALYSIS AT THE CORE-BASED STATISTICAL AREA (CBSA) LEVEL: MEDICAID COVERAGE FOR ADULTS AGE 19-64 ("GROUP 1") WITH INCOMES AT OR ABOVE 138 PERCENT OF THE FEDERAL POVERTY LEVEL

	Medicaid only			Medicaid comprehensive		
CBSA	2012 (%)	2017 (%)	Change (pp)	2012 (%)	2017 (%)	Change (pp)
Merced, CA	9.3	20.8	11.5	11.3	26.1	14.8
El Centro, CA	8.2	21.1	12.9	11.1	25.7	14.6
Pueblo, CO	5.3	17.8	12.5	8.0	22.8	14.8
Farmington, NM	4.6	17.2	12.6	4.8	22.7	17.9
Chico, CA	5.6	15.1	9.4	9.9	21.5	11.5
Madera, CA	14.1	19.3	5.2	16.8	21.5	4.7
Yuba City, CA	5.8	16.3	10.6	9.3	21.2	11.9
Bakersfield, CA	5.5	17.2	11.8	8.0	21.0	13.0
Modesto, CA	7.0	17.7	10.7	10.4	21.0	10.6
Yakima, WA	2.3	15.7	13.3	4.6	20.9	16.3
Fresno, CA	6.6	17.0	10.4	9.3	20.8	11.5
Pittsfield, MA	11.4	13.0	1.6	15.7	20.8	5.1
Visalia-Porterville, CA	7.5	16.6	9.2	9.3	20.4	11.1
Grants Pass, OR	6.4	13.4	7.0	11.2	20.1	8.9
Stockton-Lodi, CA	6.6	16.8	10.2	9.3	19.5	10.2
Longview, WA	1.8	14.0	12.2	4.2	19.2	15.1
Wenatchee, WA	5.5	14.2	8.8	8.1	19.2	11.1
Yuma, AZ	2.9	14.7	11.8	5.3	19.1	13.8
Riverside-San Bernardino-Ontario, CA	4.7	15.9	11.2	6.7	19.0	12.3
Springfield, MA	9.9	14.4	4.5	13.6	19.0	5.4
Lake Havasu City-Kingman, AZ	7.0	14.7	7.7	10.1	18.4	8.3
Sebring, FL	6.2	12.7	6.6	12.0	17.9	5.9
Redding, CA	7.4	12.5	5.2	10.6	17.0	6.4
Barnstable Town, MA	10.4	13.1	2.7	13.9	16.9	3.0
Albuquerque, NM	5.5	12.3	6.9	7.9	16.4	8.5
Las Cruces, NM	3.6	12.8	9.2	5.6	15.8	10.2
Grand Junction, CO	3.5	12.8	9.3	4.7	15.7	11.0
Glens Falls, NY	2.1	12.1	10.0	5.1	15.6	10.5
Worcester, MA-CT	7.7	11.0	3.3	11.2	15.5	4.3
Jonesboro, AR	1.8	11.4	9.5	5.5	15.2	9.7
Los Angeles-Long Beach-Anaheim, CA	4.2	12.5	8.3	5.8	14.9	9.0
Elmira, NY	5.0	11.8	6.8	7.9	14.4	6.5
Parkersburg-Vienna, WV	2.6	11.8	9.2	5.2	14.3	9.1
Providence-Warwick, RI-MA	6.1	10.7	4.6	9.3	14.3	5.0
Salinas, CA	3.3	12.5	9.1	5.3	14.2	8.9
Utica-Rome, NY	7.1	11.0	4.0	9.4	14.1	4.7

TABLE 6. ANALYSIS AT THE CORE-BASED STATISTICAL AREA (CBSA) LEVEL: MEDICAID COVERAGE FOR ADULTS AGE 19–64 ("GROUP 1") WITH INCOMES AT OR ABOVE 138 PERCENT OF THE FEDERAL POVERTY LEVEL (*CONTINUED*)

	Medicaid only			Medicaid comprehensive		
CBSA	2012 (%)	2017 (%)	Change (pp)	2012 (%)	2017 (%)	Change (pp)
Huntington–Ashland, WV–KY–OH	2.5	10.3	7.8	4.4	14.0	9.6
Medford, OR	2.4	10.2	7.8	6.0	14.0	8.0
Flint, MI	4.6	10.2	5.6	8.2	13.9	5.7
Prescott, AZ	6.4	10.0	3.6	9.3	13.9	4.6
Alexandria, LA	3.3	9.2	5.9	5.2	13.8	8.5
Muskegon, MI	4.5	9.2	4.7	6.0	13.8	7.8
Rockford, IL	4.6	11.0	6.4	6.6	13.8	7.2
Sacramento–Roseville–Arden–Arcade, CA	3.8	10.7	6.9	6.2	13.8	7.6

Note: The abbreviation "pp" means percentage points. "Medicaid only" means the respondent reported Medicaid as his or her only source of current health insurance coverage, and "Medicaid" means the respondent reported Medicaid as a source of current coverage. All numbers are rounded to the tenths place.

Source: Authors' tabulation of the 2012 and 2017 American Community Survey.

top grouping (Medicaid enrollment rates exceeding 13.8 percent).[82] The cities are overwhelmingly in states with a high percentage of Medicaid enrollees with income above 138 percent of the FPL. Most striking is the extent of the problem in California cities. In Merced, California, 26.1 percent of adults with incomes exceeding 138 percent of the FPL reported Medicaid enrollment in 2017. Metro areas in California represent approximately 7 percent of all CBSAs analyzed (26 out of 378), but they represent 34 percent of cities in the top tier of Medicaid enrollees with income above 138 percent of the FPL (15 out of 44).

Figure 4 uses the most granular geographical unit contained in the ACS: 2,351 PUMAs. The map clearly shows that certain states—highlighted in the state-level analysis above—have systemic issues with potentially improper enrollment that affect a broad range of localities. In 2017, in eight PUMAs, more than 33 percent of adults age 19–64 with income above 138 percent of the FPL reported being enrolled in Medicaid. Five of the eight PUMAs are in either New York City or Los Angeles. Figures 5 and 6 show participation rates in these two areas, respectively. In New York City, the highest potentially improper enrollment rates were in the Bronx (with five PUMAs exceeding 30 percent). In Los Angeles, Medicaid enrollment of people with income above 138 percent of the FPL was highest in central and south-central Los Angeles, with the rate exceeding 40 percent in one PUMA.

82. The CBSA map divides the 378 CBSA locations into nine bins. This is the highest bin.

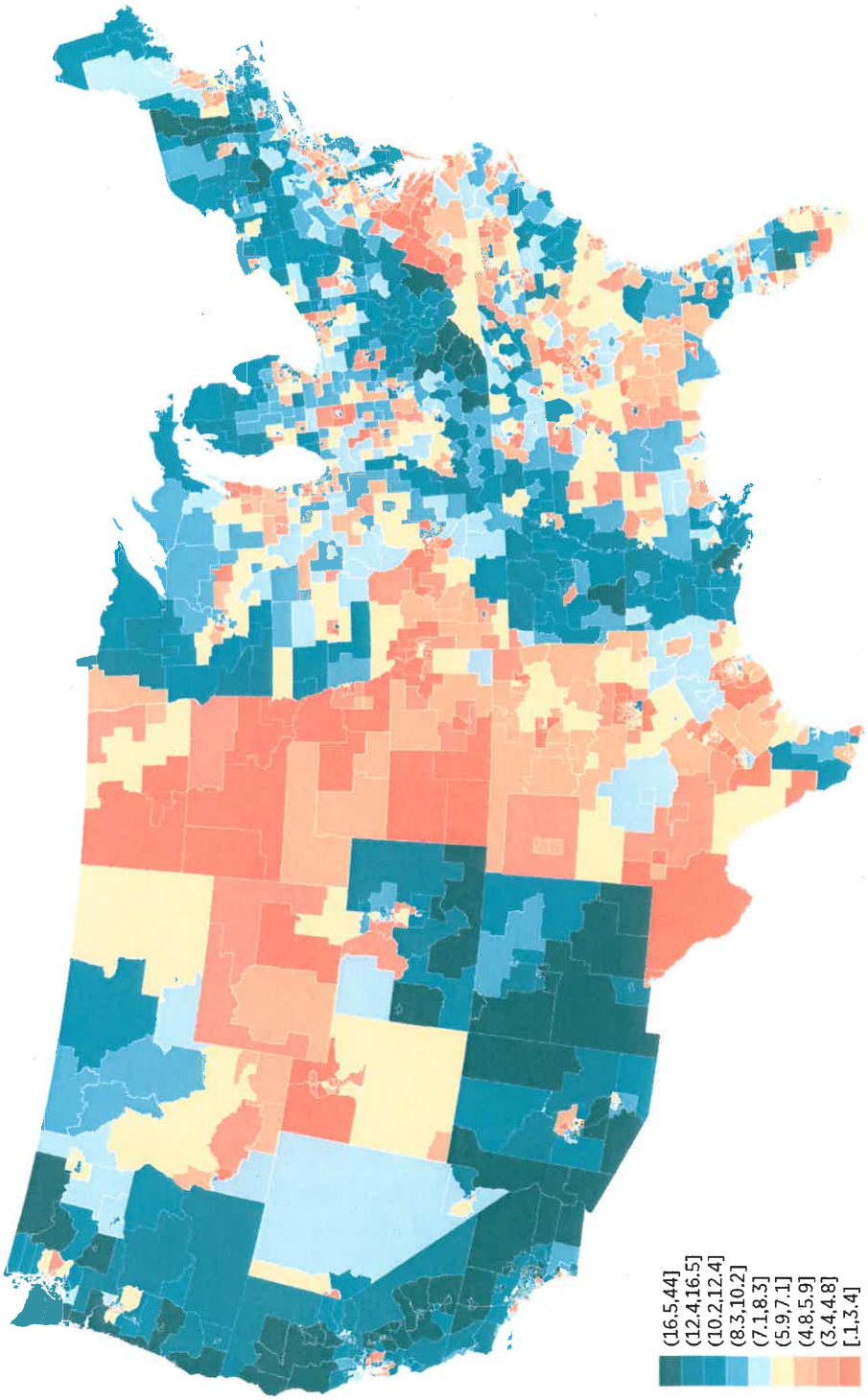
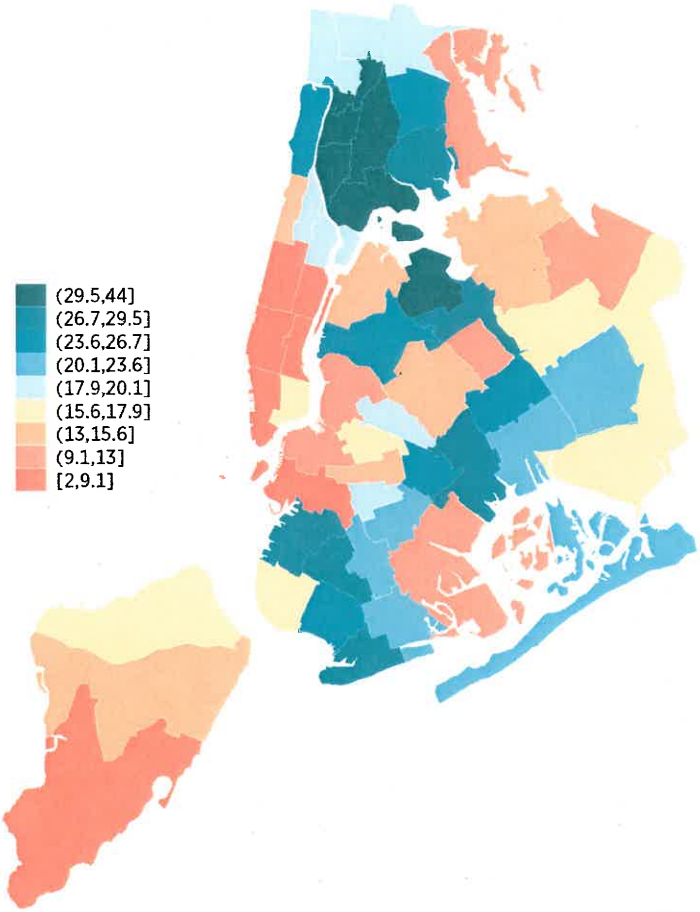


FIGURE 4. MEDICAID ENROLLMENT (PERCENT) BY PUBLIC USE MICRODATA AREA, 2017

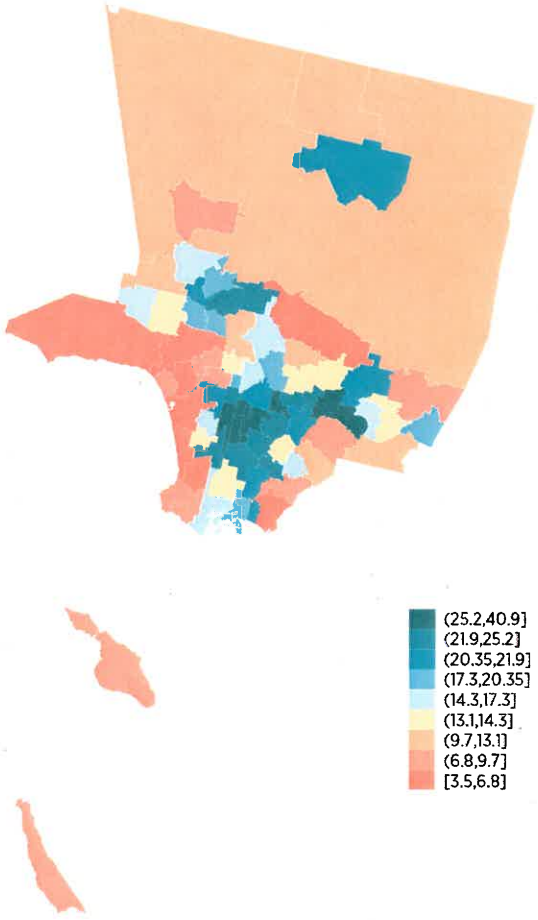
FIGURE 5. MEDICAID ENROLLMENT (PERCENT) BY PUBLIC USE MICRODATA AREA IN NEW YORK CITY, 2017



ADDRESSING IMPROPER MEDICAID ENROLLMENT

From 2014 through 2016, states lacked any incentive to ensure proper enrollment for the newly eligible Medicaid expansion group. There was no incentive to exclude either individuals who would have been entitled to Medicaid through a pre-ACA eligibility group or individuals who were not eligible for Medicaid for any reason. For people enrolled as newly eligible who would have qualified for Medicaid under previous eligibility criteria, states received a 100 percent reimbursement—much higher than the normal reimbursement rate, which averages to 60 percent. Ensuring proper eligibility would have meant higher state taxes or reduced state spending on other items and would have lowered federal spending flowing to the states. For people enrolled as newly eligible who were ineli-

FIGURE 6. MEDICAID ENROLLMENT (PERCENT) BY PUBLIC USE MICRODATA AREA IN LOS ANGELES, 2017



gible for Medicaid through any pathway, states received an economic benefit. The states did not need to put up any state money, and their healthcare industry benefited from additional revenue. Thus, not only do state governments have an incentive to classify ineligible individuals as newly eligible Medicaid enrollees—the healthcare industry in these states shares that preference. It is worth noting that as a result of state financing gimmicks, states probably generate more than $1 in federal revenue for every $1 spent on the Medicaid expansion.

In 2017, states began absorbing 5 percent of the cost of the expansion population. This does not meaningfully change states' incentives to classify previously eligible Medicaid enrollees as newly eligible. However, it does mean that states have a marginally greater incentive to ensure that people with income above

the eligibility thresholds are not enrolled in Medicaid. Over time, this should probably lead to fewer enrollees with income above eligibility thresholds. Two significant factors mean that this effect may be quite limited, however. First, since some share of the individuals being improperly enrolled in Medicaid would otherwise go uninsured, there could be a small rise in uncompensated care if they were excluded—something that the state and the healthcare industry in the state would be eager to avoid. Second, the financing gimmicks employed by states mean that they face a smaller "real" share of the financing burden for the Medicaid expansion group than the amount the formula stipulated by the ACA shows. Indiana, for example, instituted a hospital tax to produce revenue for the entire state share of its Medicaid expansion population. The hospital tax is used for the state share of spending, triggering the federal reimbursement. The state then uses the federal reimbursement to pay back the hospitals' tax contribution and make the hospitals better off through all the additional federal money that is generated, given the economics of the Medicaid expansion.

Given the incentives states face to enroll as many people as possible as newly eligible Medicaid recipients, CMS has an important responsibility to conduct robust and meaningful oversight and to penalize states that fail to implement proper eligibility reviews and where audits show a large number of ineligible or potentially ineligible enrollees. In addition, Congress could take steps to change the incentives states face. Finally, CBO needs to ensure that its baseline accounts for the evidence of improper Medicaid enrollment in order to provide the best advice possible for legislators moving forward.

RECOMMENDATIONS TO CMS

CMS must prioritize program integrity efforts. In both the Obama administration and the Trump administration, Medicaid program integrity efforts were neglected. The Obama administration prioritized enrollment into the two main programs created by the ACA—the exchanges and the Medicaid expansion—to build early political support behind the ACA.[83] The administration issued a Medicaid eligibility rule in 2013 and issued guidance to ease Medicaid enrollment.[84] It

83. The Obama administration put out information to states in the spring of 2013 in the hopes of ensuring an efficient enrollment process. See CMS, *Facilitating Medicaid and CHIP Enrollment and Renewal in 2014*, May 17, 2013.

84. CMS, *Facilitating Medicaid and CHIP Enrollment*; Medicaid and Children's Health Insurance Programs: Essential Health Benefits in Alternative Benefit Plans, Eligibility Notices, Fair Hearing and Appeal Processes, and Premiums and Cost Sharing; Exchanges: Eligibility and Enrollment, 78 Fed. Reg. 42160 (July 15, 2013).

also canceled CMS eligibility audits starting in fiscal year 2015, when the audits would have been most useful because of the changes made by the ACA. The eligibility audits have resumed in 2019 and cover one-third of states; they are widely expected to show a severe amount of improper enrollment in the expansion. Under the Trump administration, CMS has prioritized certain aspects of the Medicaid program—such as community engagement requirements—neglecting program integrity efforts to date.

The combined evidence from OIG audits, CMS's restarted payment error rate measurement audits, and data analysis from the Census Bureau's ACS is overwhelming and clear—millions of individuals have been classified as newly eligible enrollees even though they almost certainly do not meet eligibility criteria, and potentially millions of others who do not meet eligibility criteria have been classified as previously eligible enrollees.

In order to estimate improper federal spending on individuals enrolled in Medicaid who have income above the eligibility threshold, we took the differential between the change in Medicaid coverage from 2012 to 2017 for adults age 19–64 in expansion states and the change in Medicaid coverage from 2012 to 2017 for adults age 19–64 in nonexpansion states. All states that expanded by 2017 are classified as expansion states. This percentage point change provides an estimate of the impact of the Medicaid expansion on enrollment of people with income above eligibility thresholds. In order to be conservative with our estimates, we exclude individuals who reported a situation that represented a reasonable alternative pathway to Medicaid—pregnancy in the past year, being disabled, enrollment in Supplemental Security Income or Social Security, or receiving public assistance income. We also base the estimates on people who reported exclusively being enrolled in Medicaid coverage, again in order to be conservative with the estimates.

We provide a range by reporting on people enrolled in Medicaid who report income above 138 percent of the FPL (an upper bound) and people enrolled in Medicaid who report income above 200 percent of the FPL (a lower bound). We took the differential from above—which represents the percentage of people enrolled in Medicaid as a result of the ACA Medicaid expansion in the states that expanded by 2017 who have annual income above eligibility thresholds—and then multiplied it by the number of people in Medicaid expansion states who have income above these thresholds and do not have one of the four characteristics that could represent another reasonable path to Medicaid.

In total, we estimate between 2.23 million and 3.25 million ineligible Medicaid enrollees in Medicaid expansion states who have income above the eligibility

threshold. Using CMS Office of the Actuary estimates of the FY 2017 per enrollee federal cost of the expansion—$5,522—we estimate total improper federal spending of between $12.3 billion and $17.9 billion in 2017 alone. Importantly, these estimates account only for individuals who were improperly enrolled because their income was above eligibility thresholds; they do not include individuals who were misclassified by the state.

CMS needs to take action to address this problem. There are four main actions that the agency must take. First, the agency needs to recover the amounts that states have improperly claimed. Using statistically valid methods with both audit findings and analyses like that contained in this paper, CMS needs to make recoveries on behalf of federal taxpayers. This action would not only provide federal taxpayers with some justice, but it would also create an incentive for states to do proper eligibility reviews and to address the many flaws and problems that have been flagged by the OIG in how states are determining eligibility. Second, CMS needs to review all of its policies that could have exacerbated improper enrollment, including permitting hospitals to deem people eligible,[85] using eligibility for the Supplemental Nutrition Assistance Program as a proxy for Medicaid eligibility,[86] and facilitating 12-month continuous eligibility.[87]

Third, CMS needs to require that states conduct eligibility determinations every six months; that states use all applicable databases, including the new-hire database and all income databases; and that states do not rely on self-attestation. Fourth, the agency should require redeterminations immediately in the hot-spot areas identified in this paper.

This paper provides information about where CMS and the OIG should prioritize their limited resources. The evidence points to egregious eligibility errors in many states, including Alaska, Arkansas, California, Colorado, Kentucky, Louisiana, Montana, Nevada, New Mexico, New York, Oregon, Rhode Island, Washington, and West Virginia. In some of these states, there are local areas where the improper eligibility rate is so excessive that it appears there may have been organized efforts to enroll people, regardless of their income or other characteristics, into the Medicaid program. In these areas, the amount of improper spending is so excessive that CMS should require immediate eligibility reviews and should send trained staff to localities in order to monitor the eligibility and enrollment process.

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85. Tricia Brooks, "Health Presumptive Eligibility," *Health Affairs*, January 9, 2014.
86. CMS, *Facilitating Medicaid and CHIP Enrollment.*
87. CMS, *Facilitating Medicaid and CHIP Enrollment.*

CMS should also look at the attributes of states' Medicaid eligibility processes that have experienced comparatively low rates of growth of potentially improper Medicaid enrollment between 2012 and 2017. Among expansion states, Delaware and Hawaii appear to be the best at limiting improper enrollment.

RECOMMENDATIONS TO CONGRESS

Policy outcomes are largely the result of the incentives faced by key actors. The fiscal relationship between the federal government and states is mainly driven now by the open-ended federal financing of state Medicaid expenditures. The regular match rate acted as a disincentive to run an efficient program, because 60 cents (on average) of each dollar of program savings that states could generate would need to be returned to the federal government. In other words, even before the ACA, the structure of the program suggested that improper enrollment would occur.

The elevated reimbursement rate presents states with large fiscal incentives to incorrectly classify previously eligible Medicaid enrollees as newly eligible. Given the relatively small state share of Medicaid spending on people enrolled as newly eligible, which is even smaller in effect after accounting for various state financing gimmicks such as provider taxes and intergovernmental transfers, states also lack an incentive to ensure that people who do not meet any qualification for Medicaid are not classified as newly eligible enrollees. The powerful healthcare interest groups in the states have an interest in securing as many Medicaid enrollees as possible, a phenomenon particularly true of insurance companies that receive capitation payments for every enrollee regardless of the individual's use of medical services.

One way to remove the state incentive to misclassify applicants as Medicaid enrollees would be to replace the open-ended federal reimbursement structure with fixed payments to states for the care of lower-income and vulnerable populations. States would have an incentive to spend the money judiciously since the federal government's contribution would be capped and additional money would need to be financed from the state's tax base. Advocates of this policy reform argue that it would realign state's incentives so that the public's tax money is better spent and more likely to be used for the intended purposes of the program. However, such a reform is a heavy political lift, as demonstrated by the failure in 2017 of congressional efforts to reform Medicaid's financing structure.

Short of fundamental financing reform, Congress could take two actions to improve the incentives facing states and increase Medicaid program integrity.

First, Congress could equalize the reimbursement rates between the expansion population and the previously eligible populations.[88] Second, Congress could eliminate states' abilities to use provider taxes, intergovernmental transfers, and other creative financing gimmicks, so that states would bear at least some financial cost from newly eligible enrollees.

RECOMMENDATIONS TO CBO

CBO has made several large errors in its estimation of the ACA. Some mistakes were understandable, but CBO was slow to correct others even in the face of mounting evidence indicative of a program working differently than it had expected.[89] CBO's main mistake with the Medicaid expansion was its failure to anticipate how states would behave as a result of the elevated reimbursement rate. In fact, CBO's model did not account for states behaving any differently with the elevated reimbursement rate than with the reimbursement rate for the traditional eligibility populations. As discussed above, both Medicaid expansion enrollment and spending were far greater than CBO had projected.

CBO needs to take stock of the evidence that a substantial number of Medicaid enrollees added to the program over the past several years do not meet eligibility requirements, and CBO should update its modeling and assumptions to account for the fact that states have large incentives to classify enrollees as newly eligible to receive the enhanced reimbursement rate. CBO should explicitly lay out assumptions about take-up among both people who meet the eligibility requirements of the program and people who do not. It is possible that some members of Congress will propose legislation with the intent of better ensuring that people are properly enrolled, potentially by including penalties for states with large eligibility errors. And CBO has a responsibility to ensure that its projections of these legislative proposals are as accurate as possible.

CONCLUSION

Understanding incentives is the key to projecting what will happen when government policy changes. The ACA's Medicaid expansion presented states with an opportunity to substantially increase federal dollars flowing into their juris-

88. Brian Blase argues for this reform in Blase, *Health Reform Progress: Beyond Repeal and Replace* (Paeonian Springs, VA: Galen Institute, September 2019).
89. Brian Blase, "Learning from CBO's History of Incorrect ObamaCare Projections," *Forbes*, January 2, 2017.

diction without meaningfully increasing the state's share of the spending obligations. The results are clear: states that expanded Medicaid have enrolled far more people than expected at a much greater cost than expected. The findings of numerous audits—both federal and state—show that states have largely failed to conduct proper eligibility reviews. The November 18, 2019, improper payment report from CMS shows a surge in improper Medicaid payments, which we estimate exceed 20 percent of federal expenditures—an amount above $75 billion in 2019.[90] With limited federal oversight and little, if any, effective federal action to penalize states for improper eligibility reviews and determinations, states had even less incentive to conduct proper reviews. While some states have done an admirable job minimizing the Medicaid enrollment of people with income above eligibility thresholds, the evidence suggests that other states have allowed a significant number of people with income above eligibility thresholds to join the program. If federal policymakers wish to address this problem, CMS will need to initiate corrective action processes, and Congress will need to address the incentives that states face as a result of the ACA Medicaid expansion.

90. Yelowitz and Blase, "Medicaid Improper Payments Are Much Worse Than Reported."

APPENDIX

TABLE 1. AMERICAN COMMUNITY SURVEY POPULATION ESTIMATES, BY STATE, FOR ADULTS AGE 19–64 WITH INCOMES AT OR ABOVE 138% OF THE FEDERAL POVERTY LEVEL

	2012					2017				
	Group 1	Group 2	Group 3	Group 4	Group 5	Group 1	Group 2	Group 3	Group 4	Group 5
AL	2,142,411	1,748,571	1,266,024	787,563	653,443	2,181,026	1,797,186	1,206,706	786,612	627,878
AK	392,662	341,342	254,098	136,021	98,640	375,647	322,584	223,699	125,629	86,842
AZ	2,821,520	2,425,426	1,758,657	1,054,275	781,078	3,181,751	2,737,294	1,760,365	1,120,159	795,803
AR	1,265,917	1,028,785	774,897	510,349	416,168	1,310,217	1,071,017	737,118	497,499	390,894
CA	17,921,937	15,884,698	11,529,634	6,406,736	4,364,231	19,757,078	17,549,974	11,413,991	6,765,773	4,488,617
CO	2,600,074	2,305,505	1,750,099	1,076,195	833,105	2,921,827	2,590,797	1,767,431	1,148,760	854,010
CT	1,837,074	1,629,242	1,179,957	680,068	533,034	1,860,106	1,646,448	1,121,747	679,630	516,471
DE	445,662	378,734	274,972	168,512	126,103	458,146	399,119	269,555	166,572	124,580
DC	326,491	291,264	204,444	147,195	97,064	369,550	323,623	217,208	166,500	103,687
FL	8,595,758	7,426,347	5,053,405	2,982,647	2,178,348	9,690,684	8,392,267	5,318,704	3,328,060	2,302,723
GA	4,478,085	3,881,431	2,701,383	1,656,246	1,315,524	4,935,047	4,278,649	2,863,695	1,900,684	1,444,272
HI	699,545	614,157	408,825	255,907	161,869	721,180	644,860	387,986	252,145	160,515
ID	711,542	599,816	456,424	264,834	213,793	779,568	656,333	481,035	294,855	230,465
IL	6,263,257	5,539,162	4,038,096	2,405,283	1,882,731	6,317,110	5,590,967	3,812,935	2,401,143	1,841,479
IN	3,019,439	2,606,439	2,006,646	1,232,345	992,355	3,133,866	2,678,759	1,942,485	1,296,609	1,022,132
IA	1,476,008	1,279,477	973,773	663,281	558,429	1,513,749	1,337,040	954,825	675,829	547,558
KS	1,356,947	1,171,570	923,631	603,144	495,287	1,381,932	1,191,662	875,764	602,302	488,150
KY	1,949,234	1,609,676	1,231,936	761,028	614,481	1,972,683	1,621,884	1,152,077	751,576	584,366
LA	2,021,393	1,708,129	1,162,968	732,371	571,853	2,032,041	1,713,580	1,125,021	723,605	558,170
ME	626,003	526,484	418,862	251,326	196,987	644,523	536,905	397,040	259,062	196,910
MD	3,131,349	2,771,723	2,042,859	1,326,015	972,307	3,203,897	2,820,589	1,885,598	1,247,052	927,353
MA	3,409,159	3,023,334	2,154,540	1,287,627	963,783	3,555,800	3,154,069	2,016,522	1,271,498	942,016
MI	4,554,310	3,843,372	2,905,859	1,655,908	1,349,151	4,710,672	4,004,264	2,836,140	1,798,306	1,407,767
MN	2,724,184	2,423,765	1,945,260	1,261,592	1,021,305	2,852,210	2,519,756	1,849,087	1,237,015	984,363
MS	1,194,051	987,004	696,299	448,938	354,214	1,247,961	1,034,115	674,087	442,790	347,655
MO	2,756,213	2,333,791	1,766,286	1,143,877	914,922	2,864,178	2,428,942	1,691,409	1,151,207	909,887
MT	463,838	400,621	292,617	173,353	143,205	491,500	420,906	287,320	182,717	142,677
NE	886,758	790,263	632,397	436,568	357,323	930,196	805,547	589,949	419,017	338,298

	2012					2017				
	Group 1	Group 2	Group 3	Group 4	Group 5	Group 1	Group 2	Group 3	Group 4	Group 5
NV	1,312,396	1,141,847	812,433	475,085	324,935	1,469,141	1,273,445	846,596	527,262	360,371
NH	702,485	616,816	470,568	296,418	231,064	721,157	627,093	462,272	298,370	218,132
NJ	4,603,797	4,094,045	2,872,419	1,613,655	1,235,513	4,715,475	4,211,800	2,783,846	1,662,046	1,259,414
NM	879,307	736,778	507,091	302,397	229,249	886,555	731,398	499,010	310,379	228,698
NY	9,561,554	8,453,093	5,730,921	3,164,010	2,307,936	9,816,612	8,691,009	5,304,269	3,092,029	2,215,879
NC	4,406,333	3,766,055	2,801,259	1,716,618	1,382,353	4,822,779	4,157,053	2,885,625	1,910,496	1,496,451
ND	364,106	321,301	239,945	160,670	134,569	385,012	341,144	240,344	169,332	136,936
OH	5,370,202	4,617,445	3,542,832	2,198,567	1,782,933	5,520,776	4,732,066	3,403,753	2,243,592	1,756,288
OK	1,693,222	1,417,249	1,033,133	705,424	558,891	1,743,740	1,437,294	968,357	641,683	503,137
OR	1,791,469	1,518,746	1,179,612	662,077	497,703	1,998,144	1,725,434	1,219,088	736,258	533,598
PA	6,169,729	5,303,460	3,955,978	2,402,288	1,931,405	6,208,947	5,319,768	3,666,926	2,381,169	1,855,909
RI	516,963	453,714	328,104	191,603	142,321	537,095	462,610	298,789	185,471	144,099
SC	2,087,136	1,750,849	1,239,310	757,112	600,296	2,270,723	1,900,901	1,236,232	801,395	624,631
SD	387,808	337,031	260,827	182,922	152,777	401,196	352,777	264,843	194,856	157,527
TN	2,918,197	2,455,401	1,823,095	1,138,229	912,487	3,130,596	2,649,783	1,813,466	1,200,206	922,349
TX	11,874,134	10,381,225	7,558,171	4,831,382	3,671,417	13,453,391	11,812,808	7,956,252	5,145,212	3,834,827
UT	1,323,358	1,150,701	893,473	523,413	403,364	1,509,952	1,323,169	988,373	603,160	452,090
VT	315,113	270,587	216,031	136,579	101,174	306,437	259,751	182,916	116,672	89,471
VA	4,180,022	3,691,219	2,768,436	1,776,729	1,363,621	4,319,646	3,782,287	2,601,079	1,721,818	1,296,136
WA	3,466,174	3,010,024	2,306,700	1,346,461	1,033,385	3,815,807	3,312,799	2,420,992	1,497,743	1,086,813
WV	824,391	669,335	489,416	297,158	243,979	763,879	615,112	436,190	272,666	217,801
WI	2,801,071	2,446,965	1,927,798	1,228,810	1,002,746	2,870,641	2,505,264	1,849,554	1,256,463	1,012,741
WY	288,272	251,145	190,309	124,714	98,907	279,729	238,616	165,805	108,438	86,157

Note: Estimates use population weights from American Community Survey files. Group 1 includes all adults age 19–64 with income at or above 138 percent of the federal poverty level. Group 2 then excludes individuals who may qualify for Medicaid based on categorical eligibility. Group 3 then excludes respondents with imputed values. Group 4 then restricts the sample to individuals who worked full-time, full-year. Group 5 then restricts the sample to individuals in nuclear families.

Source: Authors' tabulation of the 2012 and 2017 American Community Survey.

ABOUT THE AUTHORS

Brian C. Blase is currently the president and CEO of Blase Policy Strategies. From January 2017 through June 2019, he served as the special assistant to the president at the White House's National Economic Council. In that capacity, Blase coordinated the Trump administration's health policy agenda and developed legislative and regulatory strategies. In addition to his White House experience, Blase has extensive congressional experience. He was a senior professional staff member at the House Committee on Oversight and Government Reform from 2011 through 2014, and from 2014 through 2015, he served as the health policy analyst at the Senate Republican Policy Committee.

Between his congressional and White House tenures, Blase was a senior research fellow with the Spending and Budget Initiative at the Mercatus Center. There he authored or coauthored six research papers, wrote nearly fifty commentaries, regularly briefed federal and state policymakers, and frequently appeared in media.

Blase has published pieces in the *Wall Street Journal*, the *Washington Post*, the *New York Post*, the *Philadelphia Inquirer*, and *Forbes*, among numerous other outlets. He has also appeared on television several times, including on CSPAN, CNBC, and PBS, and has frequently appeared on radio. Blase received his PhD from George Mason University in 2013 in economics, with his dissertation on Medicaid financing. He lives in northern Virginia with his wife and five children.

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The Commonwealth Fund

Trends in Employer Health Care Coverage, 2008–018: Higher Costs for Workers and Their Families

November 21, 2019 | Sara R. Collins F, David C. Radley, and Jesse C. Baumgartner

ABSTRACT F

- **Issue:** With 2020 elections coming up, some Democratic presidential candidates and members of Congress have suggested ways to reduce costs of insurance and care, including proposals for employer plans, which cover roughly half the population of the United States.
- **Goal:** Examine trends in employer coverage over the past decade to determine how much workers are spending on premiums and deductibles and compare costs to median household income in each state.
- **Methods:** Data from the Medical Expenditure Panel Survey–Insurance Component (MEPS–IC), which surveyed more than 40,000 private-sector employers in 2018 on their health insurance plans.
- **Key Findings and Conclusions:** Average annual growth in the combined cost of employees' F contributions to premiums and deductibles outpaced growth in U.S. median income between 2008 and 2018 in every state. Middle-income workers spent an average 6.8 percent of income on employer premium contributions in 2018; per-person deductibles across single and family plans amounted to 4.7 percent of median income. Recent proposals would

enhance the a ordability and cost protection o A ordable Care Act marketplace plans, allow people with employer plans to buy coverage on the marketplaces, or replace private insurance with a public plan like Medicare.

Introduction

Health care costs are a top concern for voters as the nation heads into the 2020 presidential election.[1] Many people — an estimated 164 million under age 65, or roughly half the population of the United States — have insurance through employers.[2] Sensing this concern, some Democratic presidential candidates and members of Congress have proposed ways to reduce the costs of health insurance and care. These have included proposals that would aid people in employer plans.

To examine trends in employer coverage over the past decade, we used data from the federal Medical Expenditure Panel Survey–Insurance Component (MEPS–IC), and asked: How much are workers spending on premiums and deductibles? How do those costs compare to median income in each state? To smooth year-to-year fluctuations, we examine two-year moving averages across the decade. The MEPS–IC, the most comprehensive national survey of U.S. businesses on their health insurance plans, surveyed more than 40,000 private-sector employers in 2018.[3] F

Findings

PREMIUM GROWTH IN EMPLOYER HEALTH PLANS HAS TICKED UP

Following a slowdown between 2012 and 2016, average annual growth in employer premiums (including contributions from both employers and employees) rose at a faster pace between 2016 and 2018, rising by 4.9 percent for single plans and 5.1 percent for family plans (Exhibit 1). The average annual growth rate from 2016–18 was 7 percent or higher in seven states for single-person plans and in eight states and the District of Columbia for family plans (Tables 1a and 1b). In 2018, average premiums for single-person plans ranged from a low of $5,971 in F Tennessee to a high of $8,432 in Alaska. In family plans, the lowest average premium was F $17,337 in North Dakota and the highest was $22,294 in New Jersey. F

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WORKERS' PREMIUM PAYMENTS GREW FASTER THAN MEDIAN INCOME OVER THE DECADE F

U.S. workers contributed about 21 percent of the overall premium for single plans and 28 percent for family plans in 2018. This has not changed over the decade (Table 2). But in some states the share is much higher: workers were responsible for a third of their family plan F

p emiums n Lou s ana, Miss ss pp , Nevada, No th Ca ol na, and g n a.

Worker contributions to single-plan premiums averaged $1,427 in 2018. They ranged from a low F of $755 in Hawaii to a high of $1,903 in Massachusetts (Exhibit 2, Table 3a). Contributions to family plans averaged $5,431 in 2018 and ranged from a low in Washington of $3,862 to a high of $6,597 in Virginia (Exhibit 3, Table 3b).

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To see what these costs mean for people with middle incomes ($64,202 a year), we compared premium contributions to median household income in 50 states and D.C.[4]

Between 2008 and 2018, employee premium contributions — for both single and family plans — grew at an average annual rate higher than 4 percent, going as high as 6.4 percent between 2010 and 2012 (Exhibit 4). This was faster than growth in median household income over the F same time period, which ranged from –1.5 percent during the deep recession of 2008 to 2010 F to 3.8 percent in 2012 to 2014.

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On average, the employee share of premium amounted to 6.8 percent of median income in 2018. This was up from 5.1 percent in 2008, but has remained largely constant since 2012 (Exhibit 5, Table 6). In nine states (Arkansas, Florida, Georgia, Louisiana, Mississippi, Nevada, New F Mexico, North Carolina, and Texas), premium contributions were 8 percent or more of median income, with a high of 10 percent in Louisiana (Exhibit 6).

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AVERAGE DEDUCTIBLES ALSO OUTPACED GROWTH IN MEDIAN INCOME

In most states, even though people are paying high premiums relative to their income, they are F potentially exposed to high out-of-pocket costs because of large deductibles. Research has indicated that high deductibles can act as a financial barrier to care, discouraging people with

mode t inc me fr m getting needed ervice and leaving them effectively underin ured. In F studies of this phenomenon, the Commonwealth Fund has defined people as underinsured if F their plans' deductible equals 5 percent or more of income.[5]

In 2018, the average deductible for single-person policies was $1,846 (Exhibit 7, Table 4), with average deductibles ranging from $1,308 in D.C. and Hawaii to $2,447 in Maine.

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Average deductibles grew faster than median income over the decade (Exhibit 4). While the gap F narrowed over the most recent two-year period, deductible growth continued to outpace income growth.

The average deductible for a middle-income family amounted to 4.7 percent of income in 2018 (Exhibit 5, Table 6). This is up from 2.7 percent in 2008.

Across the country, average deductibles relative to median income were 5 percent or more in F 18 states and ranged as high as 6.7 percent in Mississippi (Exhibit 8).

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PREMIUM CONTRIBUTIONS AND DEDUCTIBLES ADDED UP TO MORE THAN 11 PERCENT OF MEDIAN INCOME IN 2018

Added together, the total cost of premiums and potential spending on deductibles across single and family policies climbed to $7,388 in 2018 (Table 5). This ranged from a low of $5,815 in D.C. to a high of more than $8,000 in Arizona, Minnesota, Nevada, New Hampshire, New Jersey, North Carolina, South Dakota, Texas, and Virginia.

The average annual growth in the combined costs of premiums and deductibles outpaced average annual growth in median income between 2008 and 2018 in every state. For people with middle incomes, these combined costs amounted to 11.5 percent of income in 2018 (Exhibit 5, Table 6). This is up from 7.8 percent in 2008. In 2018, premiums and deductibles were 10 percent or more of median income in 42 states, up from seven states in 2008. Five states (Arkansas, Florida, Louisiana, Mississippi, and Nevada) have combined costs of 14 percent or more of median income (Exhibit 9, Table 6). Middle-income workers in Louisiana and F Mississippi faced the highest potential costs relative to their income (15.9% and 16.5%, respectively).

This measure does not account for coinsurance, which could increase employees' costs even further.

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Conclusions and Policy Implications

For U.S. families, the growth in employer health insurance costs has outpaced average growth in median income over the past decade. In addition, as costs have climbed, families haven't received higher-quality insurance. In 18 states, the average health plan deductible is now 5 percent or more of income, meeting the threshold for underinsurance. While this study only considered families with middle incomes, lower-income families with employer coverage devote an even larger share of their income to health insurance and related costs. F

People across the United States are not experiencing health care costs equally. Worker cost burdens are driven by four factors: the size of the overall premium, the share that employees contribute to those premiums, the size of their deductibles, and their income. In Mississippi, for example, people could spend more than 16 percent of their incomes on premiums and meeting deductibles, compared to an average cost burden of 8.4 percent in Massachusetts. In Mississippi, combined premiums and deductibles are higher than those in Massachusetts and Mississippi has the second-lowest median income in the country ($47,800) (Tables 5 and 7). In contrast, median income in Massachusetts is among the nation's highest ($81,913).

Higher costs for insurance and health care have consequences. People with low and moderate incomes may decide to go without insurance if it competes with other critical living expenses like housing and food, which consumed 36 percent of average family income in 2018.[6] Research indicates that high deductibles lead people to delay or skip needed health care and prescription medications.[7] F

The Affordable Care Act (ACA) provides some cost protection to people with employer coverage. First, people with low incomes — less than 138 percent of poverty (or just under $17,000 for an individual) — are eligible for Medicaid in the 33 states, as well as D.C., which have expanded eligibility under the ACA. This is true regardless of whether or not they are offered a plan through their job. People enrolled in Medicaid pay no premiums or very limited premiums and face low or no cost-sharing. Second, people with employer premium expenses that exceed 9.86 percent of their income are eligible for marketplace subsidies, which trigger a federal tax penalty F for their employers. This penalty is also triggered if the actuarial value of their plan is less than 60 percent (i.e., covers less than 60% of their costs on average). There's a catch: these provisions only apply to single-person policies, leaving many middle-income families caught in the so-called family coverage glitch, where they have an expensive family plan but do not qualify for marketplace subsidies. The data in this report show that the average employee contribution to a family plan is 10 percent or more of median income in nine states (Tables 3b and 7). F

What s t e r g t level of premiums and cost-s ar ng for mer cans? T e C set standards for the marketplaces: required premium contributions for marketplace plans begin at 2.08 percent of income at the poverty level ($12,140 for an individual and $25,100 for a family of four) and rise to 9.86 percent for people at 300 percent to 400 percent of poverty ($36,420 to 48,560 for F an individual and $75,300 to $100,400 for a family of four). The law also set standards for the F benefits plans must cover and the amount that patients pay providers when they use their plans, with subsidies for people with lower incomes.[8]

Congress could extend these marketplace requirements to employer plans or allow all people with employer plans to buy coverage in the marketplaces. But are the marketplace premiums F and cost-sharing subsidies set at affordable levels for people across the income scale? Survey F research indicates that many people, especially those with incomes just over the threshold for premium subsidies and cost-sharing reductions, may struggle to afford their premiums and F deductibles.[9] F

Several Democratic members of Congress and presidential candidates have proposed enhancing the marketplace premium and cost-sharing subsidies and extending them further up the income scale.[10] Others also would give people in employer plans the option of enrolling in a public plan F offered through the marketplaces. Other members and candidates have suggested eliminating all private insurance and replacing it with a public plan like Medicare, and ending or reducing F premiums and cost-sharing.[11] Republican health reform ideas tend to favor replacing the ACA with market-oriented approaches that give states more discretion over insurance markets and the Medicaid program.[12] We are certain to hear from voters on this issue in the coming year. F

F

H W WE NDU TED THIS STUDY

This data brief analyzes state-by-state trends in private-sector health insurance premiums and deductibles for the under-65 population from 2008 to 2018.

The data on total insurance costs, employee premium contributions, and deductibles come from the federal Agency for Healthcare Research and Quality's annual survey of employers, conducted for the insurance component of the Medical Expenditure Panel Survey (MEPS–IC). The MEPS–IC is administered to workplace establishments. Establishments represent a work location, not necessarily a firm, which can employ people in many locations. Workplace establishments are selected each year from the Census Bureau's Business Register — a confidential list of such establishments in the United States. Once selected, establishments are contacted via mail and phone to establish a contact person who is knowledgeable about the health insurance benefits offered to employees. This contact (generally a workplace administrator) is asked about each of the health plans offered to employees that work at the establishment location. If the establishment offers more than four plans, details are collected about the four plans with the largest enrollment. In 2018, MEPS–IC surveyed 40,025 establishments and had a response rate of 67.8 percent. Total surveys sent and response rates were similar to prior years.

Total premium and other insurances costs are compared with median household incomes for the under-65 population in each state. Income data come from the U.S. Census Bureau's Current Population Survey (CPS) of households. In the CPS, a "household" includes all persons residing at a single address, regardless of their relationship; a "family" includes all related members of a household. Neither of these definitions reflect a "family unit" for purposes of determining health insurance eligibility. The measure of household income reported here is adjusted to account for the likelihood that individuals residing in the same household are likely to purchase health insurance together — referred to as a health insurance unit (HIU). HIUs are defined based on household and family members' relationships with the intention of grouping health insurance subscribers and their dependents. For example, a HIU would include the head of household insurance subscriber, spouse, dependent children residing in the same address, and dependent children who are full-time students but not residing at the same address. It would exclude nondependent family members (e.g., an elderly grandparent) who reside at the same address, but who would be included in the Census Bureau's F family or household definition.

Note that the CPS revised its income questions in 2013, affecting the denominator in our ratio estimates. Prior to 2014, this is derived from the traditional CPS income questions, while ratio estimates from 2014 and later are derived from the revised income questions. In 2019, the Census Bureau also updated the way it F processes CPS response data; the biggest changes are in the ways missing response data are imputed.[13] The F Census Bureau's new imputation strategies resulted in a less than 1 percent change in the median income estimates. Two years of CPS data are combined to generate reliable state-level income estimates. For example, the 2018 income estimates reported here (Table 7) reflect incomes in 2017 and 2018, as reported in the 2018 and 2019 CPS Annual Social and Economic Supplement (ASEC) data files.

The premiums in this brief represent the average total annual cost of private group health insurance premiums for employer-sponsored coverage, including both the employer and employee shares. We also examine trends in the share of premiums that employees pay and average deductibles. We compared average out-of-pocket costs for premiums and average deductibles to median income in states to illustrate the potential cost burden of each and the total if the worker/family incurred these average costs. The Agency for Healthcare Research and Quality reports MEPS–IC premium, employee contribution, and deductible data separately for single (i.e., employee only) and family plans — we include these data in Tables 1 through 4. However, average employee out-of-pocket costs (Tables 5 and 6) are combined estimates, weighted for the distribution of single-person and family households in the state. For example, the average total employee premium contribution reported in Table 5 is equal to (MEPS–IC single plan contribution for state i * share of single-person households in state i) + (MEPS–IC family plan contribution for state i * share of multiple-person households in state i). The same approach is used to calculate average total deductibles. Average combined employee premium contribution and deductible — also referred to as total potential out-of-pocket spending — is the sum of the household distribution weighted premium contribution and deductible estimates.

The tables provide state-specific data. This analysis updates previous Commonwealth Fund analyses of state health insurance premium and deductible trends.

ACKNOWLEDGMENTS

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NOTES

1. Stephanie Armour, "American Voters Have a Simple Health-Care Message for 2020: Just Fix It!," *Wall Street Journal,* updated June 2, 2019; and Monmouth University Polling Institute, "Iowa: Biden Holds Lead, Warren on the Chase," Monmouth University, Aug. 8, 2019.

2. Analysis of the 2019 Current Population Survey by Sherry Glied and Ougni Chakraborty of New York University for the Commonwealth Fund.

3. The sampling unit used in the MEPS-IC is a survey of employers. The sampling unit is the "business establishment." The Agency for Healthcare Research and Quality (AHRQ) identifies an "establishment" as "a particular workplace or location," and a firm as "a business entity consisting of one or more business establishments under common ownership or control." This means that multiple establishments owned by the same firm, but that operate in different locations, would be treated as independent respondents in this survey.

4. Income data come from the U.S. Census Bureau's Current Population Survey (CPS) of households, and are adjusted slightly to account for the likelihood that individuals residing in the same household are likely to purchase health insurance together (referred to as a health insurance unit) — see "How We Conducted This Study" for more detail.

5. In addition to having a high deductible relative to income, people who are insured all year are considered underinsured if their out-of-pocket costs are high relative to income. See Sara R. Collins, Herman K. Bhupal, and Michelle M. Doty, *Health Insurance Coverage Eight Years After the ACA: Fewer Uninsured Americans and Shorter Coverage Gaps, But More Underinsured* (Commonwealth Fund, Feb. 2019).

6. Bureau of Labor Statistics, "Consumer Expenditures — 2018," news release, Sept. 10, 2019.

7. Collins, Bhupal, and Doty, *Health Insurance Coverage Eight Years*, 2019.

8. Insurers selling plans in the individual and small-group markets must sell a comprehensive benefit plan at actuarial levels of 60, 70, 80 and 90 percent. People who buy plans through the marketplaces with incomes under 250 percent of poverty are eligible for plans with higher value based on income (73% to 94%) and a lower out-of-pocket limit.

9. Sara R. Collins and Munira Z. Gunja, *What Do Americans Think About Their Health Coverage Ahead of the 2020 Election? Findings from the Commonwealth Fund Health Insurance in America Survey, March–June 2019* (Commonwealth Fund, Sept. 2019); Munira Z. Gunja and Sara R. Collins, *Who Are the Remaining Uninsured, and Why Do They Lack Coverage? Findings from the Commonwealth Fund Biennial Health Insurance Survey, 2018* (Commonwealth Fund, Aug. 2019); and S. R. Collins, M. Z. Gunja, and M. M. Doty, *Following the ACA Repeal-and-Replace Effort, Where Does the U.S. Stand on Insurance Coverage? — Findings from the Commonwealth Fund Affordable Care Act Tracking Survey, March–June 2017* (Commonwealth Fund, Sept. 2017).

10. Sara R. Collins and Roosa Tikkanen, "The Many Varieties of Universal Coverage," Commonwealth Fund, last updated Apr. 24, 2019; Sherry A. Glied and Jeanne M. Lambrew, "How Democratic Candidates for the Presidency in 2020 Could Choose Among Public Plans," *Health Affairs* 37, no. 12 (Dec. 2018); Vice President Joe Biden, "The Biden Plan to Protect and Build on the Affordable Care Act," n.d.; and Mayor Pete Buttigieg, "Medicare for All Who Want It: Putting Every American in Charge of Their Health Care with Affordable Choice for All," n.d.

11. Senator Bernie Sanders, "The Medicare for All Act of 2019"(S. 1129); and Senator Elizabeth Warren, "Ending the Stranglehold of Health Care Costs on American Families," Nov. 1, 2019.

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13. Trudi Renwick, "CPS ASEC Redesign and Processing Changes," *Census Blogs,* U.S. Census, Sept. 4, 2019.

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Topics

Health Care Coverage and Access

Tags

Employer-Based Health Insurance, Health Insurance Premiums, Out-of-Pocket Health Care Costs

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KFF Health Tracking Poll – November 2019: Health Care In The 2020 Election, Medicare-for-all, And The State Of The ACA

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Published: Nov 20, 2019 E

Findings

Key Findings:

- Health care has been a dominant issue throughout the 2020 Democratic presidential primary and the latest KFF Health Tracking Poll finds Democrats continuing to prioritize health care over other issues. Ahead of tonight's Democratic presidential debate, when asked to state in their own words the one issue they most want to hear the Democratic E presidential candidates discuss, about one in four (24%) Democrats and Democratic-leaning independents offer health care. Fewer mention other issues such as the environment (12%), E immigration (6%), jobs and the economy (5%), education (4%), and gun control (4%).
- Senator Bernie Sanders is the candidate most trusted on health care by Democrats and Democratic-leaning independents, though the Medicare-for-all plan he's championed is significantly less popular than the "public option" approach put forward by some other candidates. Among adults overall, a narrow majority (53%) support the idea of a Medicare-for-all plan while a larger majority (65%) say they support a government-run public option that would compete with private insurance. Large majorities of Democrats support both a E public option (88%) and Medicare-for-all (77%), and while most Republicans oppose both approaches to expanding coverage, more favor the public option proposal (41%) than a Medicare-for-all plan (27%).
- Attitudes towards a Medicare-for-all plan shift moderately depending on how such a proposal is described. For example, if the plan is described as requiring many employers and some individuals to pay more in taxes, but eliminating both out-of-pocket costs and premiums for all Americans, overall favorability drops to 48%. Similarly, overall favorability E drops (47%) when the plan is described as increasing taxes individuals will personally pay, but decreasing their overall costs for health care.
- Senator Bernie Sanders leads the field when Democrats and Democratic-leaning independents are asked which Democratic presidential candidate they trust *the most* on health care. About three in ten (29%) say they trust Sen. Sanders, followed by about one-fifth who say they trust Vice President Joe Biden (21%) or Senator Elizabeth Warren (19%). Overall trust of Sanders on health care is largely driven by younger Democrats and Democratic-leaning independents as well as those who are not as connected to the Democratic Party. Nearly half (47%) of Democrats and Democratic-leaning independents between the ages of 18 and 34 prefer Sanders when it comes to health care, while Biden holds a sizeable edge

over other candidates among adults 65 and older (33%). Among independents who lean E Democratic, Senator Sanders is the preferred candidate (39%), while self-identified Democrats are split on which candidate they most trust to handle health care: Warren (26%), Biden (23%) and Sanders (22%).

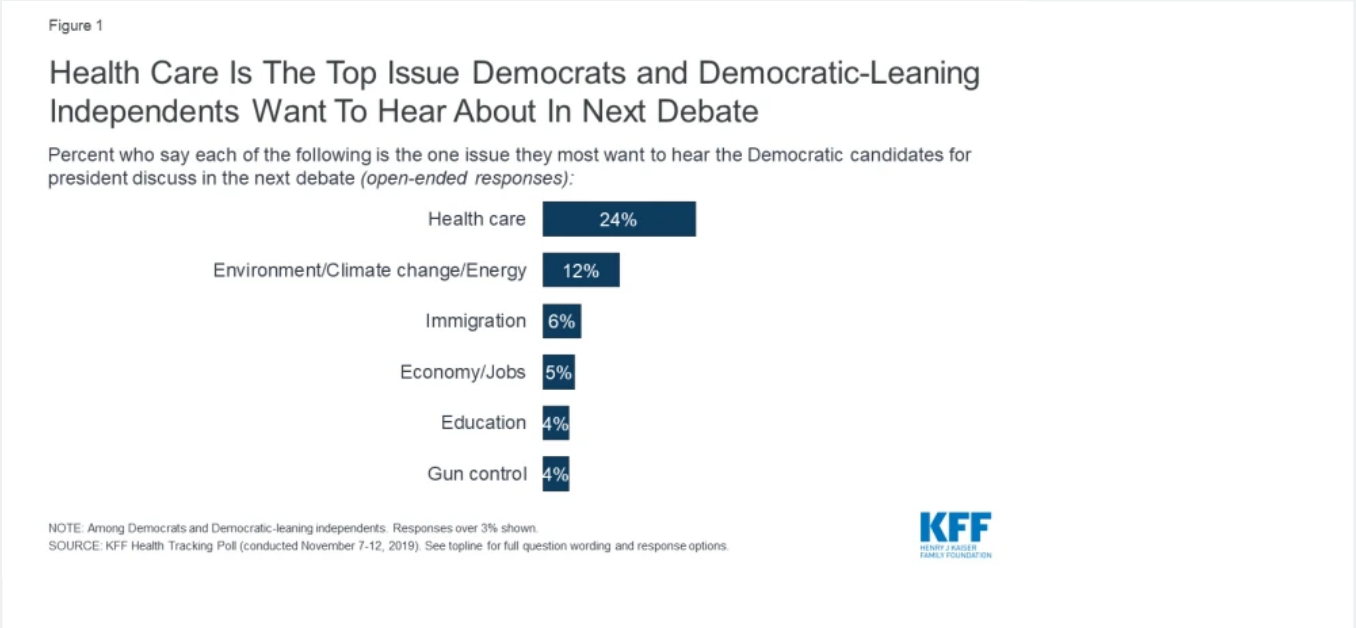
- The 2020 open enrollment period for people who purchase their own insurance on the ACA marketplaces began in most states on November 1st. The law's seventh open enrollment period began with the announcement that premiums in many areas of the U.S. are decreasing (https://www.kff.org/health-costs/issue-brief/how-aca-marketplace-premiums-are-changing-by-county-in-2020/). Yet a plurality of the public (44%) thinks premiums are higher than they were last year. Though ACA marketplace premiums are now on average lower than they were last year, just 6% think this is the case.

Health Care and the 2020 Election

This month's KFF Health Tracking Poll continues our analysis of the role health care may be playing in the 2020 election with a look at what issues Democrats want to hear about in the next debate as well as which of the Democratic primary candidates they trust the most when it comes to handling health care.

Democratic Presidential Primary Debates E

Health care has been and remains a top issue for Democrats during the 2020 Democratic presidential primary. Recent KFF Health Tracking (https://www.kff.org/health-reform/poll-finding/kff-health-tracking-poll-july-2019/) Polls (https://www.kff.org/health-reform/poll-finding/kff-health-tracking-poll-september-2019/) have found that health care consistently emerges as a top issue that Democrats and Democratic-leaning independents want to hear the 2020 Democratic presidential candidates discuss, and this month's poll finds this continues to be true. When asked to say in their own words what issue they would most like to hear the Democratic presidential candidates discuss in the upcoming debate, one in four Democrats and Democratic-leaning independents (24%) offer health care. This is twice as many as say they want to hear more about any other issue such as the environment (12%), immigration (6%), jobs and the economy (5%), education (4%), and gun control (4%).[1] E



F gur 1: Health Care Is The Top Issue Democrats and Democrat c-Leaning ndependents Want To Hear About In Next Debate

And while vario s Democratic candidates have p t o t their own health care proposals, Democrats are still wanting to know more. Large shares say Democratic candidates are spEnding too little time talking about how their health care plans will affect older adults on Medicare (50%), how they will pay for their plans (47%), whether they will require higher taxes on the middle class (45%), and how they will work with Congress to pass their health care proposals (45%). About four in ten say the candidates are spending too little time discussing how they will lower health care costs for individuals (41%) and whether their plans would cover all U.S. residents (40%); and about a third say the candidates are spending too little time talking E about how their plans differ from President Trump's approach to health care.

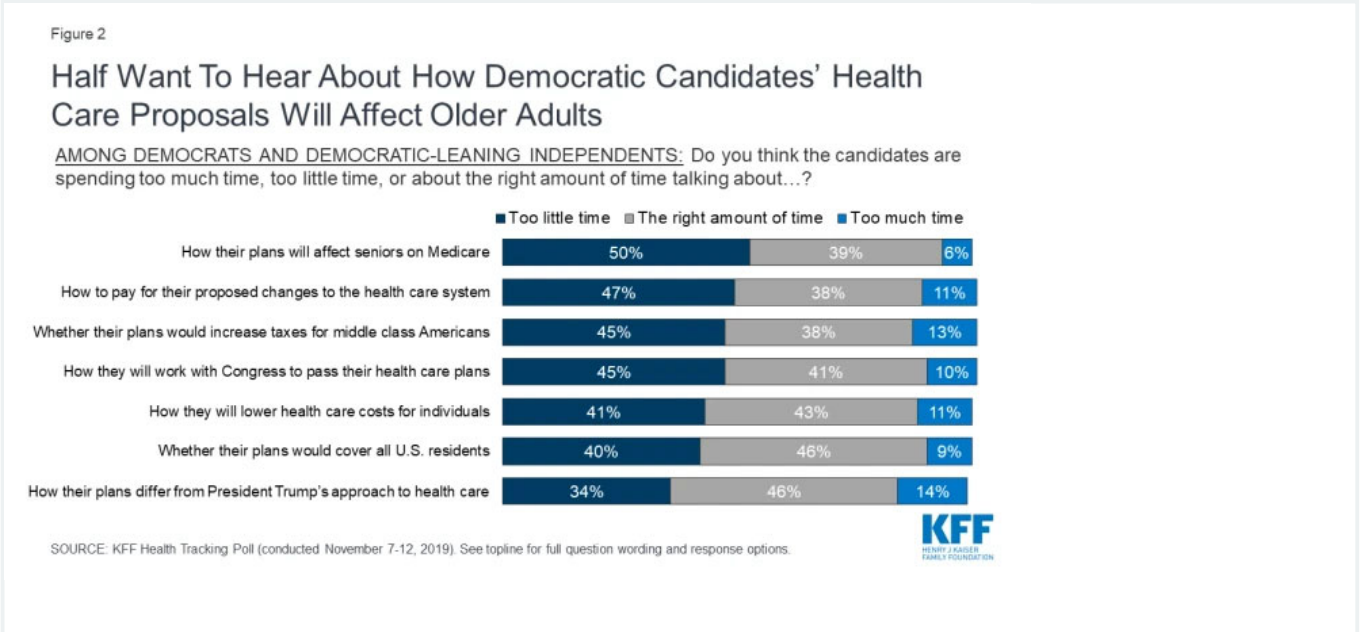


Figure 2: Half Want To Hear About How Democratic Candidates' Health Care Proposals Will Affect Older Adults E

Sanders, Biden, And Warren Are Most Trusted When It Comes To Health Care

When asked which candidate they trust the most when it comes to handling health care, nearly three in ten (29%) Democrats and Democratic-leaning independents say they are most trusting of Senator Bernie Sanders. About one in five say they are most trusting of former Vice President Joe Biden (21%) and Senator Elizabeth Warren (19%) when it comes to handling E health care.

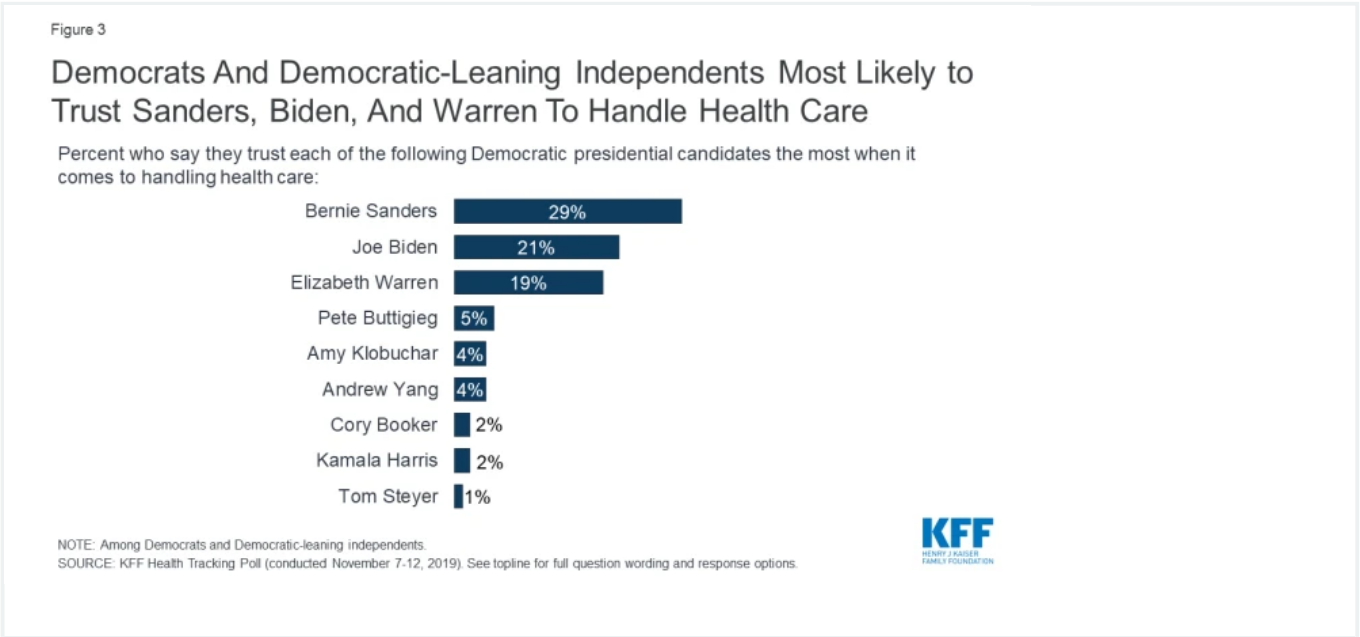
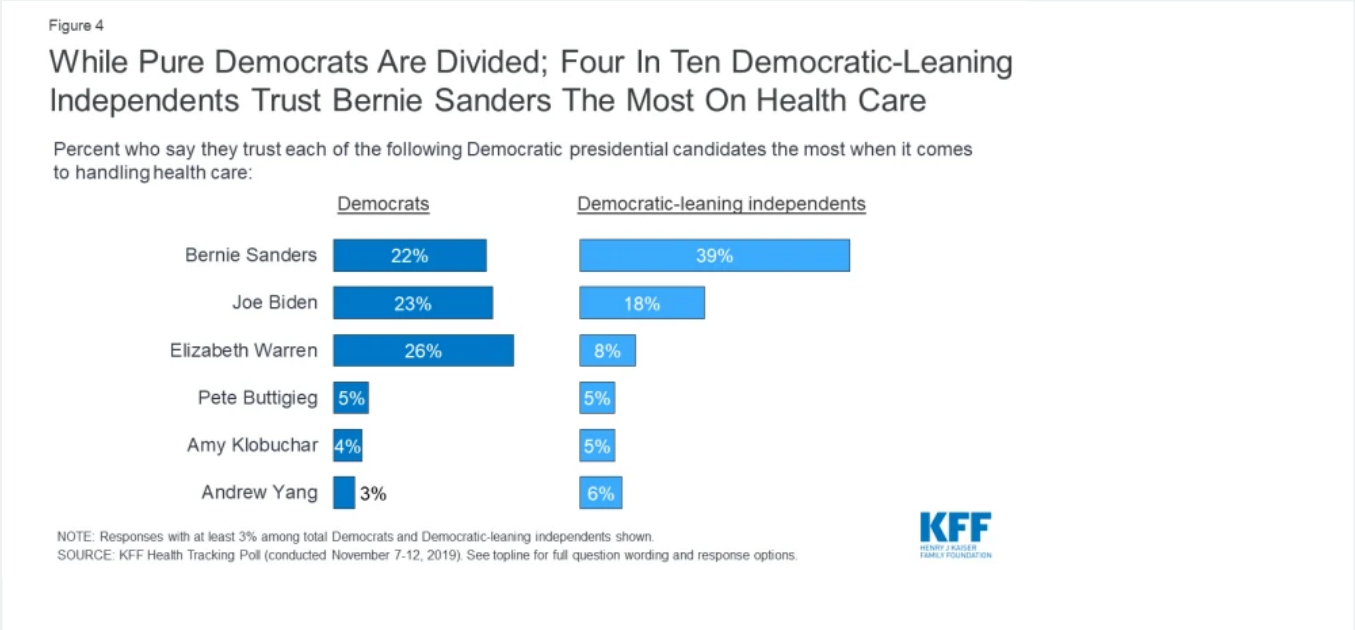


Figure 3: Democrats And Democratic-Leaning Independents Most Likely to Trust Sanders, Biden, And Warren To Handle Health Care

Notably, nearly half (47%) of younger Democrats and Democratic leaning independents, ages E 18 to 34, say they have the most trust in Bernie Sanders when it comes to handling health care. However, among adults ages 65 and older, Joe Biden is the most trusted candidate to handle health care (33%).

T n T On h B				
PeE t st i e he **most** e h health care:	**8-34 ye r olds**	**35-54 ye r olds**	**55- 4 ye r olds**	**5 n older**
Bernie Sanders	47%	26%	9%	16%
Joe Biden	12	20	31	33
Elizabeth Warren	14	25	21	18
Pete Buttigieg	3	4	7	9
Amy Klobuchar	1	7	7	3
Andrew Yang	10	1	1	2
Cory Booker	3	3	2	0
NOTE: Showing only candidates who received more than 2% among total Democrats and Democratic-leaning independents				

When it comes to which candidate they most trust to handle health care, there are some notable differences between adults who identify as Democrats and those who identify as E independents, but say they lean towards the Democratic party. Democrats are relatively divided with about one in four saying they most trust Elizabeth Warren (26%), Joe Biden (23%) and Bernie Sanders (22%). However, a larger share of Democratic-leaning independents (39%) choose Bernie Sanders as the most trusted candidate on health care than any of the other Democratic presidential candidates. E

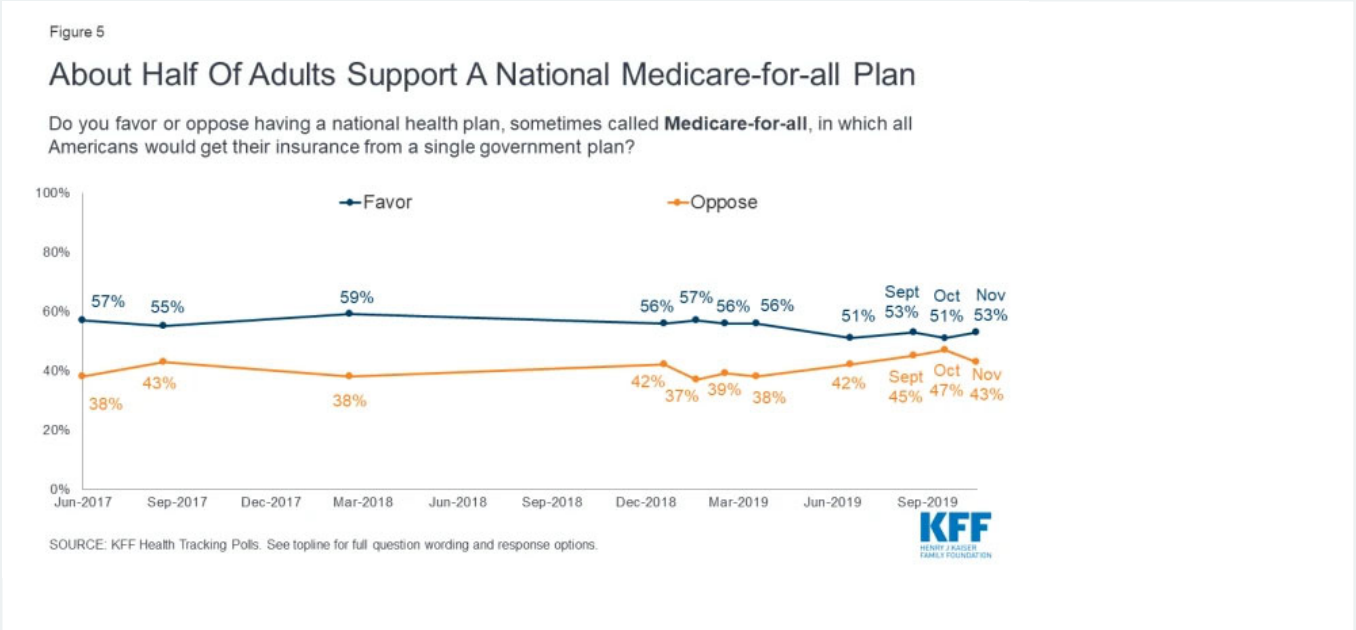


Figur 4: While ure Democrats Are Divided; Four n Ten Democratic-Leaning ependents Trust Bernie San r h Health Care

Medicare-for-all and ublic Option

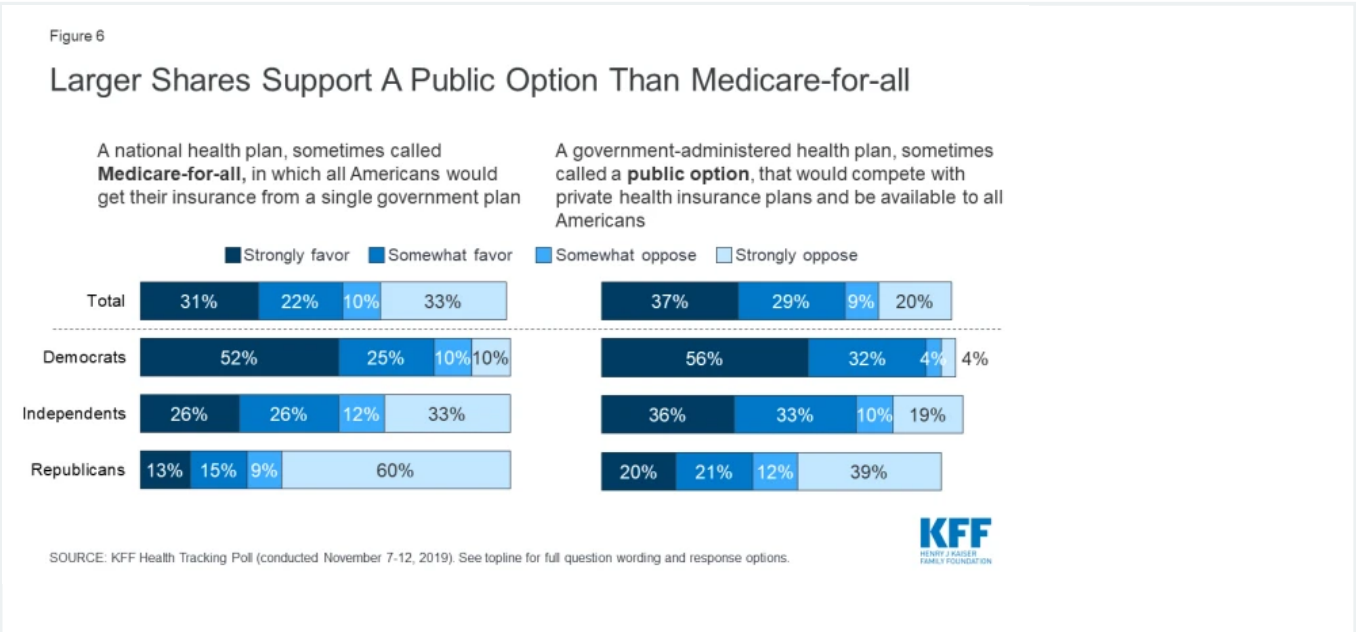
This month's poll continues to find larger support for more incremental changes to the nation's health care system than a major overhaul. Support for a "public option," in which a government-administered plan would compete with private health insurance and be available to all Americans, has decreased slightly since last month. Two in three adults (65%) favor a public option, down from 73% in October. Levels of support for a public option were similar in July (65% support) and September (69%).

Following a narrowing of net support in recent months for Medicare-for-all, this month's poll finds about half the public (53%) favors a national Medicare-for-all plan while 43% are opposed. Indeed, since July, support for Medicare-for-all has remained relatively steady with about half of adults in favor of the proposal. E



i u E 5: About Half Of Adults Suppo t A National Medica e-fo -all Plan

Democrats and inde endents continue to be more likely than Re ublicans to favor both a public option and Medicare-for-all. Nonetheless, a public option that would compete with private health insurance plans garners more support among Republicans and independents E than a proposed national Medicare-for-all plan. While large majorities of Democrats favor both proposals (77% Medicare-for-all, 88% public option), half of independents (52%) support a Medicare-for-all proposal compared to about seven in ten (69%) who support a public option. E Among Republicans, 27% support a national Medicare-for-all plan while four in ten (41%) favor E a public option.



Fi e 6: La e S a es S o A P blic Op ion T an Medica e-for-all

MODERATE SHIFTS IN SUPPORT OF A NATIONAL HEALTH PLAN DEPENDING ON HOW THE PLAN IS DESCRIBED

Previous KFF polling (https://www.kff.org/slideshow/public-opinion-on-single-payer-national-health-plans-and-expanding-access-to-medicare-coverage/) has found that attitudes towards a national Medicare-for-all plan are quite malleable when given counter-arguments. This month's tracking poll finds more moderate shifts in the public's views towards Medicare-for-all when they are provided descriptions that balance the trade-offs lawmakers are considering. When Medicare-for-all is described as eliminating private health insurance, but allowing people to choose their medical E providers, support for Medicare-for-all remains relatively unchanged (54% favor v. 43% E oppose). If the plan is described as requiring many employers and some individuals to pay more in taxes, but eliminating both out-of-pocket costs and premiums for all Americans, overall favorability drops and the public is equally divided (48% favor vs. 48% oppose) in their views. E Similarly, the public is also divided when the plan is described as increasing taxes individuals will personally pay, but decreasing their overall costs for health care (47% favor vs. 48% E oppose). E

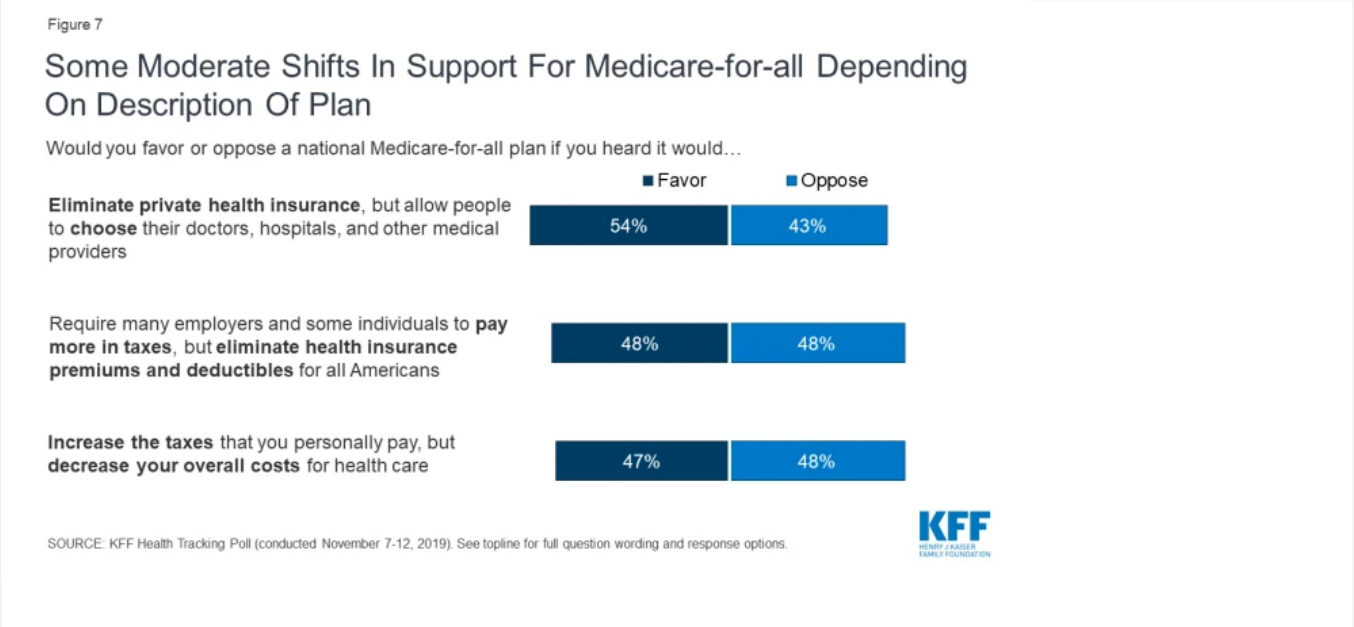


Fig re 7: Some Mo Erate Shifts In S pport For Me i are for a Depending On Des ri tion Of P an

Additionall , about four in ten (39%) sa a Medicare for all plan that would eliminate health insurance premiums, deductibles, and most out-of-pocket costs but would increase taxes on man emplo ers and some individuals, will not have much financial impacEon them. About a E third of adults (34%) think they would be worse off under a Medicare-for-all plan while about one in five (22%) think they would be better off. Notably, half of adults 65 and older with Medicare coverage think they would not be financially impacEed by a Medicare-for-all plan. Partisans have different expectations of how they would be financially impacted by a Medicare- E for-all system which eliminated premiums and deductibles, but increased taxes on employers E and some individuals. About half of Democrats (49%) and four in ten independents (40%) think they would not be impacEed financially whereas half of Republicans (52%) think they would be E worse off under a Medicare-for-all plan.

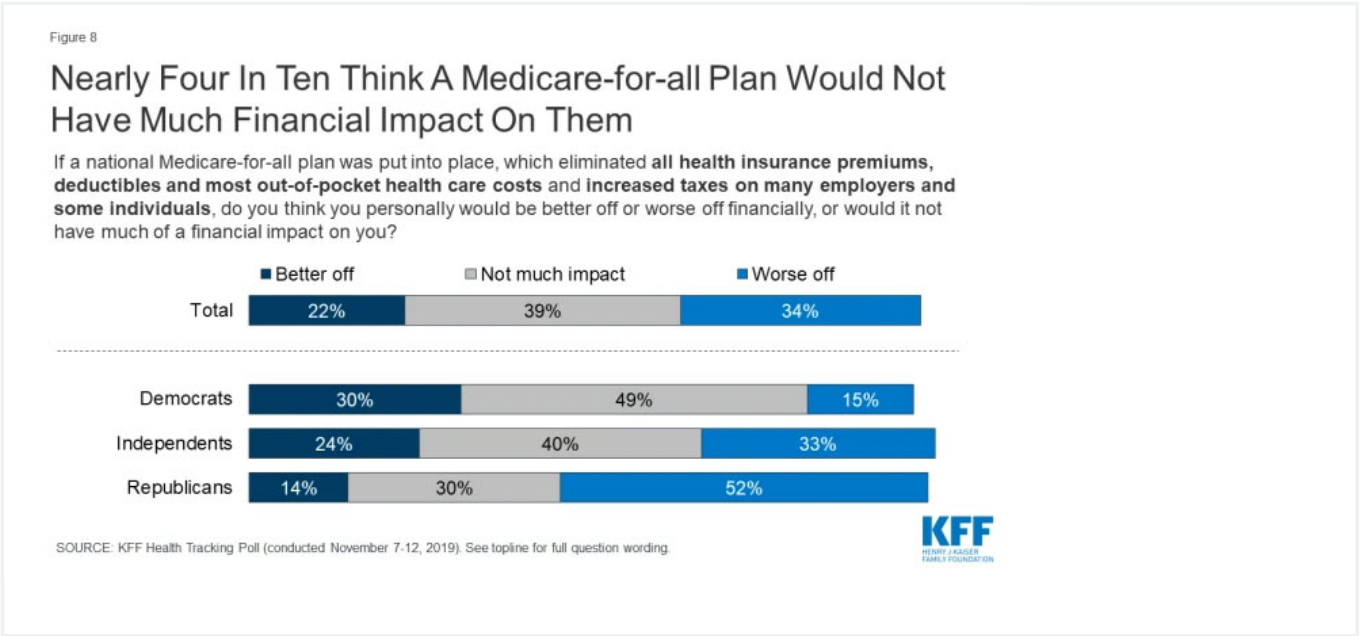


Figure 8: Nearly Four In Ten Thin A Medicare-for-all Plan Would Not Have Much Financial Impact On Them

The Affordable Care Ac 's Seven h Open Enrollmen Period

Overall opinions of the Affordable Care Act (ACA) have remained relativel unchanged for the past two years (https://www.kff.org/interactive/kff-health-tracking-poll-the-publics-views-on-the-aca/) since E the Republican efforts to repeal the 2010 health care law. Half of the public (52%) this month hold favorable opinions of the ACA while four in ten (41%) hold a negative opinion of the law. Partisans remain divided on the ACA as eight in ten Democrats (83%) have a favorable view of the ACA compared to half of independents (52%) and about one in five Republicans (22%). E

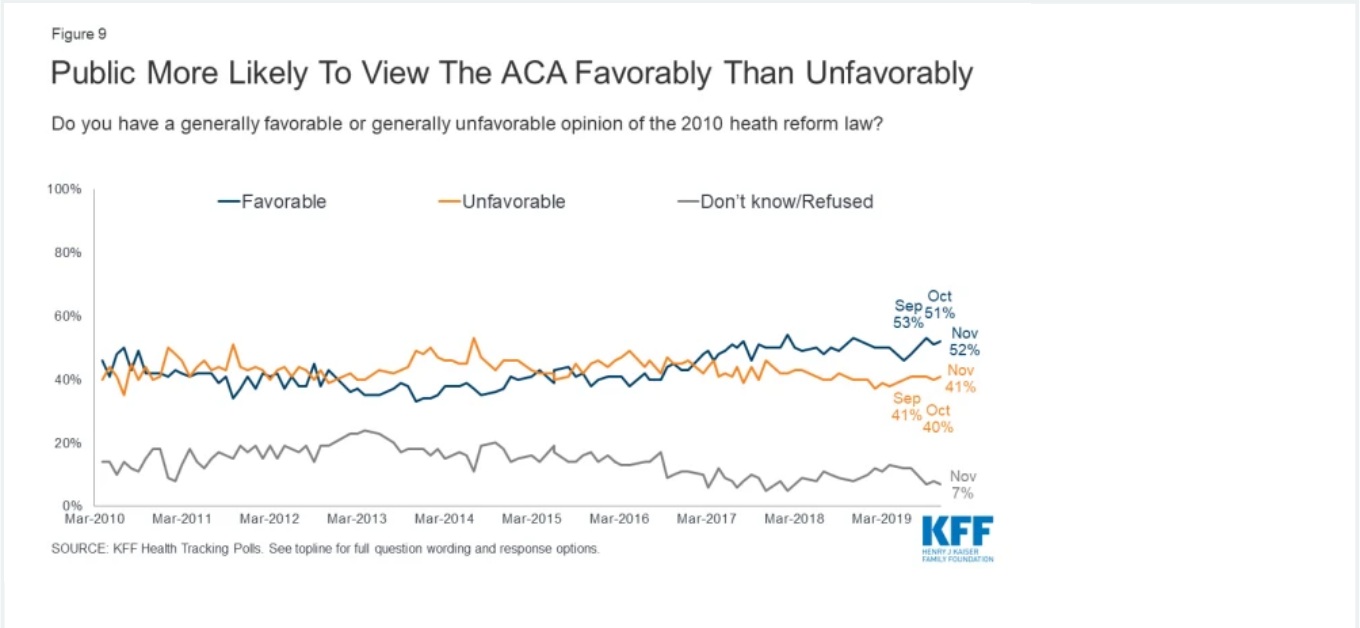
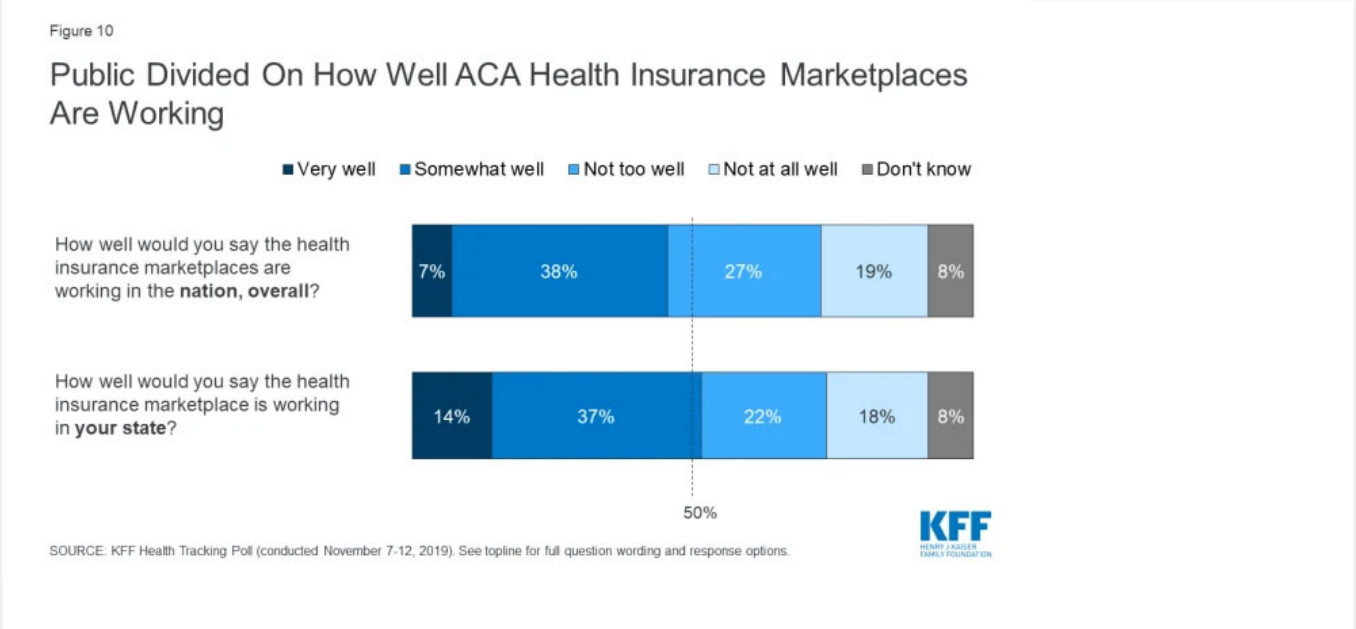


Figure : Public More i ely To View The ACA Favorably Than Unfavorably

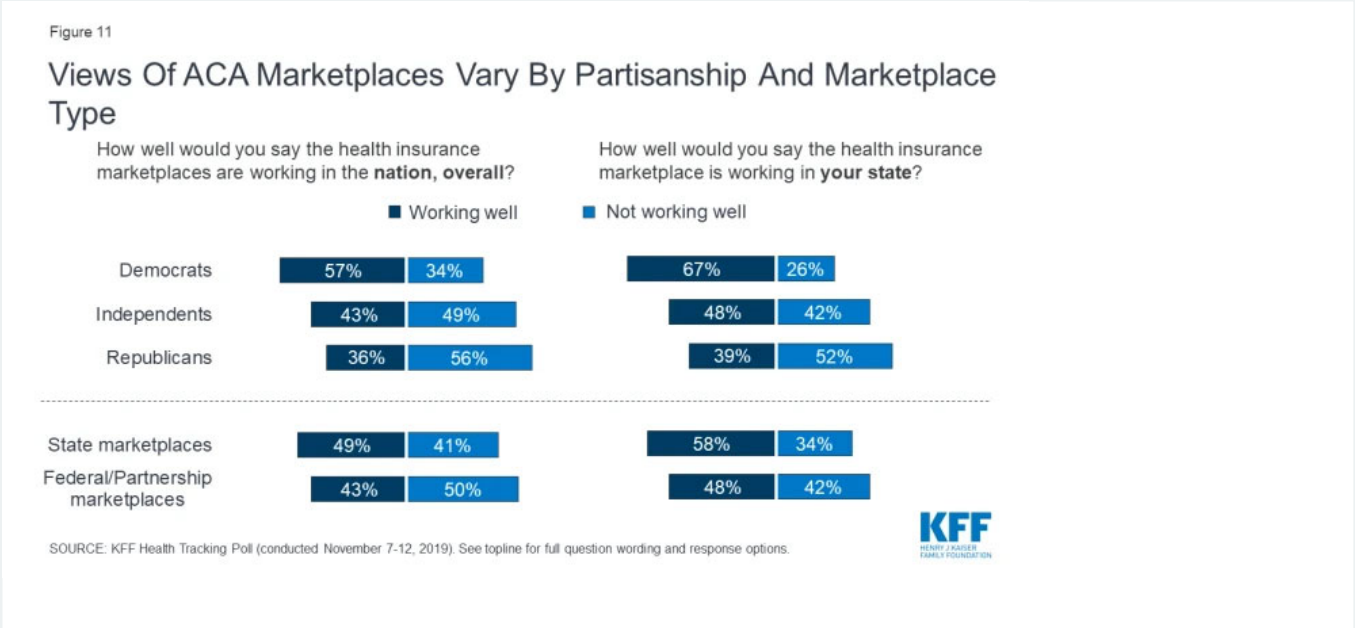
With the ACA open enrollment underway, millions of Americans will be using state and federal health insurance marketplaces, established by the 2010 health reform law, to shop for health insurance plans to cover them and their families in 2020. Americans are divided on how well they think the health insurance marketplaces are working in their own state and in the nation overall. When assessing how well the health insurance marketplaces in the nation are working, about four in ten (45%) say they are working "very well" (7%) or "somewhat well" (38%) while a E similar proportion (47%) say they are working either "not too well" (27%) or "not at all well" (19%). The public is slightly more positive about how health insurance marketplaces are working in their state with half (52%) saying they are working either "very well" (14%) or E "somewhat well" (37%). E



i ure 10: Public Divided On How Well ACA Health nsurance Marketplaces Are Working

Partisans are split on their views of how well the ACA health ins rance marketplaces are working. Nearly six in ten Democrats (57%) say the marketplaces in the nation overall are working well and two-thirds (67%) say marketplaces in their state are working well. On the other hand, a majority of Republicans (56%) say marketplaces in the nation overall are **not** working well while about half (52%) say the marketplace in their state is **not** working well. E

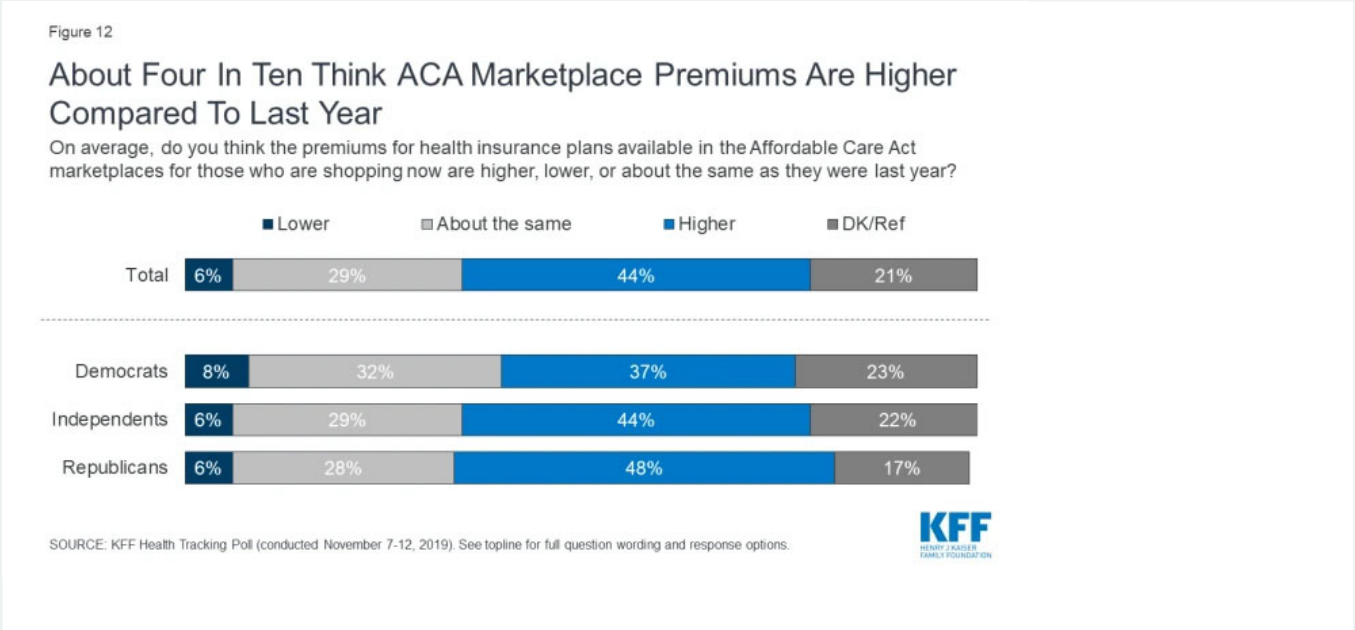
Notably, adults living in states that have developed their own state-based marketplace are more likely to say the health insurance marketplace in their own state is working well. About six in ten adults (58%) living in states with state-based marketplaces say the health insurance marketplace in their state is working well compared to half of those living in states that are using the federal marketplace (48%). E



igure 11: Views Of ACA Marketplaces Vary By Partisanship An Mar et lace y e

A recent KFF analysis https://www.kff.org/health-costs/issue-brief/how-aca-marketplace-premiums-are-changing-by-county-in-2020/) of ACA marketplace premium data for 2020 has indicated that on average, premiums are decreasing across the U.S., though premium changes vary widely by E location. Yet few adults think premiums for health insurance plans available in the ACA marketplaces are lower than they were last year. A plurality of the public (44%) think premiums are higher than they were last year while 6% think ACA marketplace premiums are now lower. About three in ten (29%) think the ACA premiums are about the same as last year.

While few partisans think the premiums for ACA plans are lower this year compared to last year, Republicans are more likely than Democrats to say the premiums are higher. Nearly half of Republicans (48%) say premiums in the ACA marketplaces are higher than they were last year compared to 37% of Democrats. E



igure 12: About our In Ten Think ACA rketpl e Premiums Are Higher Compared To Last Year

The Trump Administr tion's Continuing He lth C re Efforts

In December 2018, a federal district court judge in Texas issued a ruling siding with Republican state attorneys general that declared the Affordable Care Act invalid since Congress zeroed out E the penalty for not having health insurance. The case is now with a panel of judges in the 5th Circuit Court of Appeals. A ruling is expected in the coming months and many expect the case to make its way to the U.S. Supreme Court.

Overall, 62% of the public do not want to see the Supreme Court overturn the ACA's pre-existing condition protections; yet the public is more divided on whether they want the Supreme Court to overturn the entire law (45% would like to see it overturned and 48% would not). While 76% of Democrats and half of independents **do not want** to see the 2010 health care law overturned, seven in ten Republicans (71%) say they **would like** to see the Supreme Court overturn the law. However, far fewer Republicans (43%) want to see the ACA's protections for people with pre-existing conditions overturned. E

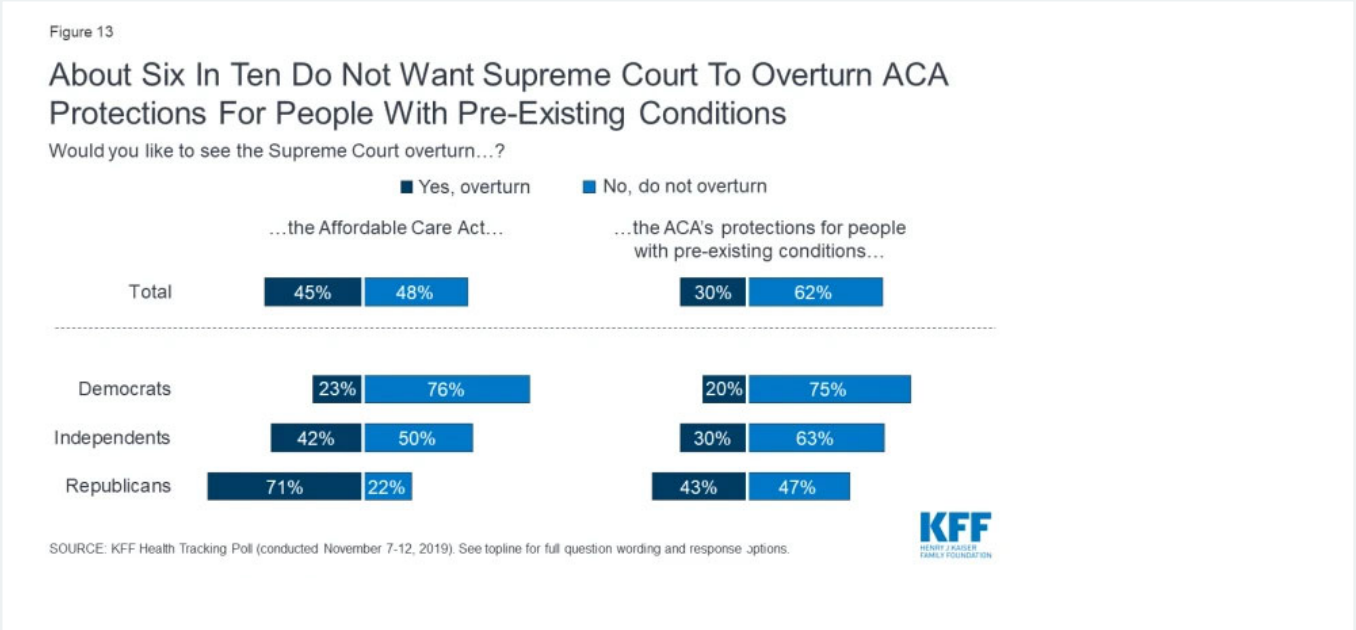


Figure 13: About Six In Ten Do Not Want Supreme Court To Overturn ACA Protections For People With Pre-Existing Conditions

Throughout 2019 lawmakers on both sides of the aisle have been working to address the cost of prescription drugs. Both the U.S. House of Representatives and the U.S. Senate have held hearings on this issue and both the Trump administration and House Speaker Nancy Pelosi have put forward proposals to address prescription drug costs. Despite these efforts to address the issue, majorities say that President Trump and his administration (70%), Democrats in Congress (75%) and Republicans in Congress (77%) are "not doing enough" to bring down the costs of prescription drugs.

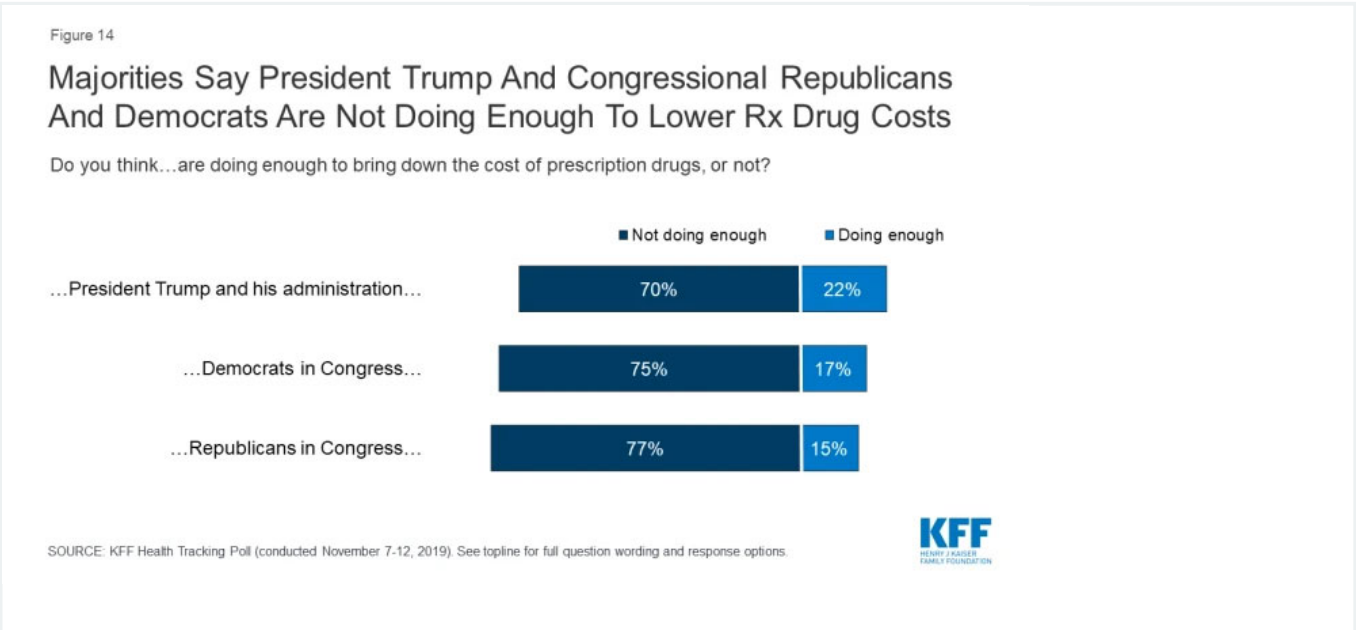


Figure 14: Majorities Say President Trump And Congressional Republicans And Democrats Are Not Doing Enough To Lower Rx Drug Costs

Notably, partisans appear to be critical of their own parties as a majority of Democrats (65%) say Congressional Democrats are "not doing enough" to bring down the costs of prescription drugs and a majority of Republicans (56%) say Congressional Republicans are "not doing E enough." Partisans are polarized on President Trump's efforts to address prescription drugs costs with an overwhelming majority of Democrats (94%) and about eight in ten independents E (77%) saying the Trump administration is "not doing enough," compared to one-third of Republicans who say the same.

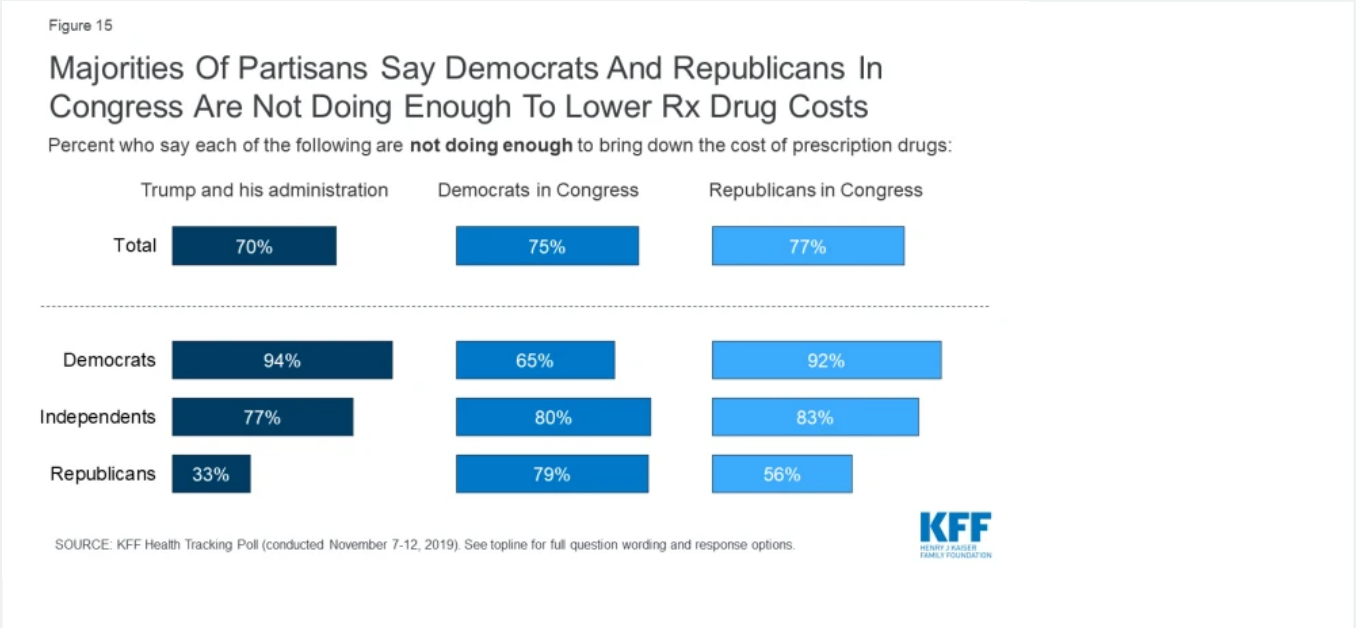
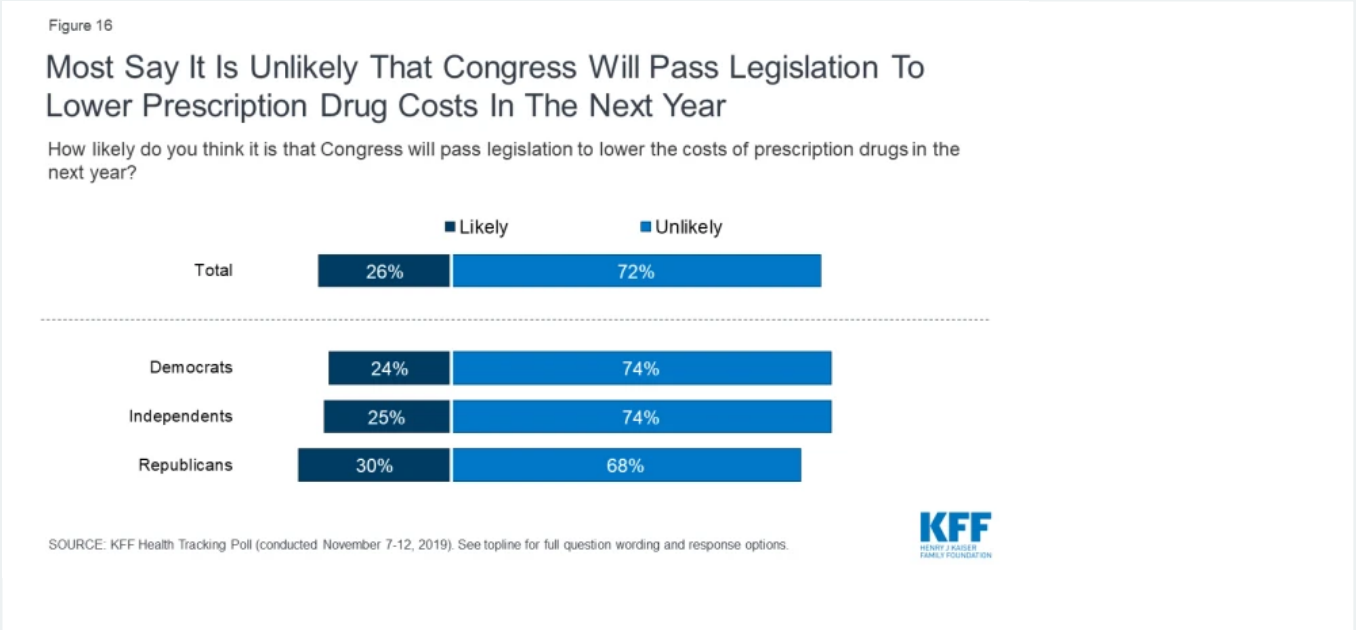


Figure 15: Majorities Of Partisans Say Democrats nd Republicans In Congress Are Not Doing Enough To Lower Rx Drug Costs

Seve i te adults (7 %) —i cludi g majorities across partisa s—thi it is " ot too li ely" or "not at all li ely" that Congress will pass legislation to lower the costs of prescription drugs in the next year.

If the public's pessimism about the prospects of legislation to address prescription drug costs proves to be true, blame for the lack of results will be shared. Three in ten (30%) say they would E blame Republicans if Congress does not pass legislation to lower the costs of prescription drugs, and a similar proportion (30%) would blame Democrats in Congress. One in four (25%) would place the blame on President Trump. E



Figu : ost Say It Is Unlik ly That Cong ss Will Pass L gislation To Lower E P sc iption D ug Costs In Th xt Y a E

Methodology

This *KFF Health Tracking Poll* was designed and analyzed by public opinion researchers at the Kaiser Family Foundation (KFF). The survey was conducted November 7th–12th 2019, among a nationally representative random digit dial telephone sample of 1,205 adults ages 18 and older, living in the United States, including Alaska and Hawaii (note: persons without a telephone could not be included in the random selection process). The sample included 290 respondents reached by calling back respondents that had previously completed an interview on the KFF E Tracking poll at least nine months ago. Computer-assisted telephone interviews conducted by landline (302) and cell phone (903, including 613 who had no landline telephone) were carried out in English and Spanish by SSRS of Glen Mills, PA. To efficiently obtain a sample of lower-income and non-White resp Endents, the sample also included an oversample of prepaid (pay-as-you-go) telephone numbers (25% of the cell phone sample consisted of prepaid numbers) as well as a subsample of respondents who had previously completed Spanish language interviews on the SSRS Omnibus poll (*n*=10). Both the random digit dial landline and cell phone samples were provided by Marketing Systems Group (MSG). For the landline sample, respondents were selected by asking for the youngest adult male or female currently at home based on a random rotation. If no one of that gender was available, interviewers asked to speak with the youngest adult of the opposite gender. For the cell phone sample, interviews were conducted with the adult who answered the phone. KFF paid for all costs associated with the survey. E

The combined landline and cell phone sample was weighted to balance the sample demographics to match estimates for the national population using data from the Census Bureau's 2017 American Community Survey (ACS) on sex, age, education, race, Hispanic origin, and region along with data from the 2010 Census on population density. The sample was also

weighted to match current patterns of telephone use using data from the July-December 2018 National Health Interview Survey. The weight takes into account the fact that respondents with both a landline and cell phone have a higher probability of selection in the combined sample and also adjusts for the household size for the landline sample, and design modifications, namely, the oversampling of prepaid cell phones and likelihood of non-response for the re-contacted sample. All statistical tests of significance account for the effect of weighting.

The margin of sampling error including the design effect for the full sample is plus or minus 3 percentage points. Numbers of respondents and margins of sampling error for key subgroups are shown in the table below. For results based on other subgroups, the margin of sampling error may be higher. Sample sizes and margins of sampling error for other subgroups are available by request. Note that sampling error is only one of many potential sources of error in this or any other public opinion poll. Kaiser Family Foundation public opinion and survey research is a charter member of the Transparency Initiative (http://www.aapor.org/Transparency_Initiative.htm) of the American Association for Public Opinion E Research. E

Group	N (unweighted) E	M.O.S.E.
Total E	1,205	±3 percentage points
Party Identification		
Democrats	353	±6 percentage points
Republicans	340	±6 percentage points
Independents	390	±6 percentage points
Democrats/Democratic-leaning independents/Independents with no leaning	643	±5 percentage points
Democrats and Democratic-leaning independents E	550 E	±5 percentage points

Endnotes

Findings E

1. Fieldwork for this poll was concluded prior to the November 14th E shooting at Saugus High School in Santa Clarita, California.

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No. 219 | NOVEMBER 19, 2019

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INSTITUTE FOR FAMILY, COMMUNITY, AND OPPORTUNITY

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This paper, in its entirety, can be found at **http://report.heritage.org/sr219**

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How "Medicare for All" Harms Working Americans

Edmund F. Haislmaier and Jamie Bryan Hall

Proposals to impose a government-run health care system, such as the pending "Medicare for All" legislation, on the American public would leave most households financially worse off. Workers would have to pay additional taxes—21.2 percent of all wage and salary income—raising the total federal payroll tax rate to 36.5 percent for most workers. Average disposable income (after taxes and private medical expenses) for all households would decline by $5,671 per year. We also find that nearly two-thirds of American households (65.5 percent, comprising 73.5 percent of the population) would pay more in taxes than they would save from no longer paying health insurance premiums and the absence of out-of-pocket medical spending. For households with employer-sponsored insurance, 87.2 percent would be worse off financially.

Over half of the Democrats in the House and 14 Democrats in the Senate are calling for enactment of a new government-run health coverage program to replace all existing private health insurance, including employer-sponsored health benefits, as well as the current publicly funded coverage for Americans enrolled in Medicare, Medicaid, and the Children's Health Insurance Program (CHIP). The proposed new program would be operated and funded solely by the federal government, and private insurers and employers would be prohibited from offering coverage that duplicated any of the program's benefits.[1] While the terminology (such as single-payer and Medicare for All) and the details may vary, any such proposal would significantly increase federal government spending and require major tax increases.

Advocates of this idea suggest that Americans currently covered by private health plans would be financially better off, even after their taxes are raised to fund the proposed new government program. For example,

Senator Bernie Sanders (I–VT) has said: "Are people going to pay more in taxes? Yes. But at the end of the day, the overwhelming majority of people are going to end up paying less for health care because they aren't paying premiums, co-payments or deductibles."[2]

That assertion is incorrect. Our analysis finds that in order to fund such a program, it would be necessary for the federal government to impose substantial, broad-based taxes equal to 21.2 percent of all wage and salary income. Those taxes would be in addition to the payroll taxes that most workers already pay for the existing Social Security and Medicare programs, bringing total payroll taxes to 36.5 percent for most workers.[3] We also find that nearly two-thirds of American households (65.5 percent, comprising 73.5 percent of the population) would experience reductions in their disposable income, making them financially worse off. Those households would pay more in new taxes to fund the program than they would save as a result of the program eliminating their current spending on private health insurance and out-of-pocket medical expenses.

After accounting for both the tax increases and the reductions in private spending for health insurance and medical care, we find that average annual household disposable income would decline by $5,671 (or 11 percent) under a new government-run health care program.

Among households with employer-sponsored health benefits, 87.2 percent would be worse off financially under a new government-run health care program, and their annual disposable income would be $10,554 lower, on average. That would occur despite those households receiving wage increases, as employers responded to the new program by converting the

1. S. 1129, Medicare for All Act of 2019, 116th Cong., 1st Sess., and H.R. 1384, Medicare for All Act of 2019, 116th Cong., 1st Sess. See also Robert E. Moffit, "Government Monopoly: Senator Sanders' 'Single-Payer' Health Care Prescription," Heritage Foundation *Backgrounder* No. 3261, July 27, 2018, https://www.heritage.org/sites/default/files/2018-08/BG3261.pdf, and Robert E. Moffit, "Total Control: The House Democrats' Single-Payer Health Care Prescription," Heritage Foundation *Backgrounder* No. 3423, July 19, 2019, https://www.heritage.org/sites/default/files/2019-07/BG3423.pdf.

2. Atthar Mirza, "Would Bernie Sanders's Medicare-for-All Save Americans Money?" *The Washington Post*, June 3, 2019, https://www.washingtonpost.com/politics/2019/06/03/would-bernie-sanderss-medicare-for-all-save-americans-money/ (accessed November 4, 2019).

3. No proponent of this idea has provided a complete plan to pay for this proposal. Senator Sanders and Senator Warren have each offered plans to partially fund Medicare for All through combinations of payroll taxes imposed on employers and increased income taxes. We have chosen to model the full tax burden to pay for Medicare for All, and we used a higher payroll tax rate on employees because it is the standard measure for projecting the tax burden of a social insurance program. Moreover, this approach avoids the significant behavioral response effects of other possible tax increases. Additionally, the Committee for a Responsible Federal Budget (CRFB) recently provided several pay-for options. See Committee for a Responsible Federal Budget, "Choices for Financing Medicare for All: A Preliminary Analysis," http://www.crfb.org/papers/choices-financing-medicare-all-preliminary-analysis (accessed October 31, 2019). The CRFB highlights a 32 percent payroll tax split evenly between the employer and the employee, and notes that it would raise the same revenue as a 23 percent payroll tax paid solely by the employee. That latter figure is very similar to what we derived (21.2 percent). We modelled a payroll tax paid solely by the employees because imposing a tax on employers (all or in part) would produce additional adverse effects on cash compensation, employment, and business profitability—particularly for employers with workers near the statutory minimum wage, whose hourly wage cannot be reduced to offset the cost of the new tax. The resulting smaller tax base would, in turn, necessitate even higher tax rates to collect the same amount of revenue.

value of current tax-free, employer-provided health benefits into additional taxable cash income.[4] The reason: Workers would pay much higher taxes to fund the cost of the new program because workers would need to (1) replace their own private spending, (2) replace non-workers' private spending, and (3) pay for the additional spending that would result from the program stimulating increased use of medical care.

Background

Over half of the Democrats in the House and 14 Democrats in the Senate have co-sponsored so-called Medicare for All bills, the key features of which are the establishment of a federal government-run health care program that would:

- Cover all U.S. residents;
- Provide comprehensive benefits, including coverage for items and services that are only covered to a limited extent today, such as dental, vision, hearing, and long-term care;
- Not charge patients any fees or co-payments for the care they receive;
- Replace existing private coverage and prohibit insurers and employers from offering plans that cover the same benefits as the new government program; and
- Replace the three major existing government coverage programs—Medicare, Medicaid, and CHIP.

As such, the proposal would fundamentally alter the structure and operations of the U.S. health system with numerous effects, not the least of which would be substantial increases in federal spending and taxation, as well as significant changes to the personal finances of American households.

Analysts from across the political spectrum have produced studies estimating the effects of such a program on total U.S. health spending and the

4. We assume that, should Medicare for All legislation pass, employers will convert funds they spend on health benefits today into higher wages. Appendix A includes a more detailed discussion of this assumption and resulting changes to the tax base.

federal budget. Those studies reached roughly similar conclusions.[5] Namely, that a government-run health care program would increase federal spending by at least $30 trillion over the first 10 years of implementation, and that were such a program currently in effect, federal spending would be more than $2 trillion higher than it is now.

However, less attention has been devoted to calculating the taxation needed to fund what amounts to a 50 percent increase in federal spending.[6] Yet, average Americans are less interested in how a government-run health care program would affect the federal budget or total U.S. health spending than in what its provisions, including the taxes to pay for it, would mean for their family's finances.

The biggest changes would result from the legislation effectively "nationalizing" spending that is privately funded today—roughly half of total U.S. health care spending.

That means that Americans would no longer pay directly for any of their medical care or health insurance, and they would have to pay higher taxes to fund the new program. Furthermore, about half of American households are currently covered under employer-sponsored health plans. The cost of that coverage is part of the total compensation paid by employers to their workers, but it is excluded from the taxable incomes of those employees. Replacing those private plans with a new government program would also result in the value of those benefits being converted into taxable cash wages.

The financial effects of the legislation would differ for specific individuals and families depending on their employment status, their incomes, and the source and scope of their current health care coverage. For any particular household, the implementation of a government-run health program would produce one or more of the following effects: (1) reductions in the amount spent directly on health insurance and medical care, as a result of the new program providing comprehensive benefits with no premiums or

5. Kenneth E. Thorpe, "An Analysis of Senator Sanders [sic] Single Payer Plan," Emory University, January 27, 2016, https://www.healthcare-now.org/296831690-Kenneth-Thorpe-s-analysis-of-Bernie-Sanders-s-single-payer-proposal.pdf (accessed November 4, 2019); Center for Health and Economy, "Medicare for All: Leaving No One Behind," May 1, 2016, http://healthandeconomy.org/wp-content/uploads/2016/05/Medicare_For_All_20160501.pdf (accessed November 4, 2019); John Holahan et al., "The Sanders Single-Payer Health Care Plan: The Effect on National Health Expenditures and Federal and Private Spending," Urban Institute *Research Report*, May 9, 2016, https://www.urban.org/research/publication/sanders-single-payer-health-care-plan-effect-national-health-expenditures-and-federal-and-private-spending (accessed November 4, 2019); Charles Blahous, "The Costs of a National Single-Payer Healthcare System," Mercatus Center *Working Paper*, July 30 2018, https://www.mercatus.org/publications/federal-fiscal-policy/costs-national-single-payer-healthcare-system (accessed November 4, 2019); Jodi L. Liu and Christine Eibner, "National Health Spending Estimates Under Medicare for All," RAND Corporation, 2019, https://www.rand.org/pubs/research_reports/RR3106.html (accessed November 4, 2019); and Linda J. Blumberg et al., "From Incremental to Comprehensive Health Insurance Reform: How Various Reform Options Compare on Coverage and Costs," Urban Institute and The Commonwealth Fund, October 2019, https://www.urban.org/sites/default/files/2019/10/15/from_incremental_to_comprehensive_health_insurance_reform-how_various_reform_options_compare_on_coverage_and_costs.pdf (accessed November 4, 2019).

6. The exception is that Thorpe does offer a general estimate for the level of taxation that would be needed to fund such a program fully.

co-payments for enrollees; (2) increases in the amount of taxable income, as a result of current non-taxable health benefits being converted into additional taxable compensation; and (3) changes to the amounts of federal and state taxes paid, as a result of the program eliminating current health care tax preferences and imposing additional taxes.

The analysis in this *Special Report* calculates the net effect on American families' finances in four basic steps. First, we identify the additional costs to the federal government of a government-run health care program as envisioned in the proposed legislation. Second, we account for the increase to the tax base that would result from the legislation precipitating the conversion of current tax-free, employer-sponsored health benefits into additional taxable wages and salaries. Third, we calculate the increased taxation needed to fund the additional federal spending, relative to the revised larger tax base. Fourth, we calculate the effects on household finances of the changes to their spending on medical care and taxes.

The results are expressed as the net change to household disposable income after taxes and health expenses (that is, payments for premiums, co-payments, and unreimbursed medical care). Put another way, the net effect is the change in the amount of income a household has left for other purposes after paying taxes and health expenses under current arrangements versus under a universal federal health care program.

Limitations. These figures should be understood as a close approximation of how families and individuals will be affected by Medicare for All.

We limited our analysis to providing baseline estimates for how replacing private health spending with federal spending, and funding that additional spending with tax increases, would alter the federal budget and household finances. As such, our analysis is a static accounting of funding shifts and we did not attempt to estimate the effects of behavioral changes in response to higher tax rates. Further, we did not incorporate into our analysis assumptions about aspects of the legislation that are not specific enough to estimate their effects with confidence. Instead, we provide a separate discussion of those issues and their associated uncertainties in Appendix B.

We conducted sensitivity analysis and found little difference in the distributional results when assuming that some elements of the proposal design are more, or less, expensive than our baseline estimates.

Findings

Our analysis finds that if Medicare for All, as envisioned in the current House and Senate bills, were already in place, it would increase 2020 federal

spending by $2.387 trillion, more than 50 percent.[7] We also find that funding that increase in federal spending would require additional payroll taxes equal to 21.2 percent of all wage and salary income. Those taxes would be in addition to existing Social Security and Medicare payroll taxes, meaning that most working Americans would need to pay 36.5 percent of their wages in federal payroll taxes to fund both Social Security and a government-run health care program.

Among the population as a whole, household disposable income after tax and health spending would, on average, decline by $5,671 under a government-run health care program, with 65.5 percent of all households financially worse off than they are now. (See Table 1.)

Specific effects and net results would differ for individual households based on the type and scope of their current health insurance coverage, the amount of their current out-of-pocket medical spending, the amount and sources of their income, the type of taxes imposed to fund the program, and whether a household has workers.[8]

Effects on Working Households. Most households with workers (82.0 percent) would see their taxes increase by more than they would save from no longer paying privately for health insurance and medical care. That is mainly because they would need to pay new taxes to fund the new government spending that replaces both their own private spending and that of non-workers, as well as additional spending generated by the new program increasing demand for health care goods and services.

Effects on Working Households with and without Employer-Sponsored Coverage. The effect would be largest for working households with employer-sponsored insurance, whose disposable income would be $10,554 lower on average. In contrast, working households without employer coverage would see disposable income decline by an average of $4,029.

Most of that difference is explained by the fact that the average cash income of households with employer-sponsored insurance is nearly twice that of working households without employment-based coverage ($103,612 versus $58,963). That difference would further increase as employers

7. See Appendix A for details.

8. Household work status is significant for two reasons. First, the largest effects would come from shifting the U.S. health system from one that is half privately financed and employment-based to one that is fully government financed and detached from employment. The people who would directly experience that shift are, by definition, in households with workers. Second, we assume that the new taxes to fund a government-run health care program would be imposed exclusively on income from labor. Under that scenario, households with workers would bear the cost through higher taxes, while households without workers, by definition, would not pay higher taxes to fund the new program. It is important to note, however, that under some Medicare for All proposals, some non-working households would pay higher taxes under alternative financing scenarios that relied more on increasing income taxes and less on increasing payroll taxes. See Appendix A for an explanation of our reasons for assuming financing through payroll taxes and a discussion of the results from applying alternative assumptions of partial or full financing through higher income taxes.

TABLE 1

Financial Effects of a Government-Run Health Care Program (Funded by an Additional 21.2% Payroll Tax) on Households

Household Health Insurance and Work Status	SHARE OF HOUSEHOLDS THAT WOULD BE FINANCIALLY ...		AVERAGE TOTAL TAX RATE		Average Change in Disposable Income	
	Better Off	Worse Off	Current Law	Proposed Reform		
All households	34.3%	65.5%	30.1%	47.0%	–$5,671	–11.0%
With workers	17.9%	82.0%	31.2%	49.7%	–$8,347	–14.3%
With employer-sponsored insurance	12.8%	87.2%	31.8%	51.6%	–$10,554	–15.6%
Without employer-sponsored insurance	28.0%	72.0%	29.2%	42.8%	–$4,029	–10.0%
Without workers	99.0%	0.0%	17.9%	16.1%	$4,884	20.6%

NOTES: Total tax rate is all federal, state, and local taxes as a share of comprehensive income. Disposable income is after all taxes and health care expenses.
SOURCES: Heritage Foundation model based on data from U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, https://www.meps.ahrq.gov (accessed October 17, 2018), and federal and state tax data. See appendix for more information about the methodology.

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responded to the legislation by converting tax-free health benefits into additional taxable compensation.

Effects on People Currently Enrolled in Medicare. Thirty-four percent of American households include at least one person who is covered by Medicare. Both the House and the Senate bills would replace Medicare with a new government-run health program that, unlike Medicare, would not charge premiums, deductibles, or coinsurance, and would cover additional benefits. On average, Medicare pays for only about 65 percent of an enrollee's total health expenses, while the new program would cover nearly 100 percent of those costs.

Half (51 percent) of Medicare households include no workers (essentially, these are fully retired people). Those households would all be financially better off by an average of $5,368 if the new program was funded entirely through payroll taxes.[9] This subset of households also accounts for 85 percent of all households without workers.

9. See Appendix A for a discussion of the results from applying alternative assumptions of partial or full financing through higher income taxes.

The other half (49 percent) of Medicare households—those with workers—would be financially worse off by an average of $2,768 under a government-run health plan because 53.8 percent of them would pay more in taxes than they would save as a result of the new program eliminating their current of out-of-pocket health spending.

Effects on Those Currently Covered by Medicaid and CHIP. Today, 18 percent of households have at least one person who is covered through Medicaid or CHIP (but not Medicare), and 90 percent of those households also have at least one worker. These households would be financially worse off by an average of $5,592, because 87 percent of them would pay more in taxes than they save from the elimination of their remaining out-of-pocket health spending. That is partly because individuals enrolled in Medicaid or CHIP would see little in the way of savings under the legislation since they already have comprehensive government-funded coverage. For the remaining 10 percent of households with Medicaid or CHIP enrollees that have no workers, those households would be financially better off by an average of $505.

Examples of Effects

To show how shifting to a government-run health care program would financially affect working households with different characteristics, we constructed the following five illustrative households, with the results summarized in Table 2. (See Appendix C for the full table for each illustrative household.)

Example 1: A Median-Income Married Couple with Children and Employer Health Benefits Would be $9,201 Worse Off. A married couple with two children and cash income near the median for all such families (about $98,000), and covered by employer-sponsored insurance, would have $9,021 less in disposable income under a government-run health care program. While this family's total income including employer-paid benefits would remain unchanged, the portion subject to taxation would increase by $13,459 (the sum of the $9,391 value of the employer contribution and $4,068 employee contribution toward the employer-sponsored insurance plan, which are currently untaxed).

Applying the higher federal payroll tax rate to the higher taxable wage base would increase their federal payroll tax bill by $24,329. Because more of their income is subject to tax, the couple would also pay an additional $1,830 in federal income taxes. While their state and local taxes would be reduced by $1,758, their total tax bill would increase by $24,400, to

$53,947—47.3 percent of their total income. Eliminating their insurance premiums as well as their out-of-pocket medical expenses of $1,740 would save them $15,199 of private health care expenses, but it would not fully offset the increase in their tax bill. This middle-income family would see its net income (after taxes and private health expenses) decline by $9,201 (13.3 percent), from $69,415 to $60,214.

Example 2: A Lower-Middle-Income Married Couple with Children and Employer Health Benefits Would be $1,619 Worse Off. A married couple with two children, cash income near $50,000, and covered by employer-sponsored insurance would have $1,619 less in disposable income under a government-run health care program. While this family's total income including employer-paid benefits would remain unchanged, the portion subject to tax would increase by $12,386 (the sum of the $8,430 value of the employer contribution and $3,957 employee contribution toward the employer-sponsored insurance plan, which are currently untaxed).

Applying the higher federal payroll tax rate to the higher taxable wage base would increase their federal payroll tax bill by $14,198. Because more of their income is subject to tax, they would also pay an additional $1,414 in federal income taxes and lose all $1,172 of their earned income credit. While their state and local taxes would be reduced by $1,029, their total tax bill would increase by $15,755 to $26,636 (43.0 percent of their total income). Eliminating their insurance premiums as well as their out-of-pocket medical expenses of $1,750 would save them $14,137 of private health care expenses, but it would not fully offset the increase in their tax bill. This lower-middle-income family would see its net income (after taxes and private health expenses) decline by $1,619 (4.4 percent), from $36,860 to $35,241.

Example 3: A Median-Income Working Single Mother Would Be $1,547 Worse Off. An unmarried mother covered by employer-sponsored insurance, with two children covered by CHIP, and with cash income near the median for all such families (about $31,000), would have $1,547 less in disposable income under a government-run health care program. While her total income, including employer-paid benefits, would remain unchanged, the portion subject to tax would increase by $6,650 (the sum of the $5,489 value of the employer contribution and $1,161 employee contribution toward the employer-sponsored insurance plan, which are currently untaxed).

Applying the higher federal payroll tax rate to the higher taxable wage base would increase her federal payroll tax bill by $8,342. Because more of her income is subject to tax, she would also pay an additional $163 in federal

income tax, which would be offset by an increase in the child tax credit, and she would lose $1,390 in earned income credit. While her state and local taxes would be reduced by $673, her total tax bill would increase by $9,059 to $11,325—29.2 percent of her total income. Eliminating her insurance premiums as well as the family's out-of-pocket medical expenses of $862 would save her $7,512 of private health care expenses, but it would not fully offset the increase in her tax bill. This family would see its net income (after taxes and private health expenses) decline by $1,547 (5.3 percent), from $29,039 to $27,492.

Example 4: A Single Mother Earning Minimum Wage Would Be $2,242 Worse Off. An unmarried mother with two children, all covered by Medicaid and with income near that of a full-time, year-round minimum wage worker (about $14,200) would have $2,242 less in disposable income under a government-run health care program. Applying the higher federal payroll tax rate to her taxable wages would increase her federal payroll tax bill by $2,789. Her federal income taxes would be unaffected, as she would continue to receive $6,806 in refundable tax credits (earned income credit and child tax credit).

Her state and local taxes would be reduced by $323. Because she receives more in refundable tax credits than she pays in total federal, state and local taxes, her current net benefit through the tax code is $2,704. Because she would be paying more in taxes under the proposed reform, her net benefits through the tax code would be reduced to $239, or 1.5 percent of her total income. This entire family is on Medicaid, so out-of-pocket medical expenses are low, at only $223, making the elimination of private health care expenses of little benefit to this household. This working-poor family would see its net income (after taxes and private health expenses) decline by $2,242 (12 percent), from $18,678 to $16,436.

Example 5: A Median-Income Single Man Without Dependents Would Be $3,542 Worse Off. An unmarried man with no dependents, income near the median for all such individuals (about $41,000), and covered by employer-sponsored insurance, would have $3,542 less in disposable income under a government-run health care program. While his total income including employer-paid benefits would remain unchanged, the portion subject to tax would increase by $6,615 (the sum of the $5,337 value of the employer contribution and $1,278 employee contribution toward the employer-sponsored insurance plan, which are currently untaxed).

Applying the higher federal payroll tax rate to the higher taxable wage base would increase his federal payroll tax bill by $10,649. Because more of his income is subject to tax, he would also pay an additional $767 in federal

TABLE 2

Financial Effects of a Government-Run Health Care Program (Funded by an Additional 21.2% Payroll Tax) on Representative Households

Representative Household	Current Cash Income	AVERAGE TOTAL TAX RATE		Average Change in Disposable Income
		Current Law	Proposed Reform	
Example #1—Married couple with two children, with cash income near the median for their family type ($98,000), all covered by employer-sponsored insurance	$97,764	25.9%	47.3%	–$9,201 (–13.3%)
Example #2—Married couple with two children, with cash income near $50,000, all covered by employer-sponsored insurance	$49,956	17.6%	43.0%	–$1,619 (–4.4%)
Example #3—Unmarried mother covered by employer-sponsored insurance, with two children covered by CHIP, with income near the median for her family type ($31,000)	$31,194	5.8%	29.2%	–$1,547 (–5.3%)
Example #4—Unmarried mother with two children, all covered by Medicaid, working full-time at minimum wage (cash income near $15,000)	$15,191	–16.7%	–1.5%	–$2,242 (–12.0%)
Example #5—Unmarried man without dependents, with income near the median for such men ($41,000), covered by employer-sponsored insurance	$40,674	30.0%	51.6%	–$3,542 (–13.0%)

NOTES: Total tax rate is all federal, state, and local taxes as a share of comprehensive income. Disposable income is after all taxes and health care expenses.
SOURCES: Heritage Foundation model based on data from U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, https://www.meps.ahrq.gov (accessed October 17, 2018), and federal and state tax data. See appendix for more information about the methodology.

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income tax. While his state and local taxes would be reduced by $849, his total tax bill would increase by $10,567, to $25,263—51.6 percent of his total income. Eliminating his insurance premiums as well as his out-of-pocket medical expenses of $410 would save him $7,025 of private health expenses, but it would not fully offset the increase in his tax bill. This middle-income man would see his net income (after taxes and private health expenses) decline by $3,542 (13 percent), from $27,262 to $23,720.

Conclusion

Under a government-run health care program, most American workers would have to hand over 36.5 percent of their wages to the federal government. Those taxes would consist of: a new tax to fund Medicare for

All—another 21.2 cents on every dollar earned—in addition to the payroll taxes of 15.3 percent that most workers already pay to fund the existing Social Security and Medicare programs. Furthermore, the new payroll tax would need to be imposed on every dollar of wages—from the first one earned by the lowest-paid worker to the last one earned by the highest-paid worker.

Overall, an estimated 65.5 percent of households comprising 73.5 percent of the population would be worse off financially under a new government-run health care program. The results would be even more skewed for households with employer-sponsored insurance, as 87.2 percent of them would be worse off financially under a government-run health care program.

Appendix A: Data and Methodologies

For reasons of both clear presentation and confidence in projections, our analysis assumes that the program is fully implemented in 2020.[10]

I. Estimates of Additional Federal Spending

Appendix A Table 1 summarizes our baseline estimates for the effects on the federal budget of adopting a program with the same key features as those in the "Medicare for All" bills currently pending in the House and Senate.[11] It shows that a government-run health care program would increase 2020 federal spending by almost $2.4 trillion.[12] Our sources and calculations for each item in Appendix A Table 1 are as follows:

Replacing Private Spending. The program would replace current private-sector spending on health insurance and medical care with new federal spending for the same goods and services for the same population.

We used the most recent National Health Expenditure (NHE) estimates for private insurance and out-of-pocket spending. Because the program benefits do not include coverage for non-prescription drugs and non-durable medical supplies, we subtracted the NHE estimates for spending on those items from the NHE estimates for total out-of-pocket spending.[13]

Replacing State Spending. The new program would replace Medicaid and CHIP. Currently, states pay a share of the costs for Medicaid and CHIP and also make payments to Medicare for drug coverage for dual-eligible beneficiaries. However, under the program, the federal government would become responsible for all of the cost of covering those same individuals.

10. Projections become more uncertain the more distant they are from data on actual experience. Also, assuming full implementation avoids the uncertainties and complexity entailed in trying to account for different possible implementation schedules over some period of time.
11. H.R. 1384, Medicare for All Act of 2019, 116th Cong., 1st Sess., and S. 1129, Medicare for All Act of 2019, 116th Cong., 1st Sess.
12. Blumberg et al., "From Incremental to Comprehensive Health Insurance Reform: How Various Reform Options Compare on Coverage and Costs," estimate that a national health program would increase federal spending in 2020 by $2,687 billion—$300 billion more than our estimate of $2,387 billion. The difference appears to be primarily attributable to their projection that increased demand under the program will be $250 billion greater than we assume ($719.7 billion versus $470 billion).
13. Centers for Medicare and Medicaid Services, Office of the Actuary, "NHE Projections 2018–2027," Table 4. Health Consumption Expenditures; Aggregate and per Capita Amounts, Percent Distribution and Annual Percent Change by Source of Funds: Calendar Years 2011–2027, https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsProjected.html (accessed November 5, 2019). The figures for out-of-pocket spending are reduced by the amounts projected in Table 12. Other Non-Durable Medical Product Expenditures (spending on non-prescription drugs and medical sundries).

APPENDIX A TABLE 1

Additional Federal Spending for a Government-Run Health Care Program

Figures are in billions of dollars in 2020.

Changes in Direct Spending	
Replace private health insurance[a]	+$1,344.2
Replace out-of-pocket payments[b]	+$344.9
Replace state payments for Medicaid, CHIP and Medicare[c]	+$275.7
Increased utilization: acute care[d]	+$390.0
Increased utilization: long-term care[e]	+$79.5
Total Change in Direct Spending	**+$2,434.3**
Changes in Revenues	
Eliminate Medicare premiums[f]	–$118.8
Eliminate ACA insurer taxes and employer penalties[g]	–$22.3
Eliminate tax exclusion for employer-sponsored health benefits[h]	+$175.3
Eliminate other health care tax preferences[g]	+$13.5
Total Change in Revenues	**+$47.8**
Net Change in Federal Spending	**+$2,386.5**

SOURCES:

a Centers for Medicare and Medicaid Services, National Health Expenditure Data, NHE Projections, 2018-2027, Table 4, https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsProjected.html (accessed November 10, 2019).

b Total out-of-pocket spending (NHE Projections, Table 4) minus out-of-pocket spending on non-prescription medicines and non-durable medical supplies (NHE Projections, Table 12).

c Authors' calculations based on CBO, Medicaid Baseline, CHIP Baseline, and Medicare Baseline, May 2019, adjusted to calendar year.

d Charles Blahous, "The Costs of a National Single-Payer Healthcare System," July 30, 2018, Table 3, https://www.mercatus.org/publications/federal-fiscal-policy/costs-national-single-payer-healthcare-system (accessed November 10, 2019).

e John Holahan et al., "The Sanders Single-Payer Health Care Plan: The Effect on National Health Expenditures and Federal and Private Spending," May 9, 2016, https://www.urban.org/research/publication/sanders-single-payer-health-care-plan-effect-national-health-expenditures-and-federal-and-private-spending (accessed November 10, 2019).

f Congressional Budget Office, "Medicare—CBO's May 2019 Baseline," May 2019, https://www.cbo.gov/system/files/2019-05/51302-2019-05-medicare_0.pdf (accessed November 10, 2019); data have been adjusted to calendar year.

g Congressional Budget Office, "Federal Subsidies for Health Insurance Coverage for People Under Age 65: Tables from CBO's May 2019 Projections," https://www.cbo.gov/system/files/2019-05/51298-2019-05-healthinsurance.pdf (accessed November 10, 2019); data have been adjusted to calendar year.

h Authors' calculations derived by applying, for each tax, the average marginal rate calculated from data on workers with ESI in the Census Bureau, Current Population Survey, and then subtracting CBO's projection for the OASDI deficit.

We calculated that additional cost to the federal government using the most recent Congressional Budget Office (CBO) projections.[14]

One study assumed that the federal government would be able to capture much of the states' savings, while another study reported alternative figures for spending by payer with, and without, that assumption applied.[15] However, the pending bills do not include provisions to capture state savings, and any design for doing so would face significant practical and political obstacles.[16]

For instance, Senator Elizabeth Warren (D–MA) proposes a "maintenance-of-effort requirement" on state and local governments under which current spending by those governments on Medicaid and CHIP and employee health benefits would be redirected to funding for the new federal program. She states, "This is similar to the mechanism that the George W. Bush Administration used to redirect Medicaid spending to the federal government under the Medicare prescription drug program."[17]

It is true that when Congress created the Medicare Part D prescription drug program, it included a provision to "claw-back" state Medicaid savings, stipulating that federal funding for the rest of a state's Medicaid program would be reduced by an equivalent amount if the state did not pay its savings into Medicare.[18]

Yet, under a new federal health program that replaces Medicaid, Congress would no longer have that leverage over states, since states would no longer need federal Medicaid funding. Furthermore, even if Congress chose to retain the existing Medicaid program just for institutional long-term care, as the Senate bill would, state savings from federalizing the rest of Medicaid would still exceed the loss to states of all federal funding for long-term care.

Increased Utilization. Because the program would be universal and would provide comprehensive benefits with first-dollar coverage, it would increase demand for health care goods and services. In the case of acute care services, the program would stimulate increased utilization in three ways:

14. Congressional Budget Office, "Medicaid—CBO's May 2019 Baseline," https://www.cbo.gov/system/files/2019-05/51301-2019-05-medicaid.pdf (accessed November 8, 2019); "Children's Health Insurance Program—CBO's May 2019 Baseline," https://www.cbo.gov/system/files/2019-05/51296-2019-05-chip.pdf (accessed November 8, 2019); and "Medicare—CBO's May 2019 Baseline," https://www.cbo.gov/system/files/2019-05/51302-2019-05-medicare_0.pdf (accessed November 8, 2019). We adjusted the CBO's fiscal-year figures to calendar-year figures.
15. Thorpe, "An Analysis of Senator Sanders [sic] Single Payer Plan," p. 6, and Liu and Eibner, "National Health Spending Estimates Under Medicare for All."
16. In theory, Congress could try to capture state Medicaid savings either by directly taxing the states, or by eliminating an equivalent amount of other, non-health-related federal transfer payments to states, or by structuring the new program like Medicaid, as a federal-state partnership with federal funding conditioned on states paying part of the costs.
17. Elizabeth Warren, "Paying for Medicare For All," October 2019, https://medium.com/@teamwarren/ending-the-stranglehold-of-health-care-costs-on-american-families-bf8286b13086 (accessed November 5, 2019).
18. 42 U.S. Code § 1396u–5(a) and (c)(1)(C).

(1) by expanding coverage to U.S. residents who are not currently insured; (2) by providing comprehensive coverage of benefits that are currently covered to only a limited extent (such as dental and vision care); and (3) by eliminating all, or nearly all, patient cost sharing. In the case of long-term-care services, the primary effect would be the replacement of "informal care" provided by relatives, with "formal care" provided by home health workers and nursing facilities.

Appendix A Table 1 lists the estimated costs of increased utilization separately for acute-care services and for long-term care services. In each case, the estimates reported are the more conservative (that is, lower) of the projections in other studies.[19]

Loss of Medicare Premium Revenues. Medicare enrollees pay premiums to the federal government for coverage under Part B (physician services) and Part D (prescription drugs). The legislation would subsume Medicare into the new program, which would provide those benefits—but without charging premiums to enrollees. While the bills do not explicitly repeal the relevant provisions of the Medicare statute, we assume that Medicare premiums would no longer be collected and that the federal government would need to replace those lost revenues.[20]

Loss of Affordable Care Act (ACA) Tax and Penalty Revenues. Federal spending on ACA subsidies would also be transferred to the new program, but federal revenues generated by some other ACA provisions would disappear. Specifically, because both private health insurance policies and employer-sponsored health benefit plans would be eliminated, revenues collected from the ACA's excise taxes on health insurance policies and on high-cost employer health plans, and from fines imposed on large employers that do not provide their workers with minimum coverage, would all fall to zero.[21]

Elimination of Tax Preferences for Private Health Insurance. The House and Senate bills do not explicitly repeal the current tax preferences for private health care coverage. However, the bills functionally eliminate those tax preferences by prohibiting insurers and employers from

19. The estimates in Appendix Table 1 for increased acute care spending are from Blahous, "The Costs of a National Single-Payer Healthcare System," Table 3, which are smaller than those in Holahan et al., Table 5. The estimates in Appendix Table 1 for increased long-term-care spending are from Holahan et al., "The Sanders Single-Payer Health Care Plan: The Effect on National Health Expenditures and Federal and Private Spending," Table 9 (updated using data from 2018 NHE, Tables 10 and 13), which are smaller than those in Liu and Eibner, Table 2.

20. Congressional Budget Office, "Medicare—CBO's May 2019 Baseline." We adjusted the CBO's fiscal year figures to calendar-year figures.

21. Congressional Budget Office, "Federal Subsidies for Health Insurance Coverage for People Under Age 65: Tables from CBO's May 2019 Projections," May 2, 2019, https://www.cbo.gov/system/files/2019-05/51298-2019-05-healthinsurance.pdf (accessed November 5, 2019). We adjusted the CBO's fiscal year figures to calendar-year figures.

offering coverage that duplicate benefits offered under the new government program.[22]

The largest such tax preference, by far, is the tax exclusion for employer-sponsored health benefits. Under that provision of the tax code, amounts spent by employers and employees on employer-sponsored health benefits are excluded from the employee's taxable income for purposes of both the federal income tax and the Social Security and Medicare payroll taxes. Replacing those private tax-free health benefits with coverage through a government health program would not only make that tax preference irrelevant but, as discussed in section II. Estimated Changes to the Tax Base, would also result in employers converting the value of those benefits into additional taxable wages paid to their workers.

Appendix A Table 1 reports our estimate of the additional tax revenues that the federal government would receive from the conversion of currently tax-free health benefits into additional taxable income. We constructed our estimate as follows:

1. We used data from the Census Bureau's Current Population Survey to calculate the average marginal tax rates for the income tax, Social Security tax, and Medicare tax for workers with employer-sponsored health benefits.

2. We applied the resulting average marginal tax rates to the aggregate amount of newly taxable income (see section II. Estimated Changes to the Tax Base) to derive the increases in federal revenues from the three taxes.

3. We subtracted from our estimate of increased Social Security tax revenues, the CBO's estimate for the unfunded (deficit) portion of Social Security benefits for the year, as Social Security revenues are first applied to paying current benefits and annual benefit spending now exceeds annual revenues.[23]

Similarly, the legislation would also functionally eliminate the income tax deduction for health insurance premiums paid by the self-employed and the non-refundable portion of the ACA income tax credits for individual-market

22. H.R. 1384 § 107 and S. 1129 § 107.

23. Authors' calculations based on Congressional Budget Office, "CBO's 2019 Long-Term Projections for Social Security: Additional Information," Tables A-1 and A-2, September 12, 2019, https://www.cbo.gov/publication/55590 (accessed November 5, 2019).

coverage purchased through the exchanges. We include the CBO's estimates for those provisions as additional revenues in Appendix A Table 1.

II. Estimated Change to the Tax Base

The largest effect of adopting the proposed program would be the replacement of almost all private spending on medical care with new federal spending. Because most current private health spending is through tax-free employer plans, that change would also significantly increase the tax base. Consequently, it is necessary to account for that effect before calculating the additional taxes needed to fund a government-run health care program.

Standard economic analysis expects that under the envisioned scenario (replacing employer-sponsored health insurance with a public program providing at least the same level of coverage) employers would convert spending on health benefits into additional taxable wages.[24] That is because what matters to employers is the total amount of compensation paid for a worker's labor, not the form in which the compensation is paid. Also, the sponsor of the Senate bill has recently proposed that, as part of the transition to the new program, employers would be required by law to convert the value of employee health plans into additional cash wages or other benefits.[25] However, because other fringe benefits either have statutory maximums, or are subject to payroll taxes, or both, there is little scope for employers and workers to shift current spending on health benefits into other forms of tax-free compensation. Consequently, we assume that the entire value of employer-sponsored health benefits becomes additional taxable compensation.

Appendix A Table 2 reports the components of the revised tax base. First is the CBO's estimate of total wages and salaries. Second is an

24. Consensus academic analysis supports the view that employer-sponsored insurance offers reflect aggregate employee preferences to receive some portion of their compensation in this form and that the costs to the employer of providing this insurance are fully passed through to employees in the form of reduced wages. See, for example, Jonathan Gruber, "The Tax Exclusion for Employer-Sponsored Health Insurance," *National Tax Journal*, Vol. 64, No. 2 (2011), pp. 511–530, http://www.ntanet.org/NTJ/64/2/ntj-v64n02p511-30-tax-exclusion-for-employer.pdf (accessed October 30, 2019), and Jonathan Gruber, "Taxes and Health Insurance," *Tax Policy and the Economy*, Vol. 16 (2002), https://www.nber.org/chapters/c10862.pdf (accessed October 30, 2019). Three of the studies estimating the cost of Medicare for All explicitly reference this standard expectation that employer spending on private health insurance would be converted into additional income (or other benefits) to employees. See Blahous, "The Costs of a National Single-Payer Healthcare System," p. 19; Thorpe, "An Analysis of Senator Sanders [sic] Single Payer Plan," p. 4; and Holahan et al., "The Sanders Single-Payer Health Care Plan," p. 24.

25. "Bernie will require that resulting healthcare savings from union-negotiated plans result in wage increases and additional benefits for workers during the transition to Medicare for All." See "The Workplace Democracy Plan," Bernie 2020, https://berniesanders.com/issues/the-workplace-democracy-plan/ (accessed November 5, 2019). Such a requirement applied to unionized workers would create competitive pressures for other employers to raise wages in a similar manner.

APPENDIX A TABLE 2

Effects on Tax Base of Eliminating Employer-Sponsored Insurance

Figures are in billions of dollars in 2020.

Effect on Tax Base	
Taxable wages and salaries under current law[a]	$9,588.8
Self-employment income subject to Medicare tax[b]	$500.2
Conversion of spending on employer-sponsored health benefits into taxable income[c]	$1,184.8
Tax Base After Policy Change	**$11,273.8**

SOURCES:

a Congressional Budget Office, "An Update to the Budget and Economic Outlook: 2019 to 2029," August 21, 2019, Table B-1, https://www.cbo.gov/publication/55551 (accessed November 10, 2019).

b Congressional Budget Office, "Budget and Economic Data," https://www.cbo.gov/about/products/budget-economic-data (accessed November 10, 2019); data on payroll tax revenues.

c Centers for Medicare and Medicaid Services, National Health Expenditure Data, https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html (accessed November 10, 2019); data used were 2017 NHE Historical Table 24 and 2018 NHE Projections Table 4.

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estimate of self-employment labor-income subject to the Medicare payroll tax.[26] Third is the estimate of the additional cash income that would accrue to workers from converting pre-tax employer health benefit spending into taxable compensation.[27] Summed, they show the revised tax base on labor income. The aggregate effects are that about 12 percent of total employee compensation would be shifted from non-taxed health benefits into taxable wages, increasing the total labor-income tax base by about 9.5 percent.

26. The CBO does not publish specific estimates of either the total Medicare tax base or of the amount of self-employment income subject to Medicare taxes. We estimated the total Medicare tax base by dividing the CBO's forecast of Medicare tax revenues by the statutory tax rate of 2.9 percent. We then subtracted from the resulting estimate of the Medicare tax base the CBO's baseline forecast of total wage and salary income. The result is an estimate of the amount of self-employment income subject to Medicare taxes, or in other words, the amount of self-employment labor-income.

27. Authors' projection derived by applying the 2017 ratio of total spending (employer and employee) on employer-sponsored health insurance to total spending on all private health insurance to future years, using data from: Centers for Medicare and Medicaid Services, "NHE Historical Tables, Calendar Years 1987–2017," Tables 21 and 24, https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html (accessed November 5, 2019).

III. Estimating the Additional Tax Burden

Appendix A Table 1 shows that the net increase in federal spending under the program would be $2,387 billion in 2020, and Appendix A Table 2 shows that, after accounting for the conversion of employer-sponsored health benefits into additional taxable income, the 2020 labor-income tax base would be $11,274 billion. Consequently, the new federal taxes needed to fund the additional federal spending under the program would equal 21.2 percent of taxable payroll in 2020. That result is consistent with the findings of two other studies that provided tax-burden estimates.[28]

The House and the Senate bills do not specify how the additional federal spending under the program would be funded. In order to estimate the tax effects of the proposal we applied the following assumptions:

1. We assumed that the additional federal spending under the program would need to be funded through increased taxation. The current federal health programs that the legislation would fold into the new program are partially funded by federal borrowing, so we assume that level of deficit financing would continue under the new program. However, it does not seem plausible that additional borrowing could be used to finance the program's new spending, given the federal government's large, and growing, long-term fiscal imbalance.[29]

2. We calculated the additional federal tax burden as a percentage of taxable payroll, expressed as a uniform (uncapped) increase in the payroll tax rate. Not only is percentage of payroll a standard measure for quantifying the tax burden of social insurance programs, but a uniform payroll tax increase would generate fewer and smaller behavioral response effects than other possible tax increases.

28. Thorpe, "An Analysis of Senator Sanders [sic] Single Payer Plan," pp. 1 and 5 estimated a tax burden of 20 percent of income. Unlike the legislation used as the basis for our analysis, the earlier version of the proposal modeled by Thorpe did not include coverage for long-term-care services. The CRFB, "Choices for Financing Medicare for All: A Preliminary Analysis," estimated a 23 percent payroll tax if the tax was paid entirely by workers—the same parameter that we applied in our analysis.

29. The CBO projects that, under current law, federal debt will continue to grow relative to GDP—that is, faster than the economy—for the indefinite future. "Federal debt held by the public is projected to reach $16.6 trillion at the end of 2019. Relative to the size of the economy, that amount—at 78 percent of GDP—would be nearly twice its average over the past 50 years. By 2029, debt is estimated to reach $28.7 trillion, or 93 percent of GDP—a higher level than at any time since just after World War II. It would continue to grow after 2029, reaching about 150 percent of GDP by 2049." Congressional Budget Office, *The Budget and Economic Outlook: 2019 to 2029*, January 2019, p. 2, https://www.cbo.gov/publication/54918 (accessed November 8, 2019). Moreover, public health care programs and Social Security are the main drivers of the unsustainable federal budget. See Paul Winfree, "Causes of the Federal Government's Unsustainable Spending," Heritage Foundation *Backgrounder* No. 3133, July 7, 2016, https://www.heritage.org/budget-and-spending/report/causes-the-federal-governments-unsustainable-spending.

3. We assume that all of the increase in payroll taxes would be imposed on workers, and consequently, that the employer's total employee compensation costs are the same after implementation as they were before implementation. Were all or part of the tax increase instead imposed on employers, it would produce additional adverse effects on cash compensation, employment, and business profitability—which, in turn, would necessitate even higher tax rates to collect sufficient revenues.[30]

4. Under the program, the federal government would need to replace current state and local government spending on Medicaid and CHIP. However, for purposes of calculating the effects on household finances we assume that states would pass their resulting savings on to their residents in the form of reduced state taxes. Thus, we account for that funding shift as a cost to the federal budget and as an offsetting saving to household budgets.[31]

Currently, most American workers pay federal payroll taxes of 15.3 percent, of which 2.9 percent funds Medicare and 12.4 percent funds Social Security. Increasing payroll taxes by 21.2 percentage points to fund a government-run health program would mean that the payroll tax rate for most workers would be 36.5 percent.[32] That result would be consistent with the payroll tax levels in a number of European nations, such as France, Germany, and Sweden, which operate comprehensive social insurance programs for both medical care and pensions.

Results Under Income Tax Financing Scenarios. As noted, we assumed that the program would be funded by a uniform increase in the (uncapped) payroll tax rate imposed entirely on workers because it is the scenario that would generate the least behavioral responses. The alternative of funding part, or all, of the program's additional costs through increased income taxes would involve many more complexities, uncertainties, and

30. See the discussion of the effects of imposing payroll taxes on employers in Committee for a Responsible Federal Budget, "Choices for Financing Medicare for All: A Preliminary Analysis," p. 3.

31. It is unlikely that all states would cut their taxes in response, and it is even more unlikely that the states that did respond by cutting taxes would do so dollar for dollar to match the reductions in state spending exactly. Consequently, our assumption makes households appear somewhat better off than they would likely be under a Medicare for All program. If, however, we assume that states do not reduce taxes, we must make highly speculative assumptions regarding how they spend the revenues and regarding the effects of those decisions on household finances.

32. As noted, both S. 1804 and H.R. 676 would redirect all current federal spending on health coverage programs into paying for the new program. Thus, this analysis assumes that the current payroll tax of 2.9 percent on all wages that is now dedicated to funding Medicare Part A would remain in place to fund the new program, though presumably the tax would be renamed and the rate increased.

behavioral responses. However, for comparison purposes, we also ran static analyses of the effects on household finances of partial and full funding through increased income tax rates.

Partial Income Tax Funding Scenario. Senator Sanders has suggested that part of the funding for his proposal could come from an "income-based premium" that appears to function as an increase of four percentage points in all federal ordinary income tax rates, and states that those whose income is less than their standard deduction would not be affected.[33] Multiplying this tax rate by the $9,813 billion of income that would be subject to non-zero ordinary income tax rates at the federal level, we estimate that this tax would raise $393 billion in revenue in calendar year 2020.[34] Under this scenario, the payroll tax would still need to be increased by 17.7 percentage points, making the total payroll tax 33.0 percent for most workers, to fund the remaining additional cost of the program.

We found that the distributional effects under this scenario would differ only marginally from those under our baseline assumption of financing the added spending entirely through a payroll tax increase. Overall, 64.4 percent of households—containing 71.8 percent of the total population—would see their disposable income after taxes and health expenses decline, down slightly from 65.5 percent and 73.5 percent, respectively, in the base scenario. Among households with workers, 84.7 percent of those with employer-sponsored insurance and 71.0 percent of those without employer-sponsored insurance would have lower disposable incomes, nearly the same as the 87.2 percent and 72.0 percent figures, respectively, in the base scenario. Only 2.7 percent of households without workers have high enough income from other sources that this partial financing through an income tax would cause their disposable income to decline under a government-run health program.

Income-Tax-Only Funding Scenario. For further comparison, we also ran our analysis using the assumption that all of the additional costs were funded by uniformly increasing all current income tax rates. Under static calculations, which do not account for behavioral response or macroeconomic effects, all ordinary income tax rates would need to be increased by 24.3 percentage points in order to fund the program. This would mean, for example, that the current 10 percent income tax bracket would be increased

33. Senator Bernie Sanders, "Options to Finance Medicare for All," undated, https://www.sanders.senate.gov/download/options-to-finance-medicare-for-all (accessed October 10, 2019).

34. After adjusting for the conversion of employer-sponsored insurance to taxable income, we project that total adjusted gross income (AGI) for calendar year 2020 will be $13,859 billion, of which taxable income (AGI minus deductions) will be $9,813 billion, and that the payroll tax base will be $11,274 billion. Thus, the payroll tax base (wages and salaries) comprises 81 percent of the personal income tax base (AGI), but because of standard and itemized deductions, only 70 percent of the income tax base is actually taxed.

to 34.3 percent, while the current 37.0 percent income tax bracket would be increased to 61.3 percent, higher than at any point since the early 1980s. For this scenario, our result (an increase in income tax rates of 24.3 percentage points) is consistent with the result of the Committee for a Responsible Federal Budget (CRFB) study (a 25 percent income surtax).[35]

Even under this scenario, we found that a slight majority of households would see their disposable income decline. The 52.2 percent of all households with lower disposable income after taxes and health expenses would include 67.0 percent of households with workers with employer-sponsored insurance, 44.6 percent of households with workers without employer-sponsored insurance, and 23.6 percent of households without workers. The households without workers who experience a decline in disposable income are generally retirees with substantial income beyond Social Security.

In addition to triggering numerous behavioral and macroeconomic effects, this scenario would also likely result in Congress making other changes to the income tax code, some of which, such as increasing tax rates on capital gains or subjecting a larger share of Social Security benefits to taxation, might further reduce the disposable incomes of retirees.

IV. Estimating the Effects on Household Finances

Our analysis is limited to the direct effects on household finances. We did not attempt to calculate welfare gains or losses to individuals resulting from the program altering the quantity of medical goods and services consumed.

We used the latest available (2016) data from the Medical Expenditure Panel Survey (MEPS) to estimate the net effects of the program on household finances. The MEPS Household Component (MEPS HC) of the survey includes basic demographic and health coverage information as well as specific questions about each person's medical conditions, expenditures, attitudes, and experiences. Much of the reported data are verified and supplemented with information from health care providers to ensure quality. The data are weighted to ensure that they are representative of the U.S. civilian non-institutionalized population.

We assume that household members generally share resources, so aggregate changes in income and expenditures at the household level best reflect the change in well-being of individual members of the household.

35. Committee for a Responsible Federal Budget, "Choices for Financing Medicare for All: A Preliminary Analysis," pp. 3 and 4.

We used the latest available data, collected from 12,704 households for the year 2016, to estimate the financial effects of a government-run health care program. We did so as follows:

1. Convert existing employer-sponsored insurance into taxable wages and salaries;

2. Impose existing federal tax law plus an additional 21.2 percent payroll tax, bringing the total federal payroll tax to 36.5 percent for most wage and salary income;

3. Assume that all state and local taxes are reduced by 17.5 percent, to account for lower state revenue requirements due to the elimination of state payments for Medicaid, CHIP, and Medicare; and

4. Eliminate private health care expenditures, including premiums and out-of-pocket expenses.

With respect to the conversion of employer-sponsored insurance:

- Employee contributions may currently be deducted from gross income prior to the computation of both payroll and income taxes. Thus, we assume that all employee contributions are currently not taxed, and under the program become part of the worker's taxable income for purposes of both types of taxes.

- Employer contributions are estimated based on data from the MEPS Insurance Component (MEPS IC), which surveys employers on the characteristics of their insurance plans. An employer's contribution toward health insurance premiums will currently vary across eligible employees within any given firm based on whether the employee elects self-only or family coverage or declines coverage altogether. Converting those contributions into additional taxable wages or salaries for each employee on an individual basis would create both practical and legal issues for employers as it could produce significantly different new base pay rates for employees that previously received identical base pay. Consequently, we assume that under the reform each employer would convert the aggregate amount of its health plan contribution into base pay increases for all employees that were eligible to participate in the plan at the time of its dissolution. We further assume that the amount

of increased pay would be equal to the average amount per eligible employee that the employer had been contributing. That additional wage and salary income is then taxed at the employee's ordinary rates.

- We assume that the employer's total employee compensation costs are the same after implementation as they were before implementation.[36]

With respect to federal, state, and local taxes:

- We assume that the additional federal payroll tax is paid by the employee, which is consistent with its primary economic incidence.

- For federal taxes other than income and payroll taxes, we applied average tax rates as a share of income, by income level and family structure of the tax-filing unit, for the year 2017 from the Tax Policy Center's microsimulation tax model.[37]

- For state and local taxes, we applied average tax rates as a share of income, by income level of the tax-filing unit, for the year 2018 from the Institute on Taxation and Economic Policy's microsimulation tax model.[38]

- We took the figure for total state Medicaid and CHIP spending of $262 billion in 2019 and divided it by total state and local tax revenues of $1,497 billion for the most recent 12 months to derive a ratio of 17.5 percent.[39] We then assumed that household state and local taxes would be reduced by that percentage. Because it is highly unlikely that all states would cut taxes to offset their reduced Medicaid spending, and also highly unlikely that states would cut taxes dollar for dollar to exactly match spending reductions, these estimates are biased toward showing households being better off than they actually are likely to be under a government-run health care program.

36. Total compensation includes any employer-paid share of payroll taxes and the value of any fringe benefits that are not included in employee taxable income.

37. Tax Policy Center, "Effective Federal Tax Rates–All Tax Units, by Expanded Cash Income Income [sic] Percentile, 2017," preliminary results, T18-0081, August 23, 2018, https://www.taxpolicycenter.org/file/178967/download?token=hbWelEY8 (accessed November 5, 2019).

38. Institute on Taxation and Economic Policy, *Who Pays? A Distributional Analysis of the Tax Systems in All 50 States*, 6th ed., October 2018, https://itep.org/whopays/ (accessed July 11, 2019).

39. U.S. Census Bureau, "2019 Quarterly Summary of State & Local Tax Revenue Tables," Table 1. "National Totals of State and Local Tax Revenue, by Type of Tax, 2019," 2019, https://www.census.gov/data/tables/2019/econ/qtax/historical.html (accessed July 24, 2019).

With respect to creating the composite household for each illustrative example, we:

- Selected all MEPS households that fit the criteria for household structure.
- Identified a target income value, generally the median reported total income for the household type.
- Retained all households with reported total income within 10 percent of the target value, in order to obtain a sufficiently large sample so that later calculations would be less sensitive to households that were outliers in terms of the composition of income or the level or composition of medical expenses.
- Averaged the reported values across these households to create values for the composite household for each category of income or medical expense. Each composite illustrative household therefore has the average characteristics of all households with the stated household structure and total reported income within 10 percent of the stated target value.

Appendix B: Uncertainties

There are two types of assumptions that we did not incorporate into our baseline analysis: (1) behavioral effects related to economic decision making, and (2) aspects of the proposed legislation that are not specific enough to estimate with confidence.

Work Disincentives and Economic Growth. The creation of a government-run health program that replaces privately funded employer-sponsored health benefits would likely induce some workers to reduce their hours worked or to cease working. The workers most likely to do so are the ones for whom maintaining their current private coverage is a primary factor motivating them to continue working today. We expect that this work-disincentive effect would be greatest for workers above the age at which they can qualify for retirement benefits and for secondary workers in households with more than one worker. We did not attempt to estimate the magnitude of this effect. To the extent that it occurs, it would reduce the tax base for funding the program and require higher taxes on remaining workers.

We also did not attempt to estimate overall macroeconomic effects of this potential reduction in work hours or other aspects of the proposal that could slow economic growth and reduce the tax base relative to the baseline. Therefore, our estimated tax rates are likely to be somewhat lower than those that would be required to fund the program.

Provider Payments. The House and Senate bills offer only broad guidelines for how federal officials are to set payments. Consequently, our analysis did not include any assumptions about changes to provider payment rates under the program. We instead assume that the program will reimburse providers at rates equivalent to the payer-weighted average rates that they currently receive.

The House bill would pay institutional providers on the basis of negotiated global budgets, encourage salaried employment of physicians, and create a new fee schedule for providers that continue to be reimbursed on a fee-for-service basis.[40] Given that the House bill does not further specify how those new budgets and rates would be set, it is impossible to project eventual payments under the House bill and compare them with current reimbursement levels.

Under the Senate bill, providers would be paid according to "fee schedules" that are "consistent with" Medicare's current processes for setting

40. H.R. 676 § 202.

payment rates.[41] Medicare physician payment rates are currently estimated to be about 75 percent of those for private preferred provider organization (PPO) plans, while Medicare hospital payment rates are about 60 percent of those for private insurance.[42] Hospital payment rates for Medicaid are about the same as those for Medicare, while physician Medicaid rates are generally lower than Medicare. Given that there are currently about 58 million Medicare beneficiaries, 74 million Medicaid and CHIP enrollees, and about 175 million Americans covered by private insurance, uniform reimbursement at Medicare rates would result in significant net income reductions for hospitals and doctors.

While the cost of the program could be reduced by paying providers less, analysts differ in their assessments of how far payments could be reduced before patient access to care becomes restricted due to an insufficient supply of providers to meet demand.[43] However, we find that even significant provider payment reductions would have only a modest effect on the required new federal spending and taxes.[44]

Administrative Costs. Analysts differ over whether administrative costs would be lower under a government-run health program. Given that the changes will have only marginal effects on the overall cost of the program, we did not attempt to estimate them.

One recent study compared the health spending of Medicare enrollees covered by traditional Medicare (public plan) with those in Medicare Advantage (private plans) and found that, after adjusting for possible differences between the two groups, total spending for the Medicare Advantage group was 9 percent to 25 percent lower than that for the traditional

41. S. 1804 § 611. See also Charles Blahous, "The Costs of Medicare for All Are Rising Already," E21 Blog, The Manhattan Institute, August 26, 2019, https://economics21.org/medicare-for-all-costs-rising-already (accessed November 5, 2019).

42. Medicare Payment Advisory Commission, "Report to the Congress: Medicare Payment Policy," March 2018, p. 115, http://www.medpac.gov/docs/default-source/reports/mar18_medpac_entirereport_sec.pdf?sfvrsn=0 (accessed November 5, 2019), and American Hospital Association, "TrendWatch Chartbook 2018," Table 4.4, "Aggregate Hospital Payment-to-Cost Ratios for Private Payers, Medicare, and Medicaid, 1995–2016," https://www.aha.org/system/files/2018-05/2018-chartbook-table-4-4.pdf (accessed November 5, 2019).

43. Holahan et al., "The Sanders Single-Payer Health Care Plan," assume hospital payment rates at 100 percent of cost "because Medicare hospital payment rates are estimated to be 89 percent of costs, on average." Thorpe, "An Analysis of Senator Sanders [sic] Single Payer Plan," specifies: "Since private insurance pays providers above treatment costs and Medicare and Medicaid pay below, we assume that a blended payment rate would be at 105% of costs." Liu and Eibner, "National Health Spending Estimates Under Medicare for All" scored the House bill, which would pay hospitals based on global budgets, and they assumed payments at a level equal to an "all-payer average" of current rates, which equates to "124 percent of current Medicare rates for hospital payments and 107 percent of current Medicare rates for physician payment."

44. Blahous, "The Costs of a National Single-Payer Healthcare System," pp. 10–13 and Table 3, estimates that paying providers at Medicare rates, as implied by the Senate bill, could theoretically reduce the cost of the program by $337 billion in 2020, but noted that "it is not precisely predictable how hospitals, physicians, and other healthcare providers would respond to a dramatic reduction in their reimbursements under M4A, well below their costs of care for all categories of patients combined." Yet, even that big a reduction in provider payments would only lower the projected amount of new federal spending by 14 percent (from $2,387 billion to $2,050 billion) and the associated payroll tax rate by three percentage points (from 21.2 percent to 18.2 percent).

Medicare group. The study found that the difference "primarily reflects lower utilization of services rather than lower payments for the same services."[45] That suggests that eliminating the administrative costs associated with private plans managing utilization and encouraging the substitution of less expensive care could actually result in a net increase in total costs under the envisioned government-run health program.

In contrast, three studies that estimated the cost of Medicare for All concluded that administrative costs could be as low as 6 percent of total program costs.[46] One of those studies quantified that, under the assumption that the new program operated with administrative costs at the 6 percent level, the projection of $4,091 billion in total national health spending in 2020 would be reduced by $74 billion.[47] Similarly, a 2013 analysis of the Vermont single-payer proposal projected that administrative costs would account for 7 percent of total costs for that program.[48] Also, a 2018 analysis of a proposed single-payer program for New York projected that administrative costs would be 6 percent of total cost, in part based on that study's finding that administrative costs currently account for 7 percent of New York Medicaid program expenditures.[49]

Reduced Pharmaceutical Spending. Both the House and Senate bills would have the government negotiate the prices it pays for prescription drugs, "promote the use of generic medications," and establish a drug formulary. Given that generics now account for about 90 percent of prescriptions, but just 23 percent of total drug spending, any savings would have to come predominantly from reduced spending on newer medicines that still have market exclusivity.[50] Even so, total spending on pharmaceuticals accounts for only about 10 percent of total personal health spending, meaning that there is limited scope for savings in this area. One study estimated $54

45. Vilsa Curto et al., "Healthcare Spending and Utilization in Public and Private Medicare," *American Economic Journal: Applied Economics*, Vol. 11, No. 2 (2019), pp. 1–31, https://scholar.harvard.edu/vcurto/publications/health-care-spending-and-utilization-public-and-private-medicare (accessed November 5, 2019).

46. Blahous, "The Costs of a National Single-Payer Healthcare System," pp. 14–16; Holahan et al., "The Sanders Single-Payer Health Care Plan," p. 9; and Liu and Eibner, "National Health Spending Estimates Under Medicare for All." Blahous notes that "this is an aggressive estimate of administrative savings." Holahan et al. state: "We do not believe that administrative costs can fall far below this level; far too many administrative functions must be conducted."

47. Blahous, "The Costs of a National Single-Payer Healthcare System," Table 3.

48. Katharine London et al., "State of Vermont Health Care Financing Plan Beginning Calendar Year 2017 Analysis," *Commonwealth Medicine Publications*, January 24, 2013, Table 42, p. 64, https://escholarship.umassmed.edu/commed_pubs/76/ (accessed November 5, 2019).

49. Jodi L. Liu et al., "An Assessment of the New York Health Act: A Single-Payer Option for New York State," RAND Corporation, 2018, https://www.rand.org/pubs/research_reports/RR2424.html (accessed November 5, 2019).

50. Association for Accessible Medicines, "Generic Drug Access & Savings in the U.S," 2018, https://accessiblemeds.org/sites/default/files/2018_aam_generic_drug_access_and_savings_report.pdf (accessed November 5, 2019).

billion in savings in 2020 from system-wide reductions in prescription drug payments, but the author of the study noted that his estimate is based on an "aggressive assumption" that almost all current brand-name prescriptions would be filled with generics at an average price reduction of 80 percent.[51] Thus, such estimates are highly uncertain and it is hard to envision how payment reductions at, or even near, that level could be achieved without effectively eliminating incentives for the development of new drugs in the process.

Increased Social Security Payments. The conversion of tax-free employer coverage into taxable wages would increase the "average indexed monthly earnings" (used to calculate a worker's Social Security benefits) of most of the workers receiving wage increases. That would make many of those workers eligible for higher-benefit payments when they retire, which would have a secondary effect on the federal budget of increasing Social Security's future obligations.

51. Blahous, "The Costs of a National Single-Payer Healthcare System," pp. 13 and 14 and Table 3.

APPENDIX C TABLE 1

Financial Effects of a Government-Run Health Care Program: Median-Income Married Couple with Two Children, All Covered by Employer-Sponsored Insurance (Page 1 of 2)

	Income	**Current Law**	**Proposed Reform**	**Change**
	Wage and salary income	$95,653	$105,044	$9,391
+	Other taxable income	$1,694	$1,694	$0
+	Other nontaxable income	$417	$417	$0
=	Cash income	$97,764	$107,155	$9,391
+	Employer portion of federal payroll taxes	$7,006	$7,006	$0
+	Employer contribution toward health insurance premium	$9,391	$0	–$9,391
=	Comprehensive income	$114,162	$114,162	$0

	Federal Payroll Taxes	**Current Law**	**Proposed Reform**	**Change**
	Wage and salary income	$95,653	$105,044	$9,391
–	Employee contribution toward health insurance premium	$4,068	$0	–$4,068
=	Income subject to federal payroll tax	$91,585	$105,044	$13,459
	Federal payroll tax rate	15.3%	36.5%	21.2%
	Federal payroll taxes paid	$14,013	$38,341	$24,329
	As a share of comprehensive income	12.3%	33.6%	21.3%

	Federal Income Taxes	**Current Law**	**Proposed Reform**	**Change**
	Income subject to federal payroll tax	$91,585	$105,044	$13,459
+	Other taxable income	$1,694	$1,694	$0
=	Income subject to federal income tax	$93,279	$106,738	$13,459
	Federal income taxes before credits	$7,205	$9,035	$1,830
–	Earned income credit	$0	$0	$0
–	Child tax credit	$4,000	$4,000	$0
=	Federal income taxes paid	$3,205	$5,035	$1,830
	As a share of comprehensive income	2.8%	4.4%	1.6%
	Total federal payroll and income taxes	$17,218	$43,376	$26,158
	As a share of comprehensive income	15.1%	38.0%	22.9%

	Other Federal, State, and Local Taxes	**Current Law**	**Proposed Reform**	**Change**
	Federal excise, estate, and other taxes	$2,283	$2,283	$0
+	State and local sales and excise taxes	$3,082	$2,543	–$539
+	State and local income taxes	$3,653	$3,014	–$639
+	State and local property taxes	$3,311	$2,731	–$579
=	Other federal, state, and local taxes paid	$12,329	$10,571	–$1,758
	As a share of comprehensive income	10.8%	9.3%	–1.5%
	Total taxes	$29,547	$53,947	$24,400
	As a share of comprehensive income	25.9%	47.3%	21.4%

APPENDIX C TABLE 1

Financial Effects of a Government-Run Health Care Program: Median-Income Married Couple with Two Children, All Covered by Employer-Sponsored Insurance (Page 2 of 2)

	Private Health Care Expenses	Current Law	Proposed Reform	Change
	Employer contribution toward health insurance premium	$9,391	$0	–$9,391
+	Employee contribution toward health insurance premium	$4,068	$0	–$4,068
+	Out–of–pocket health care expenses	$1,740	$0	–$1,740
=	Total private health care expenses	$15,199	$0	–$15,199
	As a share of comprehensive income	13.3%	0.0%	–13.3%

Total Taxes	Current Law	Proposed Reform	Change
Total taxes and private health care expenses	$44,746	$53,947	$9,201
As a share of comprehensive income	39.2%	47.3%	8.1%

Disposable Income	Current Law	Proposed Reform	Change
Disposable income after taxes and private health care expenses	$69,415	$60,214	–$9,201
Percent change			–13.3%

SOURCES: Heritage Foundation model based on data from U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, https://www.meps.ahrq.gov (accessed October 17, 2018), and federal and state tax data. See appendix for more information about the methodology.

APPENDIX C TABLE 2

Financial Effects of a Government-Run Health Care Program: Married Couple with Two Children, All Covered by Employer-Sponsored Insurance, with Income Near $50,000 (Page 1 of 2)

	Income	**Current Law**	**Proposed Reform**	**Change**
	Wage and salary income	$49,604	$58,034	$8,430
+	Other taxable income	$301	$301	$0
+	Other nontaxable income	$51	$51	$0
=	Cash income	$49,956	$58,386	$8,430
+	Employer portion of federal payroll taxes	$3,492	$3,492	$0
+	Employer contribution toward health insurance premium	$8,430	$0	-$8,430
=	Comprehensive income	$61,878	$61,878	$0

	Federal Payroll Taxes	**Current Law**	**Proposed Reform**	**Change**
	Wage and salary income	$49,604	$58,034	$8,430
–	Employee contribution toward health insurance premium	$3,957	$0	-$3,957
=	Income subject to federal payroll tax	$45,647	$58,034	$12,386
	Federal payroll tax rate	15.3%	36.5%	21.2%
	Federal payroll taxes paid	$6,984	$21,182	$14,198
	As a share of comprehensive income	11.3%	34.2%	22.9%

	Federal Income Taxes	**Current Law**	**Proposed Reform**	**Change**
	Income subject to federal payroll tax	$45,647	$58,034	$12,386
+	Other taxable income	$301	$301	$0
=	Income subject to federal income tax	$45,948	$58,335	$12,386
	Federal income taxes before credits	$2,077	$3,490	$1,414
–	Earned income credit	$1,172	$0	-$1,172
–	Child tax credit	$4,000	$4,000	$0
=	Federal income taxes paid	-$3,095	-$510	$2,586
	As a share of comprehensive income	-5.0%	-0.8%	4.2%
	Total federal payroll and income taxes	$3,889	$20,673	$16,784
	As a share of comprehensive income	6.3%	33.4%	27.1%

	Other Federal, State, and Local Taxes	**Current Law**	**Proposed Reform**	**Change**
	Federal excise, estate, and other taxes	$1,114	$1,114	$0
+	State and local sales and excise taxes	$2,351	$1,940	-$411
+	State and local income taxes	$1,671	$1,378	-$292
+	State and local property taxes	$1,856	$1,531	-$325
=	Other federal, state, and local taxes paid	$6,992	$5,963	-$1,029
	As a share of comprehensive income	11.3%	9.6%	-1.7%
	Total taxes	$10,881	$26,636	$15,755
	As a share of comprehensive income	17.6%	43.0%	25.5%

APPENDIX C TABLE 2

Financial Effects of a Government-Run Health Care Program: Married Couple with Two Children, All Covered by Employer-Sponsored Insurance, with Income Near $50,000 (Page 2 of 2)

	Private Health Care Expenses	Current Law	Proposed Reform	Change
	Employer contribution toward health insurance premium	$8,430	$0	-$8,430
+	Employee contribution toward health insurance premium	$3,957	$0	-$3,957
+	Out–of–pocket health care expenses	$1,750	$0	-$1,750
=	Total private health care expenses	$14,137	$0	-$14,137
	As a share of comprehensive income	22.8%	0.0%	-22.8%

Total Taxes	Current Law	Proposed Reform	Change
Total taxes and private health care expenses	$25,018	$26,636	$1,619
As a share of comprehensive income	40.4%	43.0%	2.6%

Disposable Income	Current Law	Proposed Reform	Change
Disposable income after taxes and private health care expenses	$36,860	$35,241	-$1,619
Percent change			-4.4%

SOURCES: Heritage Foundation model based on data from U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, https://www.meps.ahrq.gov (accessed October 17, 2018), and federal and state tax data. See appendix for more information about the methodology.

APPENDIX C TABLE 3

Financial Effects of a Government-Run Health Care Program: Median-Income Unmarried Mother Covered by Employer-Sponsored Insurance, with Two Children Covered by CHIP (Page 1 of 2)

	Income	**Current Law**	**Proposed Reform**	**Change**
	Wage and salary income	$29,059	$34,548	$5,489
+	Other taxable income	$648	$648	$0
+	Other nontaxable income	$1,486	$1,486	$0
=	Cash income	$31,194	$36,683	$5,489
+	Employer portion of federal payroll taxes	$2,134	$2,134	$0
+	Employer contribution toward health insurance premium	$5,489	$0	-$5,489
=	Comprehensive income	$38,817	$38,817	$0

	Federal Payroll Taxes	**Current Law**	**Proposed Reform**	**Change**
	Wage and salary income	$29,059	$34,548	$5,489
–	Employee contribution toward health insurance premium	$1,161	$0	-$1,161
=	Income subject to federal payroll tax	$27,899	$34,548	$6,650
	Federal payroll tax rate	15.3%	36.5%	21.2%
	Federal payroll taxes paid	$4,269	$12,610	$8,342
	As a share of comprehensive income	11.0%	32.5%	21.5%

	Federal Income Taxes	**Current Law**	**Proposed Reform**	**Change**
	Income subject to federal payroll tax	$27,899	$34,548	$6,650
+	Other taxable income	$648	$648	$0
=	Income subject to federal income tax	$28,547	$35,197	$6,650
	Federal income taxes before credits	$306	$469	$163
–	Earned income credit	$3,628	$2,238	-$1,390
–	Child tax credit	$3,106	$3,269	$163
=	Federal income taxes paid	-$6,428	-$5,038	$1,390
	As a share of comprehensive income	-16.6%	-13.0%	3.6%
	Total federal payroll and income taxes	-$2,159	$7,572	$9,732
	As a share of comprehensive income	-5.6%	19.5%	25.1%

	Other Federal, State, and Local Taxes	**Current Law**	**Proposed Reform**	**Change**
	Federal excise, estate, and other taxes	$582	$582	$0
+	State and local sales and excise taxes	$1,863	$1,537	-$326
+	State and local income taxes	$815	$673	-$143
+	State and local property taxes	$1,165	$961	-$204
=	Other federal, state, and local taxes paid	$4,425	$3,753	-$673
	As a share of comprehensive income	11.4%	9.7%	-1.7%
	Total taxes	$2,266	$11,325	$9,059
	As a share of comprehensive income	5.8%	29.2%	23.3%

APPENDIX C TABLE 3

Financial Effects of a Government-Run Health Care Program: Median-Income Unmarried Mother Covered by Employer-Sponsored Insurance, with Two Children Covered by CHIP (Page 2 of 2)

	Private Health Care Expenses	Current Law	Proposed Reform	Change
	Employer contribution toward health insurance premium	$5,489	$0	-$5,489
+	Employee contribution toward health insurance premium	$1,161	$0	-$1,161
+	Out–of–pocket health care expenses	$862	$0	-$862
=	Total private health care expenses	$7,512	$0	-$7,512
	As a share of comprehensive income	19.4%	0.0%	-19.4%

Total Taxes	Current Law	Proposed Reform	Change
Total taxes and private health care expenses	$9,778	$11,325	$1,547
As a share of comprehensive income	25.2%	29.2%	4.0%

Disposable Income	Current Law	Proposed Reform	Change
Disposable income after taxes and private health care expenses	$29,039	$27,492	-$1,547
Percent change			-5.3%

SOURCES: Heritage Foundation model based on data from U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, https://www.meps.ahrq.gov (accessed October 17, 2018), and federal and state tax data. See appendix for more information about the methodology.

APPENDIX C TABLE 4

Financial Effects of a Government-Run Health Care Program: Minimum-Wage Unmarried Mother with Two Children, All Covered by Medicaid (Page 1 of 2)

	Income	**Current Law**	**Proposed Reform**	**Change**
	Wage and salary income	$13,155	$13,155	$0
+	Other taxable income	$956	$956	$0
+	Other nontaxable income	$1,080	$1,080	$0
=	Cash income	$15,191	$15,191	$0
+	Employer portion of federal payroll taxes	$1,006	$1,006	$0
+	Employer contribution toward health insurance premium	$0	$0	$0
=	Comprehensive income	$16,197	$16,197	$0

	Federal Payroll Taxes	**Current Law**	**Proposed Reform**	**Change**
	Wage and salary income	$13,155	$13,155	$0
–	Employee contribution toward health insurance premium	$0	$0	$0
=	Income subject to federal payroll tax	$13,155	$13,155	$0
	Federal payroll tax rate	15.3%	36.5%	21.2%
	Federal payroll taxes paid	$2,013	$4,802	$2,789
	As a share of comprehensive income	12.4%	29.6%	17.2%

	Federal Income Taxes	**Current Law**	**Proposed Reform**	**Change**
	Income subject to federal payroll tax	$13,155	$13,155	$0
+	Other taxable income	$956	$956	$0
=	Income subject to federal income tax	$14,111	$14,111	$0
	Federal income taxes before credits	$62	$62	$0
–	Earned income credit	$5,270	$5,270	$0
–	Child tax credit	$1,598	$1,598	$0
=	Federal income taxes paid	-$6,806	-$6,806	$0
	As a share of comprehensive income	-42.0%	-42.0%	0.0%
	Total federal payroll and income taxes	-$4,794	-$2,005	$2,789
	As a share of comprehensive income	-29.6%	-12.4%	17.2%

	Other Federal, State, and Local Taxes	**Current Law**	**Proposed Reform**	**Change**
	Federal excise, estate, and other taxes	$243	$243	$0
+	State and local sales and excise taxes	$1,150	$949	-$201
+	State and local income taxes	$16	$13	-$3
+	State and local property taxes	$680	$561	-$119
=	Other federal, state, and local taxes paid	$2,089	$1,766	-$323
	As a share of comprehensive income	12.9%	10.9%	-2.0%
	Total taxes	-$2,704	-$239	$2,466
	As a share of comprehensive income	-16.7%	-1.5%	15.2%

APPENDIX C TABLE 4

Financial Effects of a Government-Run Health Care Program: Minimum-Wage Unmarried Mother with Two Children, All Covered by Medicaid (Page 2 of 2)

	Private Health Care Expenses	Current Law	Proposed Reform	Change
	Employer contribution toward health insurance premium	$0	$0	$0
+	Employee contribution toward health insurance premium	$0	$0	$0
+	Out–of–pocket health care expenses	$223	$0	-$223
=	Total private health care expenses	$223	$0	-$223
	As a share of comprehensive income	1.4%	0.0%	-1.4%

Total Taxes	Current Law	Proposed Reform	Change
Total taxes and private health care expenses	-$2,481	-$239	$2,242
As a share of comprehensive income	-15.3%	-1.5%	13.8%

Disposable Income	Current Law	Proposed Reform	Change
Disposable income after taxes and private health care expenses	$18,678	$16,436	-$2,242
Percent change			-12.0%

SOURCES: Heritage Foundation model based on data from U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, https://www.meps.ahrq.gov (accessed October 17, 2018), and federal and state tax data. See appendix for more information about the methodology.

APPENDIX C TABLE 5

Financial Effects of a Government-Run Health Care Program on a Median-Income Unmarried Man Without Dependents, Covered by Employer-Sponsored Insurance (Page 1 of 2)

	Income	**Current Law**	**Proposed Reform**	**Change**
	Wage and salary income	$40,121	$45,458	$5,337
+	Other taxable income	$263	$263	$0
+	Other nontaxable income	$290	$290	$0
=	Cash income	$40,674	$46,011	$5,337
+	Employer portion of federal payroll taxes	$2,972	$2,972	$0
+	Employer contribution toward health insurance premium	$5,337	$0	-$5,337
=	Comprehensive income	$48,983	$48,983	$0

	Federal Payroll Taxes	**Current Law**	**Proposed Reform**	**Change**
	Wage and salary income	$40,121	$45,458	$5,337
–	Employee contribution toward health insurance premium	$1,278	$0	-$1,278
=	Income subject to federal payroll tax	$38,843	$45,458	$6,615
	Federal payroll tax rate	15.3%	36.5%	21.2%
	Federal payroll taxes paid	$5,943	$16,592	$10,649
	As a share of comprehensive income	12.1%	33.9%	21.7%

	Federal Income Taxes	**Current Law**	**Proposed Reform**	**Change**
	Income subject to federal payroll tax	$38,843	$45,458	$6,615
+	Other taxable income	$263	$263	$0
=	Income subject to federal income tax	$39,106	$45,721	$6,615
	Federal income taxes before credits	$2,924	$3,690	$767
–	Earned income credit	$0	$0	$0
–	Child tax credit	$0	$0	$0
=	Federal income taxes paid	$2,924	$3,690	$767
	As a share of comprehensive income	6.0%	7.5%	1.6%
	Total federal payroll and income taxes	$8,867	$20,283	$11,416
	As a share of comprehensive income	18.1%	41.4%	23.3%

	Other Federal, State, and Local Taxes	**Current Law**	**Proposed Reform**	**Change**
	Federal excise, estate, and other taxes	$980	$980	$0
+	State and local sales and excise taxes	$2,351	$1,940	-$411
+	State and local income taxes	$1,029	$849	-$180
+	State and local property taxes	$1,469	$1,212	-$257
=	Other federal, state, and local taxes paid	$5,829	$4,980	-$849
	As a share of comprehensive income	11.9%	10.2%	-1.7%
	Total taxes	$14,696	$25,263	$10,567
	As a share of comprehensive income	30.0%	51.6%	21.6%

APPENDIX C TABLE 5

Financial Effects of a Government-Run Health Care Program on a Median-Income Unmarried Man Without Dependents, Covered by Employer-Sponsored Insurance (Page 2 of 2)

	Private Health Care Expenses	Current Law	Proposed Reform	Change
	Employer contribution toward health insurance premium	$5,337	$0	-$5,337
+	Employee contribution toward health insurance premium	$1,278	$0	-$1,278
+	Out–of–pocket health care expenses	$410	$0	-$410
=	Total private health care expenses	$7,025	$0	-$7,025
	As a share of comprehensive income	14.3%	0.0%	-14.3%

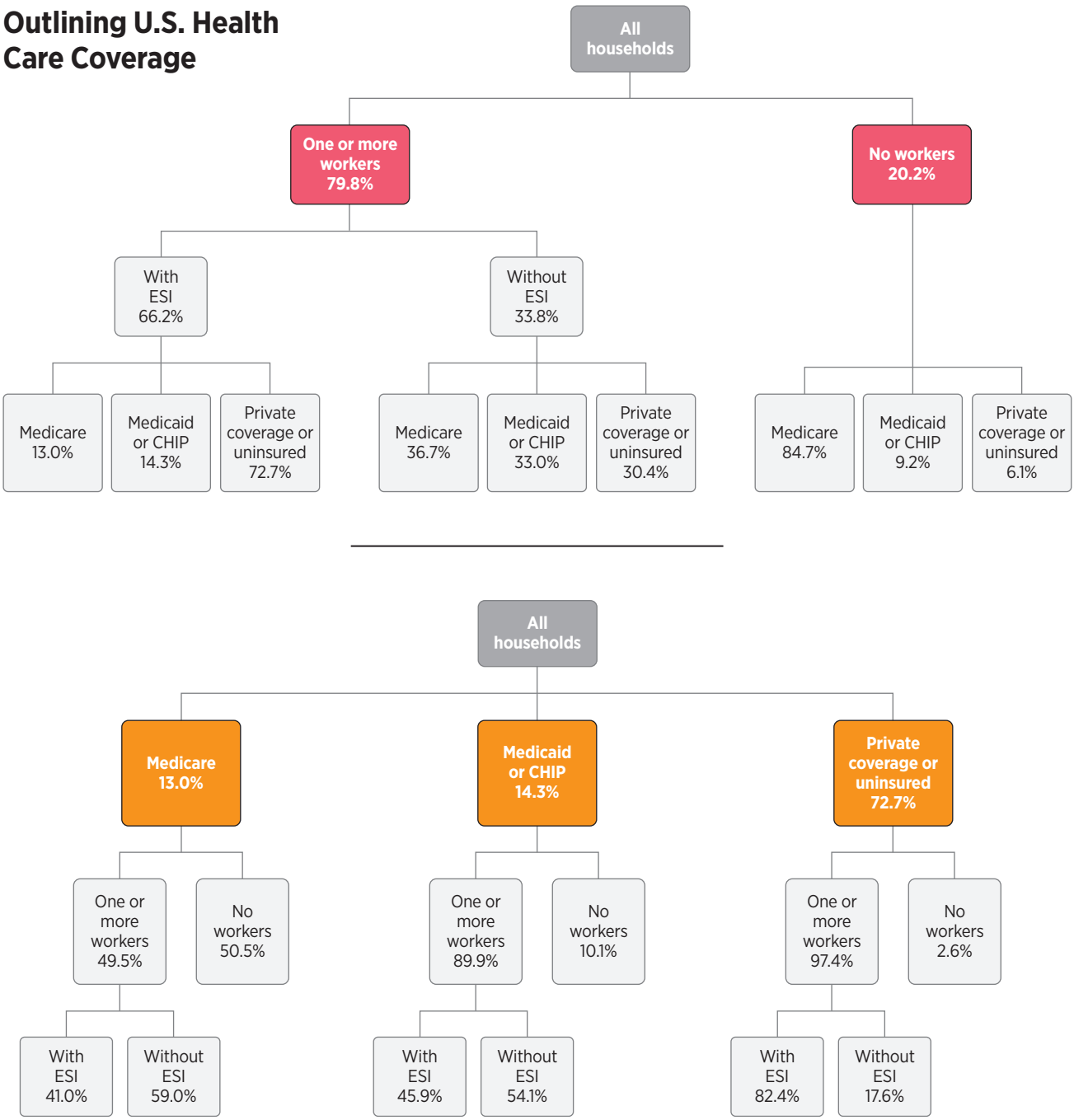
Total Taxes	Current Law	Proposed Reform	Change
Total taxes and private health care expenses	$21,721	$25,263	$3,542
As a share of comprehensive income	44.3%	51.6%	7.2%

Disposable Income	Current Law	Proposed Reform	Change
Disposable income after taxes and private health care expenses	$27,262	$23,720	-$3,542
Percent change			-13.0%

SOURCES: Heritage Foundation model based on data from U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, https://www.meps.ahrq.gov (accessed October 17, 2018), and federal and state tax data. See appendix for more information about the methodology.

APPENDIX C FIGURE 1

Outlining U.S. Health Care Coverage



NOTES: Figures are for 2016. ESI stands for employee-sponsored insurance. "Medicare" households have at least one person who is covered by Medicare. "Medicaid or CHIP" households have at least one person who is covered by Medicaid or CHIP, but not Medicare. "Private Coverage or Uninsured" households have no one covered by Medicare, Medicare, or CHIP.

SOURCES: Heritage Foundation calculations based on data from U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, https://www.meps.ahrq.gov (accessed October 17, 2018).

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NOVEMBER 12, 2019

Millions in U.S. Lost Someone Who Couldn't : Afford Treatment

BY **DAN WITTERS**

STORY HIGHLIGHTS

- 34 million adults know someone who died after not getting treatment :

- 58 million adults report inability to pay for needed drugs in past year
- Little progress seen by Trump administration in limiting rising drug costs

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Editor's Note: The research detailed below was conducted in partnership with West Health, a family of nonprofit and nonpartisan organizations focused on lowering healthcare costs for seniors.

WASHINGTON, D.C. -- More than 13% of American adults -- or about 34 million people -- report knowing of at least one friend or family member in the past five years who died after not receiving needed medical treatment because they were unable to pay for it, based on a new study by Gallup and West Health. Nonwhites, those in lower-income households, those younger than 45, and political independents and Democrats are all more likely to know someone who has died under these circumstances.

Knowledge of Deaths in Last Five Years After Inability to Pay for Needed Treatment

"Has there been a time in the last five years when a friend or family member passed away after not receiving treatment for their condition due to their inability to pay for it?"

	Yes %
U.S. TOTAL	13.4
Race	
White	9.6
Nonwhite	20.3
Annual household income	
Under $40,000	18.5
$40,000 to <$100,000	11.1
$100,000+	9.1
Age	
18-44	16.9
45-64	12.4
65+	6.6
Party ID	
Independent	16.4
Democrat	14.8

GALLUP-WEST HEALTH NATIONAL HEALTHCARE STUDY, SEPT. 16-30, 2019; N=1,099

	Ye:
	%
Republican :	4.9

GALLUP-WEST HEALTH NATIONAL HEALTHCARE STUDY, SEPT. 16-30, 2019; N=1,099

These data are based on surveys with 1,099 U.S. adults across all 50 states and the District of Columbia, conducted Sept. 16-30, 2019. Respondents were asked, "Has there been a time in the last five years when a friend or family member passed away after not receiving treatment for their condition due to their inability to pay for it?" These results are not meant to quantify the number of people who have died after not being able to pay for medical treatment, including prescription drugs, but rather the number of people who report knowledge of a death under such circumstances. In all, the Centers for Disease Control and Prevention estimate that about 2.8 million persons died in 2017 in the U.S. across all causes.

Dovetailing with these results is a rising percentage of adults who report not having had enough money in the past 12 months to "pay for needed medicine or drugs that a doctor prescribed" to them. This percentage has increased significantly, from 18.9% in January : 2019 to 22.9% in September. In all, the 22.9% represents about 58 million adults who experienced "medication insecurity," defined as the inability to pay for prescribed medication at least one time in the past 12 months. The increase reflects a marked rise among women of over five percentage points to 27.5%, widening the gender gap to over nine points when compared with the 18.1% rate for men. And while data among both political independents and Republicans are statistically unchanged since September, medication insecurity among Democrats has risen over six points to 27.7%.

U.S. Medication Insecurity, January and September 2019, by Gender and Party ID

"Has there been a time in the last 12 months when your household has been unable to pay for: medicine or: drugs that a doctor had prescribed for you because you didn't have enough money to pay for them?" (% Yes)

	January 2019	September 2019	Change
	%	%	pct. pts.
U.S. TOTAL :	18.9 :	22.9 :	+4.0*

* Statistically significant change (p<.05)

GALLUP-WEST HEALTH NATIONAL HEALTHCARE STUDY, JANUARY 2019 (N=3,537) AND SEPTEMBER 2019 (N=1,099)

	an ary 2019 :	September 2019 :	Change : pct. pts.
Gender			
Male	15.2 :	18.1 :	+2.9
Female :	22.3 :	27.5 :	+5.2*
Party ID			
Independent :	14.5 :	17.0 :	+2.8
Democrat :	21.0 :	27.7 :	+6.7*
Republican :	20.3 :	23.1 :	+2.5

* Statistically significant change (p<.05)

GALLUP-WEST HEALTH NATIONAL HEALTHCARE STUDY, JANUARY 2019 (N=3,537) AND SEPTEMBER 2019 (N=1,099)

Republicans See Much More Progress Than Others on Drug Costs :

Against a backdrop of millions of Americans who know people who have died after not being able to afford needed treatment, and millions more recently experiencing medication insecurity personally, most respondents agree that U.S. consumers are paying too much for prescription drugs. Close to nine in 10 U.S. adults report that the costs of prescription drugs are "usually much higher" (69%) or "tend to be somewhat higher" (20%) than what consumers should be paying for them, compared with only 1% who believe them to be much or somewhat lower. These perceptions are shared by political and demographic subgroups, with only modest differences between groups in the percentage viewing drug prices as too high.

me i me US ip i D i D

"Based n ever t ing u ave read and e perienced please indicate ic f t e f ll ing statements most cl sely align wit y ur pini n regarding t e c st f prescripti n drugs in t e U.S.?"

	U.S. total	Repub.	Ind.	Dem.	Approve of Trump	Disapprove of Trump
	%	%	%	%	%	%
Usually much higher than what consumers should be paying	69	64	66	76	64	74
Tend to be somewhat higher :	20 :	22	21	16 :	20	19
About right :	9	12	10	6	13 :	6

GALLUP-WEST HEALTH NATIONAL HEALTHCARE STUDY, SEPT. 16-30, 2019; N=1,099

	U.S. total	Repub.	Ind.	Dem.	Approve of Trump	Disapprove of : Trump
	%	%	%	%	%	%
Tend to be somewhat lower :	1	0	1	0 :	0	0
Usually much lower than what consumers should be paying	1 :	0	1	1	0	1

GALLUP-WEST HEALTH NATIONAL HEALTHCARE STUDY, SEPT. 16-30, 2019; N=1,099

While perspectives on the price of medicine relative to what consumers should be spending are largely uniform, perspectives regarding President Donald Trump's success at curtailing rising drug prices are more divided along party lines. When asked, "How much progress has the Trump administration made to limit the rising cost of prescription drugs in the U.S.?" two-thirds of respondents -- split evenly -- report "not very much" progress or "none at all." But only 31% of Republicans express this sentiment, compared with 66% of independents and 96% of Democrats. Nearly nine out of 10 adults who disapprove of the job Trump is doing : also report little to no progress.

f r r r f Pr r p Dr P r ID

"How much progress has the Trump administration made to limit the rising cost of prescription drugs in the U.S. -- a great deal, a fair amount, not very much or none at all?"

	U.S. total	Republican	Independent	Democrat	Approve of Trump	Disapprove of Trump
	%	%	%	%	%	%
A great deal	7	14	6	2	13	3
A fair amount	20	49	16	1	43	5
Not very much :	33	25 :	34	39 :	29	37
None at all	33	7	32 :	57	7	51
Not very much/None at all	66	31 :	66 :	96	35 :	88

GALLUP-WEST HEALTH NATIONAL HEALTHCARE STUDY, SEPT. 16-30 2019; N=1,099

Bottom Line

he ub tantial number of American who know omeone who ha ie after not receiving treatment because of their inability to pay for it, coupled with the rise in the percentage who have not had enough money to pay for their prescriptions, underscores the urgency of the U.S. healthcare cost crisis. These realities starkly highlight the significant practical implications of drug prices on U.S. residents, as well as the effects of healthcare policy action -- or inaction.

With millions of residents knowing someone who has died in the past five years after being unable to pay for needed treatment, the ramifications to public trust in the U.S. healthcare system could be significant. This erosion of trust is likely exacerbated by the estimated 58 million adults who have themselves been unable to afford prescribed drugs at least once in the last 12 months. The level of medication insecurity is high and rising, and is doing so against a backdrop of overwhelming public sentiment regarding the inappropriately high prices of prescription drugs. The rise in reported 12-month medication insecurity among women and Democrats dovetails with rising uninsured rates for related subgroups over the course of 2018, and could be, in part, a reflection of the decreased coverage among these constituencies.

Drug prices directly affect consumers, and with the U.S. one year away from the 2020 election, presidential candidates will increasingly be asked to explain and defend their policy positions regarding rising drug costs. Only 7% of U.S. adults report that the Trump administration has accomplished "a great deal" on the issue, and voters are clearly expecting more from their elected officials than what has been accomplished in the past three years. In Congress, meanwhile, the U.S. House of Representatives is expected to vote soon on House Democrats' plan to curb soaring prescription drug prices by allowing the federal government to negotiate prices of certain drugs, including insulin products and single-source brand-name drugs with no generic competition. The U.S. Senate is considering a separate, bipartisan proposal that would cap seniors' out-of-pocket costs and require drug manufacturers to reimburse Medicare if prices rise more than the inflation rate.

Given these ongoing challenges, West Health and Gallup have committed to measuring public opinion on a wide array of issues relevant to healthcare costs on a recurring basis, providing stakeholders and policymakers with the information they need to gauge whether progress is being made on these most critical issues of our time.

View complete question responses and trends.

SURVEY METHODS:

RELEASE DATE: November 12, 2019

SOURCE: Gallup https://news.gallup.com/poll/268094/millions-lost-someone-couldn-afford-treatment.aspx

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Using Medicaid to Advance Evidence-Based Treatment of Substance Use Disorders:
A Toolkit for State Medicaid Leaders

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Jessica Nysenbaum, Senior Manager

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Using Medicaid to Advance Evidence-Based Treatment of Substance Use Disorders:

A Toolkit for State Medicaid Leaders

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Appendix

Introduction

In 2019, the number of drug overdose deaths in the United States declined, suggesting that the efforts of state and local governments, providers and other stakeholders to stem the crisis of drug-related deaths are beginning to have some effect. But there is much more work to be done: Over 70,000 individuals in this country still die each year from drug overdoses.[1] This document—**Using Medicaid to Advance Evidence-Based Treatment of Substance Use Disorders: A Toolkit for State Medicaid Leaders** (the Toolkit)—reviews promising strategies that state Medicaid programs are adopting to address the substance use disorder (SUD) crisis, and specifically the opioid epidemic. The Toolkit identifies implementation strategies, action steps and examples of implementation tools deployed in leader states.

Highlighted strategies are informed by evidence-based research on what is effective in combating SUD and the opioid epidemic in particular, but it is important to note that the fast-moving nature of the epidemic, the evolving response of state and local governments, and the complexity of teasing out the individual impact of concurrent interventions mean that such research is limited. Recognizing the limits of current research, the Toolkit also addresses how states might monitor and evaluate their selected strategies, both to allow for timely policy adjustment and to amplify the body of evidence-based research. The strategies addressed in the Toolkit are organized into three main focus areas:

- **1.0 Strategies to Increase Access to Medication-Assisted Treatment (MAT).** MAT remains the gold standard for the treatment of most individuals with OUD. With a strong evidence base proving MAT's effectiveness, expanding access to MAT should be a top priority for states to fight the opioid epidemic.
- **2.0 Strategies to Promote Coordinated Team-Based Care for Opioid Use Disorder (OUD).** Given the complexity of comprehensive SUD treatment, team-based care can be effective in meeting the physical, mental health, and psychosocial needs that support recovery. As a result, state Medicaid programs increasingly are promoting use of team-based care for individuals with OUD, including by offering enhanced reimbursement to providers that offer care teams and by covering and paying for peer supports as part of team-based initiatives.
- **3.0 Strategies to Monitor and Evaluate OUD Interventions on an Ongoing Basis.** As states deploy a broad range of interventions and strategies to fight the opioid (and broader SUD) epidemic, monitoring and evaluating the impact of these strategies is critical. States are using monitoring metrics to track implementation of 1115 waivers of the IMD exclusion; building dashboards that publicly display trends on overdose rates, ED visits for OUD and other measures; and collaborating with academic institutions on research and evaluation of key interventions.

Notably, with passage in the fall of 2018 of the Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act (SUPPORT Act), some of these strategies are or will become mandatory or incentivized activities for state Medicaid agencies. A discussion of relevant provisions of the SUPPORT Act is integrated into the strategies outlined below.

Finally, the Toolkit **Appendix—The Opioid Epidemic: A National Snapshot** provides a series of tables with state-by-state data on the epidemic, allowing state leaders to compare their state's progress with that of their peers.

Exhibit 1. The Opioid Epidemic: A National Snapshot

The Opioid Epidemic: A National Snapshot provides state by state information on the epidemic and on each state Medicaid program's policy response. It provides data on the severity of the epidemic, coverage policies related to Medication Assisted Treatment (MAT), other Medicaid design decisions, and the extent to which providers are providing MAT. While covering a range of topics, the **National Snapshot** focuses heavily on MAT, given the critically important role it plays in the treatment of opioid use disorder (OUD).

Scope of the Epidemic

- Table 1. Number of Opioid Overdose Deaths, and Rates per 100,000, by State CY 2016 and 2017
- Table 2. Ranking of 2017 Opioid Overdose Deaths per 100,000

MAT Coverage Policies

- Table 3. States With Medicaid Prior Authorization Requirements for Medications for Opioid Use Disorders, 2016 2017
- Table 4. Other State Medicaid Restrictions on Medications for Opioid Use Disorders, 2016 2017
- Table 5. States With Medicaid Prior Authorization Requirements for Naloxone, 2016 2017

Enrollment Policies and Medicaid Program Design Features

- Table 6. Medicaid Enrollment Policies for Criminal Justice Involved Populations, FY 2019
- Table 7. Medicaid Health Home Programs Targeting Individuals With an OUD
- Table 8. Medicaid IMD Waivers for SUD and MH

MAT Provider Availability

- Table 9. Number and Percent of SUD Facilities Participating in Medicaid, by State, 2017
- Table 10. Number and Percent of Medicaid Participating Outpatient and Residential SUD Facilities Providing MAT, by State, 2017

1.0 Strategies to Increase Access to Medication-Assisted Treatment

MAT combines behavioral therapy and medications to treat SUDs. It remains the gold standard of biomedical care for OUD[2,3] and has proven effective in reducing death rates and a range of other harms associated with OUDs.[4] By design, it includes both a pharmacological and a behavioral intervention. In the SUPPORT Act, Congress mandated that states cover all drugs and biological products (including methadone) approved by the Food and Drug Administration (FDA) for MAT and related counseling services and behavioral therapy beginning on October 1, 2020, and continuing at least through September 31, 2025.[5] Even so, there is a growing acknowledgment that medication alone is preferable to no treatment at all; the National Academy of Sciences recently recommended treatment of OUD with medications regardless of whether behavioral health interventions are also available.[6]

For a number of years, the states hardest hit by the opioid epidemic have deployed a range of strategies to expand access to MAT. As a result, MAT prescribing in Medicaid has increased in recent years, but there is still wide variation in prescribing rates, especially between states that have expanded Medicaid and those that have not. Between 2013 and 2017, Medicaid spending on prescriptions for the treatment of OUD and overdose tripled or more in states that expanded Medicaid compared to nearly doubling in non-expansion states. The strategies already in use among leading states offer an important roadmap for states seeking to further increase access to MAT.

Implementation Strategy 1.1: Include All Forms of Medication and Biological Products Used for MAT on the State's Preferred Drug List

As of May 2019, three medications were available to treat OUDs as part of MAT—buprenorphine, methadone, and naltrexone.[7] Since individual circumstances and characteristics can influence which drug is likely to work best, it is important that a state review its Medicaid policies with respect to covering all three drugs, including all formulations. Buprenorphine and naltrexone come in several formulations—injectable, extended-release implant and sublingual film—and the use of a particular formulation may be important to any given individual.

Under long-standing federal Medicaid law, all prescription drugs that are approved by the FDA must be covered by Medicaid, regardless of whether a beneficiary is enrolled in a Medicaid managed care plan or in a state fee-for-service program. Congress recently reiterated that all forms of MAT must be covered by requiring in the SUPPORT Act that Medicaid programs cover all medications (including methadone) approved by the FDA for OUDs, beginning on October 1, 2020, and continuing at least through September 31, 2025.[8] Notably, the SUPPORT Act permits states to pursue an exemption from this requirement due to provider shortages. However, the SUPPORT Act also authorizes capacity grants to help states address provider shortages, including shortages of MAT providers. Further discussion of this issue is provided below in **Implementation Strategy 1.2**.

While states are required to cover all forms of MAT, in practice, they can dramatically shape the extent to which a drug is accessible by deciding whether to include it on the state's preferred drug list (PDL) or, in Medicaid managed care states, giving plans discretion to determine which medications are included on their PDLs. Medications that are not included on PDLs are more likely to be subject to prior authorization and other utilization management requirements that can pose barriers to access. For example, a state might require providers to do substantially more paperwork or make more phone calls to secure authorization for a non-preferred medication. Due to unclear documentation of policies, it is sometimes difficult to discern that a state actually covers all forms of MAT, particularly methadone, as required by federal law.[9] Indeed, a 2018 Substance Abuse and Mental Health Services Administration (SAMHSA) analysis based on a review of state documents, policies and regulations reports that nine states are not covering methadone as MAT even though it is required under federal law.[10]

Action Steps

- **Work with the state Pharmacy and Therapeutics (P&T) Committee** to review and update, if necessary, the state's Medicaid PDL to ensure that all forms and formulations of medications and biological products needed for MAT are on the state's preferred list.
- In Medicaid managed care states, **review and update model contract language** to ensure that plans are required to cover and include on any plan PDL all the medications and biological products needed for MAT, including the various formulations.[11]
- **Establish and disseminate a written policy for Medicaid providers** that clearly communicates that all MAT drugs are covered and outlines the procedures used to obtain treatment.

State Example

- **Washington, D.C.** As reflected in the city's PDL, all oral, injectable and implantable forms of buprenorphine and naltrexone are preferred and none require prior authorization.[12]

Implementation Strategy 1.2: Review and Reduce Non-quantitative Utilization Management Restrictions

States may also consider reviewing and reducing utilization management (UM) restrictions applied to medications and biological products used in MAT. These can include prior authorization requirements, blanket limits on the number of prescriptions that can be filled in a month, higher co-payments, step therapy requirements and quantity limits. Medicaid UM restrictions on MAT, as reflected in **The Opioid Epidemic: A National Snapshot**; **Table 3. States With Medicaid Prior Authorization Requirements for Medications for Opioid Use Disorders, 2016–2017**; and **Table 4. Other State Medicaid Restrictions on Medications for Opioid Use Disorders, 2016–2017.** Such restrictions typically are imposed due to cost concerns (some medications are more expensive), clinical reasons (enforcing guidelines about which patients should be treated with a particular drug), or, in some instances, concerns about diversion, though these may not be warranted. Reasons to impose restrictions can be weighed against the body of evidence showing that UM restrictions can impact treatment access.[13,14,15,16] One study evaluating the impact of the introduction of a three

prescription cap in a state Medicaid program found large drops in prescription fills for essential medications such as insulin.[17] A different study assessing the impact of a Medicaid prior authorization policy for drugs used to treat bipolar disorder illustrated how prior authorization may reduce overall treatment rates.[18]

Exhibit 2. Diversion: How Big an Issue?

States sometimes impose UM restrictions on access to MAT medications to prevent "diversion" or the sale or donation of a drug such as suboxone (a form of buprenorphine) to a friend, neighbor or other individual for whom it was not prescribed. However, studies show that diverted buprenorphine is most often used by individuals to self treat an opioid addiction rather than for abuse. They also indicate that barriers to buprenorphine may actually be increasing diversion by making it harder for individuals who need it to obtain it through legal means. In light of this research, states may want to review their access restrictions on buprenorphine, weighing the benefit of simplifying access to MAT against concerns about Medicaid fraud and diversion.

Sources: Schuman Oliver, Zev, Albanese, Mark, Nelson, Sarah, et al., "Self-Treatment: Illicit Buprenorphine Use by Opioid Dependent Treatment Seekers," Journal of Substance Abuse Treatment, July 2010, https://www.journalofsubstanceabusetreatment.com/article/S0740-5472(10)00075-9/fulltext; Cicero, Theodore J, Ellis, Matthew and Chilcoat, Howard, "Understanding the Use of Diverted Buprenorphine," Drug and Alcohol Dependence, December 2018, https://doi.org/10.1016/j.drugalcdep.2018.09.007; Yokell, Michael, Zaller, Nicholas, Green, Traci, and Rich, Josiah, "Buprenorphine and Buprenorphine/Naloxone Diversion, Misuse, and Illicit Use: An International Review," Current Drug Abuse Reviews, March 2011, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3154701/; Lofall, Michelle and Walsh, Sharon, "A Review of Buprenorphine Diversion and Misuse: The Current Evidence Base and Experiences from Around the World," Journal of Addiction Medicine, September/October 2014, https://journals.lww.com/journaladdictionmedicine/Abstract/2014/09000/A_Review_of_Buprenorphine_Diversion_and_Misuse__.3.aspx.

In evaluating the cost impact of removing prior authorization requirements on higher-cost medications like injectable suboxone, states will want to consider research that suggests that reducing barriers to MAT can be cost-effective. One study on the cost-effectiveness of implantable versus sublingual buprenorphine showed that while implantable buprenorphine is more expensive than the sublingual form, it is effective in reducing ED and hospital utilization, and therefore more cost-effective.[19] States may also consider that reducing the administrative burden associated with prescribing MAT may encourage more providers to offer MAT and, among those that already do, encourage a higher caseload of MAT patients.

In instances when states adopt UM barriers for clinical reasons, it may be possible to adopt alternative strategies for shaping the appropriate use of MAT medications that do not delay access to care. Some states use "point-of-service edits" to flag a provider whose prescribing decision appears potentially out of sync with clinical guidelines, or they rely on retroactive utilization review (see Exhibit 3 below). In addition, the medical director in the Medicaid agency (or other appropriate Medicaid agency staff) can work directly with the state medical society on disseminating best practices for MAT to providers, including how to determine which MAT drug and formulation is most clinically appropriate for a particular patient. States can also require Medicaid managed care plans to offer education and training on the issues of concern.

Exhibit 3. Using Point-of-Sale Safety Edits and Retrospective Drug Utilization Review

Ohio uses the following point of sale safety edits for initial fills of oral short acting buprenorphine containing products:

- Individuals who are 15 years of age or younger
- Individuals who are male and receiving short acting buprenorphine without naloxone
- Individuals who are female and 45 years of age or older and receiving short acting buprenorphine without naloxone
- Dosages that are greater than 24 mg/day
- Dosages over 16 mg/day beginning 90 days after the initial fill
- Long acting or injectable buprenorphine

These edits will cause transactions to deny at the pharmacy point of sale and require the prescribing provider to request the product per existing prior authorization processes.

A retrospective drug utilization review (DUR) process identifies prescribers/providers who deliver services inconsistent with clinical standards of care. Providers identified are subject to a communication requirement by the state and managed care plans until the provider demonstrates a consistent pattern of appropriate care.

DUR evaluation criteria are as follows:

- Individuals who receive a dose of buprenorphine that is greater than 16 mg/day for three months or longer (this will be programmed as a point of sale safety edit after the three months)
- Females of reproductive age (15 to 44 years old) with claims for short acting buprenorphine only for longer than nine months
- Individuals with claims for concurrent use of opioids (including MAT) and benzodiazepines
- Individuals without urine drug screen claims in the prior three months
- Individuals with claims for excessive or non random utilization of urine drug screens
- Individuals without claims for medical professional services (E&M codes) related to Medication Assisted Treatment (MAT) prescription in the prior three months

Source: Wharton, Donald, and Archibald, Tracy, "Effective Treatment for Opiate Use Disorders: Removing Barriers to Medication Assisted Treatment," The Ohio Department of Medicaid, Policy Effective January 1, 2019, https://medicaid.ohio.gov/Portals/0/Resources/Publications/Guidance/Increasing-access-to-Medication-Assisted-Treatment.pdf.

Action Steps

- **Review state UM policies for MAT**, with an eye to reducing or eliminating, where appropriate, prior authorization, step therapy and other limits on MAT medications.

- To the extent states have clinical concerns about certain forms of MAT for certain populations, **deploy alternative strategies such as point-of-service edits**; retroactive utilization review; and coordinated provider training and education initiatives with the state medical society, Medicaid managed care plans and other stakeholders.
- Establish and disseminate a written policy for Medicaid providers that consolidates and clarifies the Medicaid agency's policies with respect to medication for MAT, including coverage of medications and formulations and any UM guidelines. Manatt's analysis of Montana Medicaid's MAT policies provides an example of the type of information that could be gathered, synthesized and presented in a single document (see Exhibit 4 below).

Exhibit 4. Medicaid Policies for MAT Drugs in Montana

For medication assisted treatment drugs covered under Montana's Medicaid program, prior authorization and payment policies vary based on whether they are billed by an outpatient pharmacy or by a physician or other provider who administers the drug:

- For buprenorphine containing products that can only be prescribed to a limited number of patients by a physician with a federal waiver, coverage is typically under the outpatient pharmacy benefit, and prior authorization and a number of other criteria must be met (e.g., compliance with counseling, drug screens, and office visits). Once a prescription is authorized, it may be filled and billed to Medicaid by an outpatient pharmacy.
- In the case of methadone prescribed for opioid use disorders, the drug is always physician administered because only opioid treatment program facilities that are subject to federal certification and accreditation requirements may dispense it. Physician administered drugs are typically billed directly to Medicaid by a provider that serves as both the prescriber and dispenser. There is no prior authorization requirement for methadone, or for buprenorphine, when billed as a physician administered drug.
- For naltrexone, the oral form is covered under the outpatient pharmacy benefit with no prior authorization. The injectable form (Vivitrol) must be administered by a physician regardless of how it is billed. In the case of physician administered billing, prior authorization is not required. In the case of outpatient pharmacy billing, which allows certain providers to avoid the high cost of stocking the drug, prior authorization is required.

Other services associated with the provision of MAT drugs (e.g., SUD counseling and medical office visits to monitor physical health) are billed separately. As with other SUD providers, MAT providers typically must be State approved to bill Medicaid for SUD fee schedule services (e.g., individual or group therapy for SUD) and are subject to the rules that apply to other fee schedules as well (e.g., those governing medical office visits under the physician fee schedule). See Exhibits 7 and 8 earlier in this report for information on the circumstances under which various SUD services may be billed to Medicaid.

Source: Grady, April, Bachrach, Deborah, and Boozang, Patti, "Medicaid's Role in the Delivery and Payment of Substance Use Disorder Services in Montana," Manatt Health, 2017, https://www.manatt.com/getattachment/5c943485-16d3-48aa-9d20-8a47368b3c88/attachment.aspx.

- **Update clinical practice guidelines** to reflect new information and evidence on clinical indications and cost issues regarding the appropriate use of various MAT medications or formulations of those medications, drawing on resources such as SAMHSA guidelines on the use of MAT for pregnant women.[20]

State Examples

- **New Hampshire.** In its Medicaid managed care contract, New Hampshire requires that "the MCO shall cover without prior authorization or other utilization management restrictions any treatments identified as necessary by a clinician trained in the use and application of the ASAM criteria." The contract also directly precludes prior authorization for urine drug screenings—an important ancillary service needed for MAT—unless screens exceed 30 per month. If a plan is concerned about fraud, it can request an exception from these policies from the state.
- **Washington.** Apple Health's (Washington Medicaid) Clinical Guidelines and Coverage Limitations for Medication Assisted Treatment provide step-by-step information on coverage for each MAT, and include advice to prescribers on when to use a particular treatment (see Exhibit 5 below).[21]

Exhibit 5. Apple Health Clinical Guidelines for MAT

Coverage for IM naltrexone:

Covered without authorization or limitations.

The following information are prescribing guidelines, and do not represent authorization criteria.

Health Care Authority requests that prescribers use sound clinical judgment in determining the best course of treatment for their patients, and reserve the use of IM naltrexone for those patients who meet the suggested guidelines. Oral naltrexone is significantly less costly to the State, and should be considered first unless the patient has a demonstrated need for an intramuscular formulation.

Source: "Clinical Guidelines and Coverage Limitations for Medication Assisted Treatment (MAT)," Washington State Health Care Authority, 2018, https://www.molinahealthcare.com/providers/wa/medicaid/forms/PDF/coverage-requirements-for-mcos.pdf.

Implementation Strategy 1.3: Ensure Sufficient Networks of MAT Providers

With the growing recognition of the importance of MAT, policymakers are making concerted efforts to increase the supply of providers who offer this treatment, particularly in geographic areas where capacity is limited. The federal government has taken some steps to increase the supply of MAT providers, including by (1) extending the ability to secure a waiver to provide MAT to nurse practitioners and physician assistants; (2) increasing from 30 to 100 the number of patients that certain MAT providers can treat at any given time; and (3) providing federal grant dollars to increase the provider supply. States that obtain SUPPORT Act provider capacity grants (CMS will distribute $50 million in grant funding to at least ten states) can use the additional funding to help expand MAT provider supply, as well as to focus on other SUD provider capacity challenges.[22]

States and localities are best positioned to determine where they lack MAT provider capacity and how best to address those access gaps, and Medicaid can play an important role in those efforts. As a first step, states may want to assess the number of MAT providers available in the state by region, as well as by key subpopulation (e.g., longtime users, individuals with multiple conditions, pregnant women). It is also important to consider the number of waivered providers, the number of waivered providers who are participating in Medicaid, and the extent to which those providers are using their waivers.[23] Research shows that many waivered physicians are not actively providing MAT, or are serving very few patients.[24,25,26] One study of buprenorphine prescribers in seven states found that 22% of prescribers had a monthly census of only one to three patients.[27] While data on MAT providers are not always readily available, a Medicaid agency may find that a sister agency (e.g., a SUD agency or mental health agency) already has such data, or it can purchase access to the Drug Enforcement Administration Controlled Substances Act Registration Information Databases.[28] To the extent data are available, examining the prevalence of OUD within the state and in the Medicaid population specifically at the county or ZIP code level can help in assessing the "right" number of MAT providers to require by geographic region. Leading states note that it is also critical to evaluate the mix of MAT provider types available in the community, including "bridge clinics" that manage MAT initiated in the emergency department until an individual is able to get situated with a long-term MAT provider.[29]

Once they quantify capacity gaps, states are using creative methods for expanding MAT provider supply, extending limited capacity, and ensuring the right mix of providers across all geographies and populations. States can directly incentivize providers to offer MAT by increasing reimbursement rates or by directing their Medicaid managed care plans to do so. States can also directly develop or incentivize their MCOs to build focused networks of providers that initiate and stabilize individuals on MAT, and broader networks of community-based providers for ongoing maintenance treatment. This type of tiered provider network approach is used in hub-and-spoke models, discussed below in **Implementation Strategy 1.5: Provide Training and Expert Support to Primary Care Providers That Offer Outpatient MAT**. States are also leveraging hospital emergency departments to expand capacity for MAT induction, engaging people with OUD at a critical point of care, and bridging waiting lists for ongoing, office-based treatment. Finally, provider outreach and education are essential to increasing MAT capacity and Medicaid participation.

Action Steps

- **Explore availability of data from sister agencies on providers waivered to prescribe MAT.** If data are not available, consider purchasing Drug Enforcement Administration data. Calculate the total number of waivered providers in the state, and by sub-state region such as county or ZIP code.
- **Use Medicaid eligibility, claims and encounter data to calculate key metrics and target outreach** aimed at waivered providers who could increase their MAT caseload; reach underserved areas or treat particularly vulnerable populations (e.g., pregnant women):
  - Of the number of Medicaid providers offering MAT to Medicaid enrollees:
    - Number seeing 30 or fewer patients, and number seeing 30–100 patients
    - Number of community providers, opioid treatment programs (OTPs), emergency department-based providers and other provider types

  - Number of providers serving prenatal, pregnant and perinatal women
  - Geographic location of Medicaid MAT providers
- Prevalence of OUD in the Medicaid population, and in subpopulations such as prenatal, pregnant and perinatal women

- **Use quantitative thresholds to set minimum network adequacy** standards for MAT providers in managed care organization (MCO) contracts. Evaluate and implement thresholds using either a set number of providers per county or a percentage of licensed providers approach.
- **Require managed care plans to offer enhanced reimbursement** to providers that secure and use waivers to offer MAT.
- **Require or incentivize hospital emergency departments to facilitate MAT induction** and handoffs to office-based ongoing MAT in the community.

State Examples

- **Ohio.** The Ohio Department of Medicaid developed MAT provider panel requirements for MCOs. The state's Medicaid managed care contract includes a table by county requirements for minimum MAT provider panel size, with panels consisting of both waivered community providers and OTPs. The state-required number of providers varies from zero to 43, depending on population and the MAT provider supply in each region. Plans also must contract with all willing OTP providers that are licensed by Ohio's Department of Mental Health and Addiction Services and SAMHSA.[30]

Exhibit 6. Ohio MAT Provider Panel Requirements

County	MAT
Adams	0
Allen	6
Ashland	0
Ashtabula	2
Athens	3
Auglaize	0
Belmont	1
Brown	0
Butler	8
Carroll	0
Champaign	1
Clark	2
Clermont	4
Clinton	0
Columbiana	3
Coshocton	0
Crawford	1
Cuyahoga	34
Darke	0
Defiance	1
Delaware	1
Erie	2
Fairfield	3

County	MAT
Fayette	1
Franklin	43
Fulton	0
Gallia	2
Geauga	1
Greene	5
Guernsey	1
Hamilton	30
Hancock	1
Hardin	1
Harrison	0
Henry	0
Highland	1
Hocking	3
Holmes	0
Huron	1
Jackson	0
Jefferson	0
Knox	1
Lake	4
Lawrence	1
Licking	4
Logan	2

County	MAT
Lorain	2
Lucas	14
Madison	1
Mahoning	12
Marion	4
Medina	1
Meigs	2
Mercer	0
Miami	2
Monroe	0
Montgomery	18
Morgan	1
Morrow	0
Muskingum	3
Noble	0
Ottawa	0
Paulding	0
Perry	2
Pickaway	2
Pike	1
Portage	2
Preble	0
Putnam	0

County	MAT
Richland	6
Ross	3
Sandusky	1
Scioto	8
Seneca	0
Shelby	1
Stark	6
Summit	14
Trumbull	4
Tuscarawas	1
Union	0
VanWert	0
Vinton	1
Warren	4
Washington	0
Wayne	1
Williams	1
Wood	2
Wyandot	0

- **New Hampshire.** In its Medicaid managed care contract, New Hampshire establishes required participation rates for various SUD providers, including 75% of OTPs and 75% of buprenorphine prescribers and no less than two providers in most other SUD provider categories for each of the state's public health regions (see Exhibit 7 below). If providers will not agree to contract at reasonable rates, plans can request exceptions to this requirement. The New Hampshire Medicaid plan contract also requires managed care plans to pay SUD providers at state-determined rates to support SUD capacity[31] and requires plans to establish two rates for MAT providers, one for those treating up to 30 members and one for those treating up to 100:
  - 4.11.6.5.5 The plan shall indicate at least two (2) tiers of enhanced payments that the MCO shall make to qualified providers based on whether providers are certified and providing MAT to up to thirty (30) members per quarter (i.e., tier one (1) providers) or certified and providing MAT to up to one hundred (100) members per quarter (i.e., tier two (2) providers).
  - 4.11.6.5.6 The tier determinations that qualify providers for the MCO's enhanced reimbursement policy shall reflect the number of members to whom the provider is providing MAT treatment services, not the number of patients the provider is certified to provide MAT treatment to.[32]

Exhibit 7. New Hampshire SUD Provider Participation Standards

MLADCs	The MCO's Participating Provider Network shall include seventy percent (70%) of all such Providers licensed and practicing in NH and no less than two (2) Providers in any public health region unless there are less than two (2) such Providers in the region
Opiod Treatment Programs (OTPs)	The MCO's Participating Provider Network shall include seventy-five percent (75%) of all such Providers licensed and practicing in NH and no less than two (2) Providers in any public health region unless there are less than two (2) such Providers in the region
Buprenorphine Prescribers	The Network shall include seventy-five percent (75%) of all such Providers licensed and practicing in NH and no less than two (2) Providers in any public health region unless there are less than two (2) such Providers in the region
Residential Substance Use Disorder Treatment Programs	The Network shall include fifty percent (50%) of all such Providers licensed and practicing in NH and no less than two (2) in any public health region unless there are less than two (2) such Providers in the region
Peer Recovery Programs	The MCO's Participating Provider Network shall include one hundred percent (100%) of all such willing Programs in NH

- **Massachusetts.** The state passed a law in 2018 that requires all acute care hospitals in the state that provide emergency services to offer MAT and to connect patients to follow-up care.[33] Detailed clinical guidelines produced by the Massachusetts Health and Hospital Association for MAT within EDs present an example of the type of guidance that states can develop in partnership with stakeholders to help hospitals come into compliance with MAT requirements. The clinical guidelines cover issues such as clinical criteria to obtain prior to MAT induction, prescriber guidelines and information on MAT waiver trainings. The guide also provides details on state-specific laws with regard to the circumstances under which patients can be sent home with buprenorphine.

Implementation Strategy 1.4: Require SUD Providers to Provide (or Facilitate) Access to MAT

Despite strong clinical evidence in favor of MAT, many substance use disorder treatment facilities do not offer it, reflecting in part a persistent belief that such medications simply substitute one addictive substance for another. Manatt's analysis of the 2017 National Survey of Substance Abuse Treatment Services (N-SSATS) found that only 41% of facilities participating in Medicaid providing outpatient treatment, and 46% of facilities participating in Medicaid and providing residential nonhospital treatment, offer any type of MAT. See **The Opioid Epidemic: A National Snapshot; Table 10. Number and Percent of Medicaid Participating Outpatient and Residential SUD Facilities Providing MAT, by State, 2017.**[34] In some instances, SUD providers will even refuse to treat individuals who are receiving MAT from a different provider, a practice that is drawing growing legal scrutiny.[35] The federal government is addressing this issue through both guidance and a provision in the SUPPORT Act indicating that it expects residential treatment facilities to provide access to MAT as a condition of receiving Medicaid funding.[36]

State Medicaid agencies also have levers to ensure that SUD providers facilitate MAT access. State Medicaid agencies can work in close partnership with their substance abuse or behavioral health sister agencies that license or certify SUD providers to require the direct provision (or facilitation) of MAT as a condition of licensure and certification and to offer support to providers and plans in meeting such requirements. Missouri has taken this approach as part of a long-term campaign to increase access to MAT through a combination of support, training and new requirements. Alternatively—or in addition—the Medicaid agency could directly require that SUD providers offer MAT (or facilitate access to it) as a condition of receiving Medicaid payment for any services provided to Medicaid enrollees. It is important to pair these increased requirements to offer MAT with provider supports and policies that facilitate offering MAT as discussed in **Implementation Strategy 1.5: Provide Training and Expert Support to Primary Care Providers That Offer Outpatient MAT** and **Implementation Strategy 2.1: Promote Coordinated Team-Based Care for OUD Treatment**. Based on the experiences of states such as Missouri, it is clear that efforts to implement such a change likely will work better if the state adopts a combination of "carrots" (e.g., enhanced payment for offering MAT) and "sticks" (e.g., requiring the provision of MAT as a condition of licensure or payment); the effort is backed by a broad array of stakeholders; and SUD providers are offered a transition period and support in developing the expertise required to meet the requirements. Such steps will make it less likely the state will need to pursue an exemption from the requirement to cover all forms of MAT in the SUPPORT Act, due to provider shortages.

Action Steps

- Work with partner agencies in the state, like the behavioral health or substance abuse agency, to explore the feasibility of **requiring all SUD programs or facilities to provide or facilitate access to MAT as a condition of licensure and certification**.
- **Develop and release Medicaid policy guidance requiring providers to provide or facilitate access to MAT** as a condition of continuing to receive Medicaid payments.
- **Offer SUD providers education, support and training on the use of MAT** to increase the feasibility of implementing requirements to use or facilitate access to MAT.
- **Explore partnerships with local behavioral health provider organizations, the state medical society and others to provide ongoing training and technical assistance to SUD providers.** These efforts can be financed with Medicaid administrative funds[37] or built into the rate-setting process for SUD providers.
- **As appropriate, adjust payment rates to account for administrative costs associated with providing MAT** (following up on labs, outreach to pharmacies, scheduling for nurses and doctors).

State Examples

- **Missouri.** Several decades ago Missouri's Department of Mental Health (DMH) implemented a policy that, as a condition of certification in the state, SUD agencies must offer or arrange for MAT. The state increased enforcement of the policy eight years ago, beginning with data analysis to determine which agencies were offering MAT, identify the number of patients they were treating, and assess the extent to which they were treating patients with OUD and alcohol use disorder. The state took an incremental approach, allowing SUD agencies to keep their existing provider network while expanding access to MAT, and working with them over time to come into compliance with the policy. By using a steady but gradual approach, and providing support and training to providers, the state was able to bring all SUD agencies in the state into compliance, and the agencies now are either directly providing or arranging for MAT.[38]

Exhibit 8. Extract From Missouri DMH Memo re: Certification Requirements for Medication-Assisted Treatment

For many years we have been saying that to remain certified and contracted with DMH, an agency must offer to arrange for MAT. This means ensuring the availability of ALL forms of MAT for Opioid Use Disorders and Alcohol use Disorders, including buprenorphine products (e.g., Suboxone), injectable naltrexone (Vivitrol), oral naltrexone, acamprosate, and disulfirum. The one exception is methadone, which can be administered only in certified Opioid Treatment Programs.

Not only must an agency offer or arrange for MAT, but it must be delivered in a way that is supported by evidence. For example, we have recently become aware that in some agencies, buprenorphine products are used only in a defined, time limited regimen, even though the evidence shows that for some individuals, a longer course of therapy ("maintenance") is clinically appropriate and leads to better outcomes.

The point is that we will be looking not just at whether MAT is offered, but also whether it is delivered in a manner consistent with evidence based practice.

We are identifying agencies that we believe are not meeting the requirements for MAT and will notify them. In the next 12 months, any of those agencies that do not show progress in advancing MAT will be required, at a minimum, to submit plans of correction. We will also offer on site training and technical assistance. After that, agencies that do not improve will be placed on CONDITIONAL certification and may ultimately lose certification. **Department Director Mark Stringer and Division Director Rick Gowdy have instructed that, after taking the steps above, we discontinue contracting with agencies that do not adequately offer this evidence based intervention to individuals for whom it is clinically appropriate and potentially lifesaving.**

Source: Bock, Nora, "Certification Requirements for Medication Assisted Treatment," State of Missouri Department of Mental Health, October 25, 2016.

- **California.** In a California Health Care Foundation (CHCF)-funded study, the San Francisco Department of Public Health implemented academic detailing and cut opioid-related emergency department visits by nearly half among patients who were co-prescribed naloxone. Academic detailing relies on conducting intensive, office-based outreach with providers, sharing evidence-based information on opioid safety and naloxone prescribing.[39] Academic detailing resources developed as part of this project include a Provider Guide to prescribing naloxone for patients who use opioids.

Implementation Strategy 1.5: Provide Training and Expert Support to Primary Care Providers That Offer Outpatient MAT

Increasing the number of primary care providers (PCPs) who prescribe MAT is a critical strategy for expanding access to OUD treatment, especially in rural areas where PCPs often are the main source of healthcare. Understandably, providers who are inexperienced in treating SUDs have concerns about their ability to take on this new type of care. Persistent stigma among providers about taking patients with SUDs remains a barrier to treatment access. But leader states note that many providers are unaware that they are

already treating patients with SUD or OUD, and alerting them to the presence of patients with OUD in their practice, and encouraging them to begin providing MAT to these and other patients, can be an effective strategy.

Initiatives and programs that connect PCPs to SUD experts for clinical training, advice and guidance can leverage and expand the limited capacity of SUD-focused providers. States can look to a number of different models to connect PCPs to SUD experts who can back them up and offer support in providing MAT and serving patients with SUD. These include the hub-and-spoke model, Project ECHO and MCO-driven technical assistance. All of these models aim to reduce provider concerns about and improve provider capacity related to taking on new, complex patients. They offer PCPs opportunities to receive direct case consults (including through use of telehealth modalities), which is particularly important for PCPs who are new to providing MAT.[40] Hub-and-spoke and Project ECHO also offer a community of peers with whom providers new to MAT can learn about best practices, challenges and lessons learned. Hub-and-spoke models represent substantial infrastructure investment to select, certify and develop treatment center hubs and ongoing care spokes. California's hub-and-spoke system was funded through a 21st Century Cures Act grant totaling $44.7 million for both hub-and-spoke and a tribal MAT expansion project.[41]

Exhibit 9. Models for Connecting MAT Prescribers to SUD Experts

- **Hub and Spoke:** Centralized specialty centers or "hubs" provide both patient care and support to "spokes," which are community based providers. Hubs typically manage the most complex patients, and may initiate treatment for patients who are then transferred to spokes when they are stable.
- **Project ECHO:** Academic medical centers that provide training for community providers, sometimes through learning collaboratives. Some programs offer direct case consults. These activities are typically done virtually, through webinars, conference calls, and individual calls for case consults. Project ECHO initiatives exist for a wide variety of clinical areas. Project ECHO is also referred to as a hub and spoke system.
- **MCO Technical Assistance:** A state with managed care can require MCOs to have SUD experts on call to do individual case consults (see example from Massachusetts below).

Action Steps

- **Conduct data analysis to identify providers whose patient populations have a high or moderate prevalence of OUD**; reach out to these providers to educate them about their patients' needs and encourage them to provide MAT. Provide ongoing support as new providers become waivered and begin offering MAT.

- **Evaluate whether developing a hub-and-spoke system is a viable option.** Developing and launching a hub-and-spoke system will require substantial effort and investment of funds and staff time, but it can offer support to frontline MAT providers and also directly expand the network of SUD specialty providers available to treat particularly complex patients.
- **Work with academic medical centers to expand existing Project ECHO programs to include MAT** support, or to develop new programs specifically on SUD treatment.
- **Consider Medicaid funding options for Project ECHO.** Require MCOs to contract with the Project ECHO site for MAT or identify Project ECHO as an option for MCO in lieu of value-added benefits.[42] States may also be able to use Medicaid administrative funds to cover some ongoing Project ECHO costs by directly contracting with Project ECHO sites to provide training to Medicaid-participating providers.[43]
- **Review and update as necessary state Medicaid coverage and payment policies** to encourage broad adoption of tele-behavioral health services, including linking members with SUDs to outpatient counseling and providers who can prescribe MAT.
- **Revise managed care contract language** to require MCOs to have a licensed physician who is an expert on MAT available for case consults during standard business hours, and conduct widespread dissemination to their provider networks about this available support.

State Examples

- **West Virginia.** West Virginia officials run data analyses to flag provider specialties that have patient populations with a high prevalence of SUDs. They then conduct personalized outreach to providers to encourage them to prescribe suboxone. This process has successfully expanded the number of providers, including obstetrician/gynecologists (a targeted provider type), offering MAT. During the outreach process, state officials learned that some providers they contacted already wanted to prescribe MAT, but had concerns about beginning to provide treatment. The state's proactive outreach and assistance helped them to overcome this barrier.[44]
- **Vermont.** Vermont's hub-and-spoke system pairs regional specialty OUD treatment centers that provide intensive treatment ("hubs") with support teams of community healthcare professionals offering MAT ("spokes"). Spokes are generally outpatient medical and specialty offices. Spokes receive direct staff support through Vermont's Blueprint for Health Community Health Teams. For every 100 Medicaid patients receiving MAT at a spoke practice, the Department of Vermont Health Access pays the cost of one nurse and one licensed mental health/addiction counselor to support the prescribing providers.[45] Hubs offer more intensive treatment and handle more difficult cases, often initiating treatment and then transferring the patient to a spoke when they are stable. Spoke providers have the ability to transfer patients back to the hub, should they become destabilized.[46] Hubs also offer ongoing trainings and consultation to spoke providers. In Vermont, Medicaid health home payments, authorized through a state plan amendment are a critical funding source for the program: Hubs receive a monthly bundled payment rate, and spokes receive a per-member per-month payment. Exhibit 10 below provides additional details on payments under the Hub and Spoke Model. Hubs also receive grant funds in addition to Medicaid dollars to pay for outreach and services not included in the hub bundle.[47]

Exhibit 10. Vermont's Payment Methodology for Hub-and-Spoke

Hub & Spoke Provider	Payment Mechanism	Purpose of Payment
Physician	Fee-for-Service payment, under current Medicaid State Plan.	MAT (buprenorphine & methadone).
Nurse + Clinician Case Manager	**Hub**: % of monthly rate per patient for health home services. **Spoke**: Capacity payment to Blueprint administrative entity, based on numbers of unique patients receiving buprenorphine.	Care management, care coordination, transitions of care, health promotion, individual and family support, and referral to community services.

Source: State of Vermont, "Concept For Medicaid Health Home Program," October 2, 2012, https://blueprintforhealth.vermont.gov/sites/blueprint/files/BlueprintPDF/AnnualReports/SupportingDocuments/VT_SPA_Concept_Paper_final_CMS_10_02_12.pdf.

- **Massachusetts.**
  - The Massachusetts Consultation Service for the Treatment of Addiction and Pain (MCSTAP) offers PCPs free telephone consultations Monday through Friday on safe prescribing and managing care for patients with chronic pain, SUD or both. The program, developed through legislation, is funded through appropriations and surcharges on commercial insurers, and is run by the Executive Office of Health and Human Services. MCSTAP consultations can provide support around topics such as prescribing buprenorphine or naltrexone, overall management plan for complex and challenging cases, and questions related to caring for pregnant women with SUDs.[48] Exhibit 11 below provides additional details about MCSTAP.

Exhibit 11. Details About Physician Consultation Through Massachusetts' MCSTAP Program

Physician consultation: After being notified by the resource and referral specialist about a request for consultation, the physician consultant will call the provider within 30 minutes, or at a time specified by the provider. The physician consultant will ask the provider about the presenting issue and a summary of the patient's history. The consultation may involve diagnostic support, guidance related to prescribing new medications or adjusting current medications, treatment planning, and community support needs. The physician consultant will collaborate with the provider to identify next steps and will ask if the provider would like a follow up call in the future.

Source: MCSTAP, "How MCSTAP Works," 2019, https://www.mcstap.com/Providers/HowMCSTAPWorks.aspx.

  - MassHealth, Massachusetts' Medicaid program, recently issued a policy to cover and pay for tele-behavioral health services for its members. Community health centers, community mental health centers and outpatient substance use disorder providers are eligible for Medicaid reimbursement for tele-behavioral health. The goals of the policy include linking members with SUD to outpatient counseling and to providers who offer MAT, and offering services to members who live in rural areas with a dearth of providers.[49] Providers must adhere to best practices set out by the state when delivering tele-behavioral health services (see Exhibit 12 below).

Exhibit 12. MassHealth Requirements for Delivery of Tele-Behavioral Health Services

Requirements for Telehealth Encounters

Providers must adhere to and document the following best practices when delivering services via telehealth.

1. Providers must properly identify the patient using, at a minimum, the patient's name, date of birth, and MassHealth ID.
2. Providers must disclose and validate the provider's identity and credentials, such as the provider's license, title, and, if applicable, specialty and board certifications.
3. For an initial appointment with a new patient, the provider must review the patient's relevant medical history and any available medical records with the patient before initiating the delivery of the service.
4. For existing provider patient relationships, the provider must review the patient's medical history and any available medical records with the patient during the service.
5. Prior to each patient appointment, the provider must ensure that the provider is able to deliver the service to the same standard of care and in compliance with licensure regulations and requirements, programmatic regulations, and performance specifications related to the service (e.g., accessibility and communication access) using telehealth as is applicable to the delivery of the services in person. If the provider cannot meet this standard of care or other requirements, the provider must direct the patient to seek in person care. The provider must make this determination prior to the delivery of each service.
6. Providers must ensure the same rights to confidentiality and security as provided in face to face services.
7. Providers must follow consent and patient information protocol consistent with those followed during in person visits.
8. Providers must inform patients of the location of the provider rendering services via telehealth (i.e., distant site) and obtain the location of the patient (i.e., originating site).
9. The provider must inform the patient of how the patient can see a clinician in person in the event of an emergency or as otherwise needed.

Source: Tsai, Daniel, "MassHealth All Provider Bulletin 281: Access to Behavioral Health Services Through Use of Telehealth Options," Commonwealth of Massachusetts Executive Office of Health and Human Services Office of Medicaid, January 2019, https://www.mass.gov/files/documents/2019/01/23/all-provider-bulletin-281.pdf.

2.0 Strategies to Promote Coordinated Team-Based Care for Opioid Use Disorder (OUD)

Individuals with an OUD often confront an array of physical health, mental health, substance use and related psychosocial challenges. In response, a number of states have used Medicaid to promote coordinated, team-based care for OUD treatment, following the research indicating that effective team-based care can improve outcomes for a range of complex health conditions.[50,51,52,53,54,55] In the context of OUD, team-based care generally consists of the following:[56]

- A physician, nurse practitioner or other physical health provider who is authorized to prescribe the medications used in MAT
- A mental health or substance use professional, such as a licensed substance use counselor
- A care manager who can offer "high touch" support in navigating health and social services, particularly for those with more severe OUDs
- A peer support specialist or community health worker who has some shared experiences with the individuals served by the program

States can modify the configuration of team members to respond to state-specific access gaps or needs, or vary the way that team-based care is implemented (e.g., allow telemedicine in addition to or instead of co-location of mental health and SUD professionals in rural areas). Regardless, the foundation of the approach is a coordinated team that includes professionals with expertise on the physical health, mental health, SUD and psychosocial elements of an individual's experience.[57]

Implementation Strategy 2.1: Promote Coordinated Team-Based Care for OUD Treatment

Team-based care can increase patient satisfaction and contribute to better outcomes, but it is challenging to implement for a host of reasons.[58,59] States pursuing this strategy will need to develop and issue clear policy to providers on the parameters and requirements of OUD team-based care and operationalize a process to certify practices that meet team-based care requirements. States may also consider developing a program to provide capacity-building support and ongoing technical assistance to practices interested in team-based care. As an additional mechanism for capacity building and incentivizing providers to build teams around OUD treatment, states may consider establishing enhanced reimbursement for team-based OUD treatment, including payment for case management services. States can also work with their providers and managed care plans to assess and develop strategies for coordinating team-based care services with other Medicaid case management services (e.g., MCO or health home care management programs) to avoid duplicate

payment and confusion for members. Finally, to facilitate team-based care, states can assess and modify regulations and policies that impede billing team-based care, such as restrictions on billing for a physical health visit and a behavioral health visit on the same day.

Action Steps

- **Establish the state's definition of team-based care** for OUD treatment—including, for example, required and optional team members, team-based care services (e.g., case management), licensure and certification requirements, and panel size standards—and integrate the definition into clinical guidelines and reimbursement policies. Draw on successful models from within the state and the research and evidence available on the key elements of team-based care.[60]
- **Review (or develop) a State Plan Amendment (SPA) authorizing reimbursement for peer support** specialists, as allowed under federal law.[61,62]
- **Create a process for certifying qualified teams** to ensure that they meet state standards (e.g., verify that the team includes a waivered physician) and gather data on the number of individuals that teams can serve.
- **Review Medicaid reimbursement policy and increase payment to those providers meeting state standards** for team-based OUD treatment; require Medicaid managed care plans to conform to the enhanced payment standards; and update any codes as needed to ensure that case management services are covered as part of team-based opioid treatment.
- **Consider leveraging Medicaid funds to provide training and practice support** to providers as they initially become team-based care providers. States can do so by building training costs into their reimbursement rates.[63]
- **Evaluate whether to adopt or expand usage of health homes** as a tool for financing and supporting team-based care.

State Examples

- **Virginia.** As part of a comprehensive review in 2017 of its substance use benefit, Virginia established enhanced reimbursement for team-based care for OUD treatment. Known as preferred office-based opioid treatment (OBOT) providers, the teams deliver addiction treatment services to individuals with moderate to severe OUDs. Preferred OBOT teams must include a buprenorphine-waivered practitioner working in collaboration and co-located with a licensed psychologist, a social worker or another credentialed addiction treatment practitioner. Moreover, the teams must meet state-defined expectations for the way that MAT is delivered including dosage maximums, use of random urine drug screens, use of the state's prescription drug monitoring program at least quarterly, and regular weekly visits during initiation of MAT. Providers with preferred or "gold card" status can bill for certified peer recovery specialists and substance use care coordination, can receive higher reimbursement rates for opioid counseling, and do not have prior authorization requirements for buprenorphine products.[64] In the first ten months of implementing its new approach to SUD treatment, including use of preferred OBOTs, Virginia saw a 64% increase in treatment rates, drops in emergency department visits for SUDs (-14%) and OUDs (-24%), and declines in the number of members with hospitalizations for SUDs (-4%) and OUDs (-6%).[65] Some resources developed by Virginia to implement its policy include:

- **Established standards and registration procedures for OBOT**, which were outlined in a special supplement to the provider manual and disseminated through public presentations
- **Increased reimbursement rates generally for SUD treatment and established enhanced rates for preferred OBOT practices** through an updated fee schedule
- **Clarified and updated MAT codes and prior authorization requirements**, including identification of when MAT can be billed separately when delivered in combination with other services; see Tables 1 and 2 of the state's memo to providers on these issues
- An established process for **measuring and evaluating outcomes** for OBOTs and the broader set of changes adopted as part of the state's 2017 overhaul of its substance use benefit
- **Pennsylvania.** Pennsylvania's 45 Centers of Excellence (COEs) for Opioid Use Disorder use community-based care management teams including diverse providers, such as licensed clinical social workers, counselors, peer navigators, physicians, nurses and care managers. Care management teams work together to ensure client needs are coordinated across OUD care, mental health care, physical health care, and a variety of social needs including job training, housing and transportation support, and education services.[66]

Implementation Strategy 2.2: Establish a Health Home for Individuals With OUDs

Under an option included in the Affordable Care Act (ACA), states can establish a health home that provides coordinated medical care, mental health and substance use services, long-term services and supports, and community-based social services for Medicaid beneficiaries with complex healthcare needs, including those with an opioid use disorder. According to CMS, "health homes integrate physical and behavioral health (both mental health and substance abuse) and long-term services and supports for high-need, high-cost Medicaid populations. By better coordinating care and linking people to needed services, health homes are designed to improve health care quality and reduce costs."[67] The ACA provides states a 90% federal matching rate for up to eight calendar year quarters for health homes. A provision in the SUPPORT Act allows states that secure approval for a health home for individuals with SUD after October 1, 2018, to receive the enhanced matching rate for up to ten quarters under certain conditions.[68] As of August 15, 2019, five states have implemented a health home for individuals with OUD (see **The Opioid Epidemic: A National Snapshot** and **Table 7. Medicaid Health Home Programs Targeting Individuals With an OUD**).

Action Steps

- Assess whether a health home option is consistent with the state's opioid strategy, taking into account the availability of enhanced matching funds for team-based care, as well as the costs associated with establishing a health home and meeting various reporting and quality requirements.
- To pursue a health home for individuals with substance use disorders, **submit to CMS a new health home state plan amendment that is "SUD focused"** along with a formal request for enhanced funding. CMS already has indicated that one way a state can establish that its health home is "SUD focused" is by including a MAT provider as part of the team structure.

- **Work with providers to establish the health home**, including by developing strategies for identifying individuals who are eligible for the health home and connecting them to the available support.

State Examples

- **Maine.** Using health homes SPA authority, Maine has established the MaineCare Opioid Health Home (OHH), a statewide health home specifically for individuals with opioid use disorders. It offers support through a multidisciplinary team of providers, including a clinical team lead, MAT prescriber, nurse care manager, opioid dependency clinical counselor and peer recovery coach. Beneficiaries have the option to enroll and can opt out at any time.[69]

Exhibit 13: Excerpt from Maine Health Homes SPA

> "The OHH initiative is an innovative model providing comprehensive, coordinated care focused on serving MaineCare members with opioid dependency who are receiving Medication Assisted Treatment (MAT) in the form of buprenorphine, buprenorphine derivatives, and/or naltrexone. In addition to expanding access to treatment for an individual's opioid use disorder, the OHH integrates physical, social, and emotional supports to provide holistic care. This model is based on a multidisciplinary team approach consisting of a clinical team lead, MAT prescriber, nurse care manager, clinical counselor, patient navigator, and peer recovery coach. The OHH must be a community based provider in Maine, preferably licensed to provide substance use disorder services. It is expected that the OHH program will not only result in more individuals receiving opioid use disorder treatment but will also lead to improvements in the quality of care they are receiving."

Source: MaineCare, "Health Homes State Plan Amendment: ME-17-006," Submitted June 6, 2017, Effective October 1, 2017.

3.0 Strategies to Monitor and Evaluate OUD Interventions on an Ongoing Basis

As states deploy a broad range of strategies to fight the opioid and broader SUD epidemics, monitoring and evaluating the impact of these strategies are critical. Regular monitoring and evaluation can help determine which strategies are most impactful, allowing state officials to allocate limited resources (funding and staff time) wisely, and providing a critical input into future planning and investment. Close examination of impacts may also reveal unintended consequences that inform modifications to or even discontinuance of strategies for which harm outweighs the benefits. For example, limits to the number of days or the dosage of opioid prescriptions, widely implemented nationwide, have had well-documented consequences of negatively impacting chronic pain patients and even being blamed for suicides by chronic pain patients unable to get adequate pain relief.[70,71]

Publishing state monitoring, evaluation and other assessment results informs the national evidence base on OUD and SUD interventions which state and federal officials can use when setting new policy and budget priorities. States with SUD 1115 waivers are required as a condition of their waivers to conduct ongoing monitoring, and do summative evaluations, following detailed CMS requirements. The framework that states put into place to meet demonstration monitoring and evaluation requirements can in many cases be leveraged to measure the impacts of non-waiver SUD policies.

Exhibit 14. Monitoring Versus Evaluation

Monitoring entails review of information on an immediate and ongoing basis. It is used to determine how an intervention is unfolding, and whether policies should be tweaked to address unintended consequences or facilitate smoother implementation. Monitoring usually looks at descriptive statistics, and is typically done by program staff.

Evaluation is done at set intervals, often the midpoint and end of a demonstration program, or yearly for other types of interventions. It is used to determine whether hypotheses about impacts have occurred, and to assess whether impacts can be attributed to the intervention after controlling for other factors. It is often done by independent outside entities, but may also be done by program staff, and uses more rigorous methodologies such as regression modeling.

Source: Boozang, Patricia, Bachrach, Debra, and Grady, April, "Monitoring and Evaluation Work and Community Engagement Requirements in Medicaid: Data Assets, Infrastructure and Other Considerations for States," Manatt Health, February 2019, https://www.manatt.com/getattachment/bde310d2-c679-4991-a1bd-11e726368d55/attachment.aspx.

Implementation Strategy 3.1: Develop, and Implement, a Monitoring Plan

State Medicaid agencies can implement monitoring, using descriptive statistics to review trends over time, to assess the overall performance of the Medicaid program in relation to OUDs. Monitoring can also be used to gain early insights into the impact of Medicaid strategies to address SUD, such as if ED visit rates for SUDs decrease after an ED diversion program is implemented.

CMS guidance on SUD 1115 demonstration monitoring includes a robust set of required and recommended monitoring metrics developed by CMS in collaboration with states and SUD subject matter experts. The metrics use many standard measures, such as those endorsed by the National Quality Forum and the Medicaid Child and Adult Core Set, and can all be calculated using Medicaid administrative data. These measures are an appropriate list from which state officials can choose to monitor a wide variety of SUD and OUD policies.[72] Examples of SUD 1115 waiver monitoring metrics include:[73]

- Number of beneficiaries receiving MAT
- Initiation and engagement of alcohol and other drug abuse or dependence treatment, for all individuals with SUD, and for people with OUD (CMS Adult Core Set Measure)
- Concurrent use of opioids and benzodiazepines (CMS Adult Core Set Measure)

- Continuity of pharmacotherapy for opioid use disorder
- ED visits for SUD per 1,000 beneficiaries
- Overdose death rate

Once states define key metrics, they can set up standard reports run at regular intervals (such as quarterly) to measure and compare results over time. States should also consider specific reports for special populations (pregnant women, adolescents, people with an IDD), as well as regional metric reports. These reports can be reviewed to assess impacts of policies and potential issues with their implementation. For example, if there is a sudden decline in the number of Medicaid enrolled beneficiaries receiving MAT, officials may investigate potential causes such as a drop in the number of providers offering MAT, closure of a key SUD provider, or changes to MCO policies that create barriers MAT.

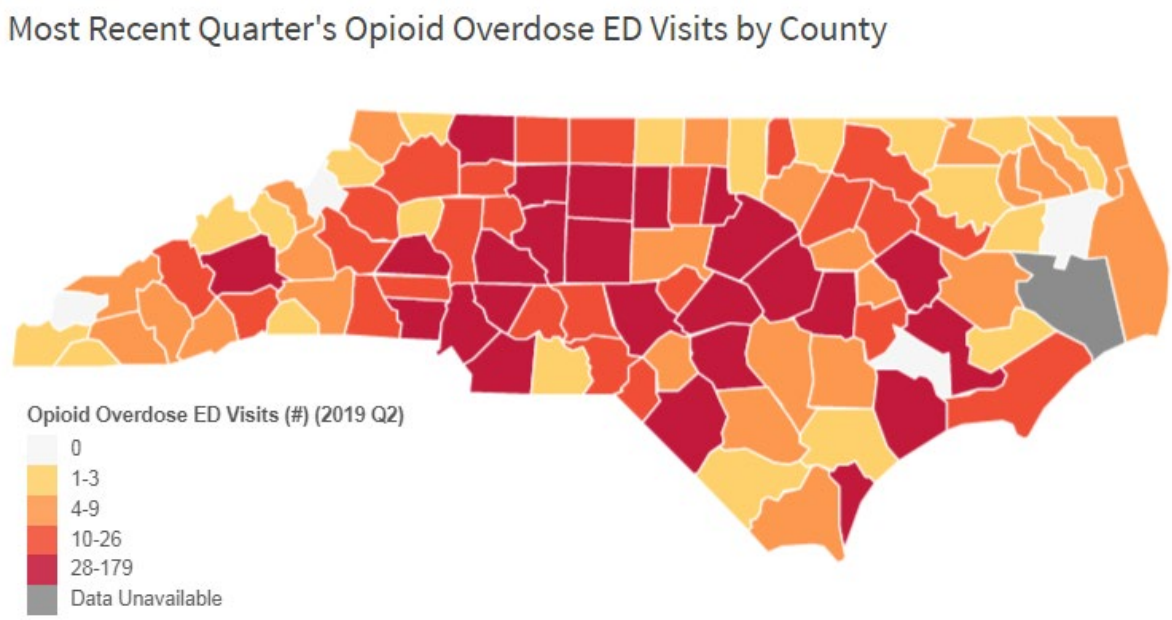
Action Steps

- **Develop a monitoring plan** by selecting metrics for monitoring Medicaid's overall performance fighting the SUD and OUD epidemics, leveraging Monitoring Metrics for 1115 SUD Waivers. Create and run quarterly reports or create a dashboard, looking at trends over time and with break-outs for key subpopulations and regions.
- **Use lessons learned from monitoring metrics and evaluations to modify current policies and programs, and to inform future planning.**

State Examples

- **North Carolina.** The state's Opioid Action Plan Data Dashboard is used for ongoing monitoring of goals outlined in the state's Opioid Action Plan. The dashboard provides visualizations of each metric, displaying rates at the county level, on 13 measures including opioid overdose deaths, ED visits for opioid overdoses, concurrent benzodiazepine and opioid prescriptions, and the number of buprenorphine prescriptions (see Exhibit 15 below). The dashboard is very timely; as of August 2019, 2019 Q1 data were available for many of the measures. The dashboard's detailed technical notes on the methodology behind the measures, along with contextual text displayed alongside the visualizations, make the dashboard easy to use and understand.[74]

Exhibit 15. Visualization From North Carolina's Opioid Action Plan Data Dashboard



Source: "NC Opioid Action Plan Data Dashboard," North Carolina Department of Health and Human Services, https://injuryfreenc.shinyapps.io/OpioidActionPlan/.

Implementation Strategy 3.2: Partner With Foundations and Academic Researchers to Fund and Conduct Evaluations of SUD Program Interventions

States can seek partnerships with foundations and academic researchers to evaluate their non-waiver SUD interventions. Evaluation will provide states with more in-depth analysis, and make it possible to draw conclusions about causes and effects. Evaluations aim to determine if specific, desired or hypothesized outcomes related to a particular policy have been achieved. By using rigorous, science-based methodologies, evaluation aims to determine if a given policy or program had a particular impact. For example, when considering the number of ED visits per 1,000 members for monitoring purposes, state officials may look to see if this measure trends downward. In considering the same measure in an evaluation, researchers would seek to determine whether a particular intervention led to a reduction in ED visits by using either a control group or other statistical methods that control for other factors impacting the number of ED visits. By partnering with academic researchers to conduct robust evaluations of selected state policy changes to fight SUD and OUD, and sharing these results, state officials will have stronger evidence of which policies are working than can be determined by monitoring alone.

States that partner with universities on evaluation or research can participate in learning and research networks that help support state-university partnerships. The State University Partnership Learning Network (SUPLN), managed by AcademyHealth with support from the Patient-Centered Outcomes Research Institute, facilitates peer-to-peer learning and dialogue among state-university partnerships through meetings and

bimonthly web conferences with the goal of improving the cost and quality of care of the Medicaid program. Twenty-seven partnerships across 23 states currently participate.[75] Participating partnerships must draft or have a contract/interagency agreement that spans at least one year between a state or state-related university research center and a state Medicaid agency and/or any state governmental entity that works on the Triple Aim with Medicaid as a principal partner.[76] The Medicaid Outcomes Distributed Research Network (MODRN) is a new initiative developed by members of SUPLN and the Medicaid Medical Director Network. Under MODRN, each state-university partnership adopts a common data model, contributes to a common analytic plan, and conducts analyses locally on their own Medicaid data using standardized code developed by the data coordinating center. Finally, the state-university partners provide aggregate results, not data, to the data coordinating center, which synthesizes the aggregate findings from multiple states for reporting. MODRN's first project assessed OUD treatment quality and outcomes in Medicaid, working with nine states (KY, MD, MI, NC, OH, PA, VA, WV and WI) to inform policy decisions on coverage of OUD treatments in Medicaid. MODRN analyzed 20 access, quality and outcomes measures, and found there is significant variation in access and quality of treatment for OUD across Medicaid programs.[77]

Action Steps

- **Explore partnerships with foundations and academic researchers** to fund and conduct evaluations of SUD and OUD program interventions to build the evidence related to efficacy of various strategies.
- **Consider joining cross-state learning and research networks** to engage in peer-to-peer learning with other state officials, and contribute to the evidence base on the Medicaid program.

State Example

- **Vermont.** The Vermont Center on Behavior and Health, at the University of Vermont conducted an evaluation of Vermont's Hub and Spoke System. The evaluation was funded through CDC and SAMHSA grants, and used a mix of qualitative and quantitative methods. Evaluation findings included that the Hub-and-Spoke system has expanded access to MAT, and participation in MAT was associated with a large reduction in ED visits and overdoses. The evaluation also provided recommendations on areas for improvement, including increasing access to MAT in spokes, increasing access to mental health services, and developing an addiction workforce plan for Vermont to address high turnover among counselors at hubs.[78]

Appendix

The Opioid Epidemic: A National Snapshot

Table 1. Number of Opioid Overdose Deaths, and Rates per 100,000, by State CY 2016 and 2017

State	2016		2017		
	Number	Rate	Number	Rate	
AK	–	12.5	–	13.9	*
AL	–	7.5	–	9.0	*
AR	769	11.4	928	13.5	
AZ	94	12.5	102	13.9	
CA	2,012	4.9	2,199	5.3	
CO	536	9.5	578	10.0	
CT	855	24.5	955	27.7	
DC	209	30.0	244	34.7	
DE	–	16.9	–	27.8	
FL	–	14.4	–	16.3	*
GA	918	8.8	1,014	9.7	
HI	77	5.2	53	3.4	
IA	183	6.2	206	6.9	
ID	–	7.4	–	6.2	*
IL	1,947	15.3	2,202	17.2	
IN	–	12.6	–	18.8	*
KS	–	5.1	–	5.1	*
KY	989	23.6	1,160	27.9	
LA		7.7		9.3	*
MA	1,990	29.7	1,913	28.2	
MD	1,821	29.7	1,985	32.2	
ME	301	25.2	360	29.9	
MI	1,762	18.5	2,033	21.2	
MN	396	7.4	422	7.8	
MO	914	15.9	952	16.5	
MS	–	6.2	–	6.4	*
MT	–	4.2	–	3.6	*
NC	1,506	15.4	1,953	19.8	
ND		7.6		4.8	*
NE		2.4		3.1	*
NH	437	35.8	424	34.0	
NJ	–	16.0	–	22.0	*
NM	349	17.5	332	16.7	
NV	408	13.3	412	13.3	
NY	3,009	15.1	3,224	16.1	
OH	3,613	32.9	4,293	39.2	
OK	444	11.6	388	10.2	
OR	312	7.6	344	8.1	
PA		18.5		21.2	*
RI	279	26.7	277	26.9	
SC	628	13.1	749	15.5	
SD	–	5.0	–	4.0	
TN	1,186	18.1	1,269	19.3	
TX	1,375	4.9	1,458	5.1	
UT	466	16.4	456	15.5	
VA	1,130	13.5	1,241	14.8	
VT	101	18.4	114	20.0	
WA	709	9.4	742	9.6	
WI	866	15.8	926	16.9	
WV	733	43.4	833	49.6	
WY	–	8.7	–	8.7	*

Primary Source: CDC, "Drug and Opioid-Involved Overdose Deaths - United States 2013-2017, Morbidity and Mortality Weekly Report," January 4, 2019, https://www.cdc.gov/mmwr/volumes/67/wr/mm675152e1.htm?s_cid=mm675152e1_w#T1_down.

* Data were not available in the primary source. Statistic is based on Kaiser Family Foundation analysis of Centers for Disease Control and Prevention (CDC), National Center for Health Statistics. Multiple Cause of Death 1999-2017 on CDC WONDER Online Database, released 2018. Data are from the Multiple Cause of Death Files, 1999–2017, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program.

Table 2. Ranking of 2017 Opioid Overdose Deaths per 100,000

Rank	State	Rate
1	WV	49.6
2	OH	39.2
3	DC	34.7
4	NH	34.0
5	MD	32.2
6	ME	29.9
7	MA	28.2
8	KY	27.9
9	DE	27.8
10	CT	27.7
11	RI	26.9
12	NJ	22.0*
13	MI	21.2
14	PA	21.2*
15	VT	20.0
16	NC	19.8
17	TN	19.3
18	IN	18.8*
19	IL	17.2
20	WI	16.9
21	NM	16.7
22	MO	16.5
23	FL	16.3*
24	NY	16.1
25	SC	15.5
26	UT	15.5
27	VA	14.8
28	AK	13.9*
29	AZ	13.9
30	AR	13.5
31	NV	13.3
32	OK	10.2
33	CO	10.0
34	GA	9.7
35	WA	9.6
36	LA	9.3*
37	AL	9.0*
38	WY	8.7*
39	OR	8.1
40	MN	7.8
41	IA	6.9
42	MS	6.4*
43	ID	6.2*
44	CA	5.3
45	KS	5.1*
46	TX	5.1
47	ND	4.8*
48	SD	4.0
49	MT	3.6*
50	HI	3.4
51	NE	3.1*

Primary Source: CDC, "Drug and Opioid-Involved Overdose Deaths - United States 2013-2017, Morbidity and Mortality Weekly Report," January 4, 2019, https://www.cdc.gov/mmwr/volumes/67/wr/mm675152e1.htm?s_cid=mm675152e1_w#T1_down.

* Data were not available in the primary source. Statistic is based on Kaiser Family Foundation analysis of Centers for Disease Control and Prevention (CDC), National Center for Health Statistics. Multiple Cause of Death 1999-2017 on CDC WONDER Online Database, released 2018. Data are from the Multiple Cause of Death Files, 1999–2017, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program.

Table 3. States With Medicaid Prior Authorization Requirements for Medications for Opioid Use Disorders, 2016–2017

State	Oral Naltrexone	Extended Release Naltrexone	Buprenorphine	Implantable Buprenorphine	Extended Release Buprenorphine	Buprenorphine Naloxone	Methadone
Total States With Prior Authorization Requirements	**7**	**18**	**39**	**26**	**25**	**30**	**3**
Total States Without Prior Authorization Requirements	**40**	**26**	**12**	**3**	**7**	**21**	**3**
Total Unknown	**4**	**7**	**0**	**22**	**19**	**0**	**45**
AK			X	X	–	X	–
AL			X	X		X	–
AR	X	–	X	–	–	X	–
AZ				–	–		–
CA							–
CO		X	X	–	X	X	–
CT				–	–		X
DC		X	X	X	X		–
DE		X		–			–
FL		X	X	–	–	X	–
GA				–	–		–
HI		–		–	–		–
IA		–	X	–	–	X	–
ID	X	X	X	X	X	X	–
IL							–
IN			X	–	X	X	–
KS			X	X	–		–
KY		X	X	X	X	X	–
LA		X	X	X	–		–
MA			X	X	X	X	–
MD		X		–	X		–
ME			X	X	X	X	X
MI			X	X	X	X	–
MN		X	X	X	X	X	–
MO	X	X	X	X	X	X	–
MS		X		X	X		–
MT	–	X	X	–	–	X	–
NC			X	X			X
ND	X		X	X	X	X	–
NE		–	X	–	–		–
NH	X		X	X	X		–
NJ		–		X		X	
NM			X	X		X	–
NV	X	X	X	–	–	X	–
NY			X	X	X	X	–
OH		X	X	X	X	X	–
OK	–	–	X	X	–	X	–
OR			X	–	–		–
PA			X	X	X	X	–
RI		X		X	X		
SC				X	X		–
SD	–	–	X	–	–	X	–
TN	X	X	X	–	–	X	–
TX		X	X	–	–	X	–
UT		X	X	–	X		–
VA			X		X	X	–
VT			X	X	X		–
WA			X	X	X		–
WI			X	–	X	X	–
WV	–		X	–	X	X	
WY			X	–	–	X	–

Source: SAMHSA, "Medicaid Coverage of Medication-Assisted Treatment for Alcohol and Opioid Use Disorders and of Medication for the Reversal of Opioid Overdose," 2018, https://store.samhsa.gov/product/Medicaid-Coverage-of-Medication-Assisted-Treatment-for-Alcohol-and-Opioid-Use-Disorders-and-of-Medication-for-the-Reversal-of-Opioid-Overdose/SMA18-5093.

Notes: Entries that are blank mean policies could clearly be determined, and prior authorization is not required. Entries with a dash indicate unknown; these are cases where policies were unclear in available documentation. In states with MCOs, the table is based on review of one MCO formulary in each state. In states without a unified formulary (where all MCOs and FFS follow a state-specified formulary), prior authorization policies may vary across MCOs, and this information is not captured.

Table 4. Other State Medicaid Restrictions on Medications for Opioid Use Disorders, 2016–2017

State	Oral Naltrexone	Extended Release Naltrexone	Buprenorphine	Implantable Buprenorphine	Extended Release Buprenorphine	Buprenorphine Naloxone	Methadone
AK			Quantity Limits or Maximum Daily Doses	Step Therapy		Quantity Limits or Maximum Daily Doses	
AL			Quantity Limits or Maximum Daily Doses		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
AR	Quantity Limits or Maximum Daily Doses		Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
AZ							
CA							
CO			Quantity Limits or Maximum Daily Doses		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
CT			Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
DC		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
DE		Quantity Limits or Maximum Daily Doses Step Therapy	Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
FL						Quantity Limits or Maximum Daily Doses Step Therapy	
GA		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
HI							
IA			Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
ID			Quantity Limits or Maximum Daily Doses Step Therapy	Step Therapy	Step Therapy	Quantity Limits or Maximum Daily Doses	
IL			Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	

Table 4. Other State Medicaid Restrictions on Medications for Opioid Use Disorders, 2016–2017

State	Oral Naltrexone	Extended Release Naltrexone	Buprenorphine	Implantable Buprenorphine	Extended Release Buprenorphine	Buprenorphine Naloxone	Methadone
IN			Quantity Limits or Maximum Daily Doses		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
KS			Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses Step Therapy		Quantity Limits or Maximum Daily Doses	
KY		Quantity Limits or Maximum Daily Doses Step Therapy	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
LA		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
MA				Step Therapy		Quantity Limits or Maximum Daily Doses Step Therapy	
MD		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
ME			Quantity Limits or Maximum Daily Doses Step Therapy	Step Therapy	Step Therapy	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses Lifetime Limit
MI			Quantity Limits or Maximum Daily Doses		Quantity Limits or Maximum Daily Doses		
MN			Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
MO	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses Step Therapy		Quantity Limits or Maximum Daily Doses	
MS		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
MT			Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	

Table 4. Other State Medicaid Restrictions on Medications for Opioid Use Disorders, 2016–2017

State	Oral Naltrexone	Extended Release Naltrexone	Buprenorphine	Implantable Buprenorphine	Extended Release Buprenorphine	Buprenorphine Naloxone	Methadone
NC		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses Step Therapy	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
ND	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
NE			Quantity Limits or Maximum Daily Doses Step Therapy			Quantity Limits or Maximum Daily Doses	
NH			Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses Step Therapy	Quantity Limits or Maximum Daily Doses Step Therapy	Quantity Limits or Maximum Daily Doses	
NJ			Quantity Limits or Maximum Daily Doses		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
NM		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
NV		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
NY		Step Therapy	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses Lifetime Limit	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
OH			Quantity Limits or Maximum Daily Doses Step Therapy		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
OK			Quantity Limits or Maximum Daily Doses Step Therapy	Quantity Limits or Maximum Daily Doses Step Therapy		Quantity Limits or Maximum Daily Doses	
OR			Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
PA		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
RI							

Table 4. Other State Medicaid Restrictions on Medications for Opioid Use Disorders, 2016–2017

State	Oral Naltrexone	Extended Release Naltrexone	Buprenorphine	Implantable Buprenorphine	Extended Release Buprenorphine	Buprenorphine Naloxone	Methadone
SC			Quantity Limits or Maximum Daily Doses Step Therapy	Quantity Limits or Maximum Daily Doses		Quantity Limits or Maximum Daily Doses	
SD			Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
TN			Quantity Limits or Maximum Daily Doses Step Therapy			Quantity Limits or Maximum Daily Doses	
TX			Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
UT	Quantity Limits or Maximum Daily Doses		Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
VA			Quantity Limits or Maximum Daily Doses		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
VT		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses		Quantity Limits or Maximum Daily Doses	
WA			Quantity Limits or Maximum Daily Doses			Quantity Limits or Maximum Daily Doses	
WI							
WV		Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses Step Therapy	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	Quantity Limits or Maximum Daily Doses	
WY			Quantity Limits or Maximum Daily Doses Step Therapy			Quantity Limits or Maximum Daily Doses	

Source: SAMHSA, "Medicaid Coverage of Medication-Assisted Treatment for Alcohol and Opioid Use Disorders and of Medication for the Reversal of Opioid Overdose," 2018, https://store.samhsa.gov/product/Medicaid-Coverage-of-Medication-Assisted-Treatment-for-Alcohol-and-Opioid-Use-Disorders-and-of-Medication-for-the-Reversal-of-Opioid-Overdose/SMA18-5093.

Note: In states with MCOs, the table is based on review of one MCO formulary in each state. In states without a unified formulary (where all MCOs and FFS follow a state-specified formulary), prior authorization policies may vary across MCOs, and this information is not captured.

Table 5. States With Medicaid Prior Authorization Requirements for Naloxone, 2016–2017

State	Naloxone	Narcan
Total With Prior Authorization Requirements	**3**	**6**
Total Without Prior Authorization Requirements	**43**	**40**
Total Unknown	**5**	**5**
AK	–	–
AL		
AR		
AZ		
CA		
CO		
CT		
DC		
DE		
FL		
GA		X
HI		–
IA		
ID	X	X
IL		
IN		
KS		
KY	X	X
LA		
MA		
MD		
ME	X	
MI		
MN		
MO		
MS		
MT		

Table 5. States With Medicaid Prior Authorization Requirements for Naloxone, 2016–2017

State	Naloxone	Narcan
NC		
ND		
NE		
NH		
NJ		
NM		X
NV		
NY		
OH		
OK	–	–
OR		X
PA		
RI		
SC		
SD		
TN	–	X
TX		
UT	–	–
VA		
VT		
WA		
WI		
WV		
WY	–	–

Source: SAMHSA, "Medicaid Coverage of Medication-Assisted Treatment for Alcohol and Opioid Use Disorders and of Medication for the Reversal of Opioid Overdose," 2018, https://store.samhsa.gov/product/Medicaid-Coverage-of-Medication-Assisted-Treatment-for-Alcohol-and-Opioid-Use-Disorders-and-of-Medication-for-the-Reversal-of-Opioid-Overdose/SMA18-5093.

Notes: Entries with a dash indicate unknown. These are cases where policies were unclear in available documentation. In states with MCOs, the table is based on review of one MCO formulary in each state. In states without a unified formulary (where all MCOs and FFS follow a state-specified formulary), prior authorization policies may vary across MCOs, and this information is not captured.

Table 6. Medicaid Enrollment Policies for Criminal Justice Involved Populations, FY 2019

	Outreach Prior to Release		Eligibility Suspension Instead of Termination	
State	Jail	Prison	Jail	Prison
Total	**34**	**39**	**36**	**38**
AK	X	X	X	X
AL	X	X	X	X
AR	X	X	X	X
AZ	X	X	X	X
CA	X	X	X	X
CO	X	X	X	X
CT	X	X	X	X
DC	X	X	X	N/A
DE	X	X	X	X
FL			X	X
GA				
HI		X		X
IA		X	X	X
ID				
IL		X		X
IN	X	X	X	X
KS	X	X		
KY	X	X	X	X
LA	X	X	X	X
MA	X	X	X	X
MD	X	X	X	X
ME			X	X
MI	X	X	X	X
MN				
MO	X	X		
MS		X		X

Table 6. Medicaid Enrollment Policies for Criminal Justice Involved Populations, FY 2019

	Outreach Prior to Release		Eligibility Suspension Instead of Termination	
State	Jail	Prison	Jail	Prison
MT	X	X	X	X
NC				X
ND		X		
NE			X	X
NH	X	X	X	X
NJ	X	X	X	X
NM	X	X	X	X
NV	X	X	X	X
NY	X	X	X	X
OH		X	X	X
OK				
OR	X	X	X	X
PA	X	X	X	X
RI	X	X	X	X
SC	X	X	X	X
SD			X	X
TN			X	X
TX	X		X	
UT	X	X		
VA	X	X	X	X
VT	X	X		
WA	X	X	X	X
WI	X	X		
WV	X	X	X	X
WY				

Source: Kaiser Family Foundation, "States Focus on Quality and Outcomes Amid Waiver Changes: Results from a 50-State Medicaid Budget Survey for State Fiscal Years 2018 and 2019, Table 3: Corrections-Related Enrollment Policies In All 50 States And DC, In Place In FY 2018 And Actions Taken In FY 2019," October 25, 2018, https://www.kff.org/report-section/states-focus-on-quality-and-outcomes-amid-waiver-changes-eligibility-and-premiums/.

Table 7. Medicaid Health Home Programs Targeting Individuals With an OUD

State	OUD Related Target Population	Providers	Opt-in/ Opt out?	Payment Methodology	Target Area
MD	Individuals with opioid SUD and the risk of developing another chronic condition	Psychiatric rehabilitation programs, mobile treatment service providers and opioid treatment programs	Opt-in enrollment	PMPM Plus, one-time initial intake assessment payment	Statewide
ME	Individuals with **opioid SUD** and the risk of developing another chronic condition including a mental health condition, substance use disorder, tobacco use, diabetes, heart disease, BMI >25, COPD, hypertension, hyperlipidemia, developmental and intellectual disorders, circulatory congenital abnormalities, asthma, acquired brain injury, or seizure disorders	Multidisciplinary team of providers, including a clinical team lead, medication-assisted treatment prescriber, nurse care manager, opioid dependency clinical counselor and peer recovery coach	Opt-in	PMPM	Statewide
MI	Individuals with **opioid use disorder** at risk for any of the following chronic conditions: depression, anxiety, diabetes, heart disease, COPD, hypertension, asthma, HIV/AIDS, hepatitis, PTSD, schizophrenia, bipolar disorder, ADHD, alcohol use disorder, tobacco use disorder, **other drug use disorders**	Opioid treatment program (OTP) and office-based opioid treatment (OBOT) providers	Opt-out	FFS	Targeted to 21 counties
RI	Individuals with **opioid dependence** currently receiving or who meet criteria for medication-assisted treatment	Opioid treatment programs licensed by the Department of Behavioral Healthcare, Developmental Disabilities and Hospitals as Behavioral Healthcare Organizations	Opt-out	Weekly FFS per member payment	Statewide
VT	Individuals with **opioid dependency** as defined by the DSM-IV-TR criteria and at risk for developing other drug or alcohol dependency or co-occurring mental health conditions, especially depression and anxiety, affective disorders, or PTSD		Opt-out	Hub Health Homes: Monthly bundled rate per member Spoke Health Homes: PMPM	Statewide

Sources: Centers for Medicare and Medicaid Services, "Medicaid Health Homes: An Overview," March 2019, https://www.medicaid.gov/state-resource-center/medicaid-state-technical-assistance/health-home-information-resource-center/downloads/hh-overview-fact-sheet.pdf; Centers for Medicare and Medicaid Services, "Medicaid Health Homes SPA Overview," March 2019, https://www.medicaid.gov/state-resource-center/medicaid-state-technical-assistance/health-home-information-resource-center/downloads/hh-spa-overview.pdf; Centers for Medicare and Medicaid Services, "State by State Health Home State Plan Amendment Matrix," March 2019, https://www.medicaid.gov/state-resource-center/medicaid-state-technical-assistance/health-home-information-resource-center/downloads/state-hh-spa-at-a-glance-matrix.pdf.

Table 8. Medicaid IMD Waivers for SUD and MH

State	Waiver Status	Waiver of IMD Exclusion	
		SUD	MH
AK	Approved	X	
AZ	Under CMS review	X	X
CA	Approved	X	
DC	Under CMS review	X	X
DE	Approved	X	
FL	Approved		
HI	Approved		
IL	Approved	X	
IN	Approved	X	
KS	Approved	X	
KY	Approved	X	
LA	Approved	X	
MA	Approved	X	X
MD	Approved	X	
MI	Approved	X	
MN	Approved	X	
MO	Approved		
NC	Approved	X	
NE	Approved	X	
NH	Approved	X	
NJ	Approved	X	
NM	Approved	X	
NY	Approved		
OH	Under CMS review	X	
PA	Approved	X	
RI	Approved	X	
TN	Under CMS review	X	
UT	Approved	X	
VA	Approved; extension request under CMS review	X	
VT	Approved	X	X
WA	Approved	X	
WI	Approved	X	
WV	Approved; amendment under CMS review	X	

Sources: Manatt Research Using 1115 Waiver Fact Sheets and Demonstration Approval Letters (Updated 8/13/2019).

Table 9. Number and Percent of SUD Facilities Participating in Medicaid, by State, 2017

State	Total	Participate in Medicaid	
		Number	Percent
Total	**13,481**	**8,668**	**64%**
AK	89	71	80%
AL	129	78	60%
AR	118	47	40%
AZ	341	220	65%
CA	1,311	461	35%
CO	381	216	57%
CT	210	180	86%
DC	27	22	81%
DE	34	31	91%
FL	668	254	38%
GA	292	145	50%
HI	168	47	28%
IA	163	145	89%
ID	124	106	85%
IL	633	330	52%
IN	305	184	60%
KS	182	131	72%
KY	359	232	65%
LA	136	85	63%
MA	351	263	75%
MD	387	292	75%
ME	199	163	82%
MI	456	321	70%
MN	356	187	53%
MO	257	174	68%
MS	89	59	66%
MT	70	57	81%
NC	472	317	67%
ND	71	30	42%
NE	125	103	82%
NH	67	53	79%
NJ	344	209	61%
NM	136	114	84%
NV	77	59	77%
NY	842	737	88%
OH	409	358	88%
OK	191	137	72%
OR	226	191	85%
PA	502	410	82%
RI	48	42	88%
SC	108	69	64%
SD	58	34	59%
TN	217	137	63%
TX	431	246	57%
UT	239	110	46%
VA	223	144	65%
VT	42	40	95%
WA	396	267	67%
WI	273	235	86%
WV	102	84	82%
WY	47	41	87%

Source: Manatt analysis of National Survey of Substance Abuse Treatment Services 2017 data.

Table 10. Number and Percent of Medicaid Participating Outpatient and Residential SUD Facilities Providing MAT, by State, 2017

	Provide Outpatient Treatment			Provide Residential (Non hospital)		
		Provide Any MAT			Provide Any MAT	
State	Total	Number	Percent	Total	Number	Percent
Total	**7,440**	**3,070**	**41%**	**1,554**	**722**	**46%**
AK	59	18	31%	22	5	23%
AL	64	22	34%	10	0	0%
AR	41	2	5%	6	2	33%
AZ	176	62	35%	48	15	31%
CA	387	168	43%	90	25	28%
CO	201	81	40%	23	14	61%
CT	146	87	60%	33	20	61%
DC	18	9	50%	7	3	43%
DE	29	18	62%	3	3	100%
FL	219	84	38%	55	35	64%
GA	125	20	16%	23	6	26%
HI	40	10	25%	10	2	20%
IA	131	23	18%	31	14	45%
ID	105	14	13%	4	0	0%
IL	303	108	36%	60	30	50%
IN	170	77	45%	11	9	82%
KS	123	30	24%	21	4	19%
KY	209	64	31%	34	14	41%
LA	59	20	34%	27	10	37%
MA	206	128	62%	45	24	53%
MD	271	152	56%	38	20	53%
ME	145	40	28%	16	6	38%
MI	285	80	28%	60	22	37%
MN	144	35	24%	67	27	40%
MO	161	76	47%	44	26	59%
MS	44	6	14%	14	4	29%

Table 10. Number and Percent of Medicaid Participating Outpatient and Residential SUD Facilities Providing MAT, by State, 2017

	Provide Outpatient Treatment			Provide Residential (Non hospital)		
		Provide Any MAT			Provide Any MAT	
State	Total	Number	Percent	Total	Number	Percent
MT	51	13	25%	10	3	30%
NC	273	108	40%	40	13	33%
ND	27	13	48%	14	6	43%
NE	84	14	17%	29	9	31%
NH	46	27	59%	13	5	38%
NJ	193	97	50%	17	10	59%
NM	108	39	36%	12	3	25%
NV	56	20	36%	16	4	25%
NY	556	447	80%	129	91	71%
OH	321	167	52%	72	38	53%
OK	125	30	24%	19	4	21%
OR	173	34	20%	30	14	47%
PA	302	165	55%	115	82	71%
RI	35	28	80%	11	9	82%
SC	59	11	19%	9	4	44%
SD	30	6	20%	5	0	0%
TN	133	45	34%	27	9	33%
TX	207	47	23%	52	17	33%
UT	97	40	41%	18	7	39%
VA	129	61	47%	17	12	71%
VT	35	24	69%	5	4	80%
WA	226	59	26%	51	19	37%
WI	216	88	41%	14	6	43%
WV	62	38	61%	19	6	32%
WY	35	15	43%	8	7	88%

Source: Manatt analysis of National Survey of Substance Abuse Treatment Services 2017 data.

[1] "Drug Overdose Deaths | Drug Overdose | CDC Injury Center," December 21, 2018, https://www.cdc.gov/drugoverdose/data/statedeaths.html.

[2] Connery, Hilary, "Medication-Assisted Treatment of Opioid Use Disorder: Review of the Evidence and Future Directions," *Harvard Review of Psychiatry* 23, no. 2 (April 2015): 63–75, https://doi.org/10.1097/HRP.0000000000000075.

[3] "Medication-Assisted Treatment (MAT)," Substance Abuse and Mental Health Services Administration, July 21, 2015, https://www.samhsa.gov/medication-assisted-treatment.

[4] Rinaldo, Suzanne G. and Rinaldo, David W., "Availability Without Accessibility? State Medicaid Coverage and Authorization Requirements for Opioid Dependence Medications," *American Society of Addiction Medicine*, June 2013, https://www.asam.org/docs/default-source/advocacy/aaam_implications-for-opioid-addiction-treatment_final.pdf?sfvrsn=cee262c2_25.

[5] "H.R.6 - 115th Congress (2017-2018): SUPPORT for Patients and Communities Act," Webpage, October 24, 2018, https://www.congress.gov/bill/115th-congress/house-bill/6.

[6] "Medications for Opioid Use Disorder Save Lives," The National Academies of Science, Engineering, and Medicine, 2019, https://www.nap.edu/download/25310.

[7] "Information about Medication-Assisted Treatment (MAT)," Center for Drug Evaluation and Research, FDA, Content Updated as of February 14, 2019, http://www.fda.gov/drugs/information-drug-class/information-about-medication-assisted-treatment-mat.

[8] "H.R.6 - 115th Congress (2017-2018): SUPPORT for Patients and Communities Act," Webpage, October 24, 2018, https://www.congress.gov/bill/115th-congress/house-bill/6.

[9] When methadone is used to treat pain, it is dispensed to patients to take at home and does not require daily visits to an opioid treatment program. Thus, states that currently indicate they cover methadone for pain but that do not include methadone for MAT on their PDL may not be contracting with OTPs.

[10] Substance Abuse and Mental Health Services Administration, "Medicaid Coverage of Medication-Assisted Treatment for Alcohol and Opioid Use Disorders and of Medication for the Reversal of Opioid Overdose," HHS, 2018, Accessed July 3, 2019, https://store.samhsa.gov/product/Medicaid-Coverage-of-Medication-Assisted-Treatment-for-Alcohol-and-Opioid-Use-Disorders-and-of-Medication-for-the-Reversal-of-Opioid-Overdose/SMA18-5093.

[11] In states without a unified formulary (where the state's FFS program and all managed care plans follow one PDL set by the state), MCOs may set PDLs that do not include all drugs included under the state plan. In these states, individuals enrolled in the managed care plan can request medications not on their MCO's PDL list directly from the state.

[12] District of Columbia, "Pharmacy Preferred Drug List, Effective September 19th, 2019," Department of Health Care Finance, https://dc.fhsc.com/downloads/providers/DCRx_PDL_listing.pdf.

[13] Wirrell, Elaine, Vanderwiel, Alexander, Nickels, Lauren, et al., "Impact of Prior Authorization of Antiepileptic Drugs in Children With Epilepsy," *Pediatric Neurology*, June 2018, https://www.pedneur.com/article/S0887-8994(18)30151-6/fulltext.

[14] Soumerai, Stephen, Avorn, Jerry, Ross-Degnan, Dennis, Gortmaker, Steven, "Payment Restrictions for Prescription Drugs Under Medicaid," *The New England Journal of Medicine*, August 27, 1987, https://www.nejm.org/doi/pdf/10.1056/NEJM198708273170906.

[15] Lu, Christine, Soumerai, Stephen, Ross-Degnan, Dennis, et al., "Unintended Impacts of a Medicaid Prior Authorization Policy on Access to Medications for Bipolar Illness," *Medical Care*, January 2010, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6524522/.

[16] Gibson, Teresa, Mark, Tami, McGuigan, Kimberly, et al., "The Effects of Prescription Drug Copayments on Statin Adherence," *The American Journal of Managed Care*, September 2006, https://www.researchgate.net/profile/Kirsten_Axelsen/publication/6829855_The_Effects_of_Prescription_Drug_Copayments_on_Statin_Adherence/links/54aaae520cf25c4c472f469c/The-Effects-of-Prescription-Drug-Copayments-on-Statin-Adherence.pdf.

[17] Soumerai, Stephen, Avorn, Jerry, Ross-Degnan, Dennis, Gortmaker, Steven, "Payment Restrictions for Prescription Drugs Under Medicaid," *The New England Journal of Medicine*, August 27, 1987, https://www.nejm.org/doi/pdf/10.1056/NEJM198708273170906.

[18] Lu, Christine, Soumerai, Stephen, Ross-Degnan, Dennis, et al., "Unintended Impacts of a Medicaid Prior Authorization Policy on Access to Medications for Bipolar Illness," *Medical Care*, January 2010, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6524522/.

[19] Carter, JA, Dammerman, R, and Frost, M, "Cost-Effectiveness of Subdermal Implantable Buprenorphine Versus Sublingual Buprenorphine to Treat Opioid Use Disorder," *Journal of Medical Economics*, August 2017, https://www.ncbi.nlm.nih.gov/pubmed/28604141.

[20] Substance Abuse and Mental Health Services Administration, "Clinical Guidance for Treating Pregnant and Parenting Women With Opioid Use Disorder and Their Infants," 2018, https://store.samhsa.gov/system/files/sma18-5054.pdf.

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ABSTRACT

There is increasing interest in expanding Medicare health insurance coverage in the U.S., but it is not clear whether the current program is the right foundation on which to build. Traditional Medicare covers a uniformset of benefits for all income groups and provides more generous access to providers and new treatments than public programs in other developed countries. We develop an economic framework to assess the efficiency and equity tradeoffs involved with reforming this generous, uniform structure. We argue that three major shifts make a uniform design less efficient today than when Medicare began in 1965. First, rising income inequality makes it more difficult to design a single plan that serves the needs of both higher- and lower-income people. Second, the dramatic expansion of expensive medical technology means that a generous program increasingly crowds out other public programs valued by the poor and middle class. Finally, as medical spending rises, the tax-financing of the system creates mounting economic costs and increasingly untenable policy constraints. These forces motivate reforms that shift towards a more basic public benefit that individuals can "top-up" with private spending. If combined with an increase in other progressive transfers, such a reform could improve efficiency and reduce public spending while benefiting low income populations.

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1 Introduction

The United States spends 18 percent of GDP on health care, and, at 6% of GDP, federal health spending represents a quarter of the federal budget. With baby-boomers reaching retirement age and the continuing development of expensive new medical treatments, the Congressional Budget Office (CBO) projects a more than doubling of Medicare spending in the next decade, from $711 billion in 2018 to $1.5 trillion in 2029 (CBO, 2019). Recent proposals to extend Medicare to new populations – ranging from lowering the eligibility age to "Medicare for All" – further raise the stakes of using the current Medicare program structure for government-funded health insurance.

Most countries face similar pressures arising from an aging population and medical technology growth, but the traditional Medicare program has specific features that distinguish it from many other insurance plans. It provides a uniform benefit to all enrollees that places few limits on the scope of coverage, even for unproven technologies. By contrast, many countries such as England limit access to new treatments and technologies based explicitly or implicitly on estimates of cost-effectiveness (e.g., Thorlby and Arora, 2019). Unlike most employer-sponsored commercial plans, the traditional fee-for-service Medicare also has no network restrictions on providers, nor (with the wrap-around plans held by most enrollees) significant deductibles or copayments.

In this paper, we focus on the design of the current Medicare program for the elderly to assess its tradeoffs and provide insights about the implications of using it as a foundation for expanding coverage. We first ask about the efficiency and equity tradeoffs involved with its current generous, uniform design. Second, we address the question of how rising income inequality, ongoing medical technology innovation, and the budget pressures imposed by an aging population affect the efficiency of the current benefit structure. Finally, we examine the effects of an alternative, non-uniform benefit structure on economic efficiency and equity.

To study these questions, we build on a rich literature in health economics and social insurance design to develop a simple economic model of Medicare that incorporates income inequality, medical technology growth, and distortionary taxes.[1] The model allows us to assess how the

[1] It is worth noting that our model abstracts from many aspects of the complex US health care system, including consolidated provider and insurance markets, inefficiencies in insurance and payment design, imperfect patient information, and of the underuse and overuse of health care treatments. There are many potentially productive reforms across these dimensions that complement the fundamental Medicare reform described here.

welfare consequences of Medicare's uniform benefit structure have evolved, as well as the welfare effects of potential alternative public insurance designs. We derive predictions using both a stylized graphical framework and simulations from a calibrated version of the model.

The model suggests that while Medicare's uniform benefit has the advantages of simplicity and lower administrative costs, it also comes with a *cost of uniformity.* While high-income households would likely prefer a very generous plan, low-income households would likely prefer lower health care spending and higher take-home pay or more generous non-medical benefits such as food stamps or housing assistance (Baicker, 2001). A uniform program pools everyone into the same plan, creating an inefficiency due to mismatch between the public benefit and privately optimal generosity. This cost of uniformity is closely related to the standard efficiency loss from in-kind transfers relative to cash transfers (Currie and Gahvari, 2008), but it remains in our model that includes an explicit role for in-kind transfers to provide more equitable access to health care.

Our central argument is that three macro trends have increased this cost of uniformity appreciably since Medicare's creation in 1965. First, income inequality has risen substantially (Piketty and Saez, 2014). Rising inequality leads to growing divergence between rich and poor in willingness (and ability) to pay for generous medical care. Second, there have been dramatic innovations in medical technology: there was much less health care available to buy in the 1960s, and even advanced technologies of the day were relatively inexpensive. Third, average marginal tax rates have increased from less than 25% in 1965 to 30% in 2012 (Mertens and Olea, 2018), commensurately increasing the deadweight loss (or economic cost) associated with publicly financed benefits – a trend that will likely continue with the budget pressures from population aging (Baicker, Shepard, and Skinner, 2013).

These changes imply that demand among the rich for generous medical care increasingly diverges from what a uniform public system can afford to fund. While a universal, generous Medicare program may have been efficient in 1965 when options for treatment were both limited and relatively inexpensive, tax rates were lower, and income more evenly distributed, the efficiency cost of maintaining uniform coverage has grown over time. The current benefit design thus may not be a sustainable foundation upon which to expand public health insurance.

We describe an alternative insurance benefit design in which the government provides basic insurance but allows higher-income households to "top up" by purchasing additional coverage for additional services. (Medicare does have in place supplemental "Medigap" plans, but these are

primarily designed to cover copayments and deductibles, rather than cover additional services.) The basic plan is intended to be similar to public insurance provided in many other countries – with low patient copayments and deductibles but with more modest provider payment rates and with coverage of treatments restricted to those with proven effectiveness relative to lower-cost alternatives.

Supplemental "top-up" plans are also common in other countries. Governments often underwrite a basic insurance plan (or mandate the purchase of regulated and subsidized private plans), but then allow households to add on private supplemental insurance.[2] For example, while Swiss citizens are required by law to have basic health insurance, discretionary private insurance accounts for about one-third of total health care spending (Sturny, 2019). In Australia, private insurance offers access to a wider choice of hospitals and faster access to discretionary services (Glover, 2019), while in England 10.5 percent of the population opts for private health insurance coverage (Thorlby and Arora, 2019).

Our calibrated model suggests that switching from a uniform Medicare benefit to a top-up structure could generate substantial cost reductions and efficiency gains in the long term. The distributional implications of such a policy change would depend on the alternative uses to which the resources saved on public insurance would be devoted. Many European countries spend substantially more on other social insurance programs than the U.S., and some of those non-medical programs themselves are likely to yield health benefits (e.g. Bradley and Taylor, 2013; Baicker et al., 2012; Papanicolas et al., 2019). We show in the model that there exists a redistribution of the "Medicare dividend" that would raise wellbeing across all income groups.

Our analysis of uniform versus top-up designs for public health insurance is related to other work on the implications of in-kind subsidy design. The seminal work of Peltzman (1973) derives the budget set implications of an in-kind subsidy that cannot be topped up (as with free access to public schools, or uniform Medicare in our model) versus a voucher-like subsidy that allows for top up. A subsequent literature has applied these insights to a broad range of applications. In health care, these applications include the crowd-out effects of public insurance expansions (Cutler and Gruber, 1996), employer insurance subsidy design (Enthoven and Kronick, 1989), and medical

[2] Some countries like Germany allow citizens to "opt out" of the public system and purchase private insurance for their primary coverage. However, under the German system, those with private coverage (and their employers) need no longer contribute to the public plan; for this reason, the German health insurance system more closely resembles a top-up structure

coverage and cost-sharing design (Chernew, Encinosa, and Hirth, 2000; Einav, Finkelstein, and Williams, 2016). In the policy debate, the top-up design we consider is most closely related to proposals for "premium support" within Medicare's public and private plan components (Emanuel and Fuchs, 2005; Aaron and Reischauer, 1995).

While our model considers benefit design solely for people age 65 and over, the implications for Medicare benefit design are clearly amplified under proposals to expand the eligible population. For example, while the cost of "Medicare for All" proposals depends crucially on the details of eligibility, coverage, and provider payment rates, most proposals require additional tax revenues that would substantially raise marginal tax rates.[3] The implication of our simple model is that a more basic public benefit – closer to "Medicaid for All" than to "Medicare for All" – with the option for individuals to top up to more generous private coverage, coupled with increased transfers to the poor, could prove to be a higher-value, more sustainable alternative to many proposals that seek to expand the current Medicare program.

2 Health Care Demand and In-Kind Transfers

The public sector plays an outsized role in the financing and provision of health care in nearly all developed countries. Health care is often considered a merit good that ought to be available to all – although often without consensus on the quantity or quality of care to which all should be entitled. But health care is often privately produced, with economic forces driving supply and heterogeneous patient preferences and needs driving demand. These forces have important implications for the optimal design of public insurance programs.

In this section, we present a stylized model of demand for health care and how it varies across income groups based on ability to pay. We then consider how this heterogeneous demand interacts with the design of a public health insurance system. We highlight two key design questions: (1) how generous should the public benefit be, and (2) should it be a fixed *uniform benefit* for all recipients or a *basic benefit* that recipients can *top-up* using their own money?

[3] For example, the 2016 Bernie Sanders tax proposal to pay for expanding Medicare included a top federal rate of 52%, with state and local taxes added on. There are of course alternative approaches for generating new tax revenues that come with their own deadweight loss or efficiency costs.

It is important to define here what we mean by a basic benefit. In the Affordable Care Act health insurance exchanges, "bronze" coverage entails the lowest premium but exposes the enrollee to substantial out-of-pocket payments through deductibles and coinsurance. This is not what we have in mind as our basic benefit, since cost-sharing of this magnitude places considerable financial stress on low-income households (Kullgren et al., 2010). Instead, we define our basic plans as those like in European countries where deductibles and copayments are small, amenities are limited, and provider payments are regulated.

While Medicare hospital-based reimbursement rates are estimated to average just 53% of commercial rates in the US (Maeda and Nelson, 2017; also see Cooper et al., 2018), data from the International Federation of Health Plans (2015) suggests that Medicare reimbursements for hospital-based and diagnostic services are generally higher than insurance payments in other countries.[4]

Other countries also use cost-effectiveness criteria in restricting expensive treatments. For example, proton beam therapy is valuable for certain childhood cancers and other rare cancers in adults, but there is no evidence that it is more effective than less costly alternatives for the treatment of prostate cancer (Kamran et al., 2019; Schroeck et al., 2017). Medicare covers proton beam therapy for prostate cancer, but England, Canada, and even many U.S. commercial carriers do not.[5]

In this section, we develop a simple model that allows us to consider the equity and efficiency tradeoffs in the design of a public health insurance benefit. In Section 3, we consider how the tradeoffs interact with the three macro forces with which we motivated the paper: rising inequality, expensive new health care technology, and rising tax rates.

---

[4] We used a report from the International Federation of Health Plans (2015) to make an illustrative comparison of the U.S with four countries (Australia, New Zealand, Spain, and Switzerland). We examined 9 treatments or diagnostic procedures: appendectomy, bypass surgery, cardiac catheterization, cataract surgery, colonoscopy, CT scan (abdomen), hip replacement, and knee replacement. The prices in the report represent a combination of public and private insurance plans. We assume Medicare reimbursement rates of 53 percent of commercial US prices (following Maeda and Nelson, 2017 and Cooper et al., 2018). This calculation suggests that average Medicare prices were at least 10 percent higher than those in any of the other countries. That said, there was considerable variation across countries and procedures in relative prices, with some lower-cost procedures having lower prices in Medicare than in other countries. Similarly, a recent study estimated that Medicare pays 80 percent more for prescription drugs than insurance plans in other high-income countries (ASPE, 2018).

[5] For example, the Prostate Cancer Canada (2019) website states that "Because proton therapy is very expensive and has no significant advantages in cure rate for prostate cancer compared with other treatments, it is not covered by Canadian public health insurance – you would need to pay for the procedure yourself." Also see National Health Service (2018). There are exceptions; the Netherlands, which has invested heavily in proton beam facilities, does cover their use for prostate cancer.

2.1 A Simple Model of Health Care Demand with Public Benefits

Consider a stylized model of individuals' consumption (*c*) and medical care (*m*) choices, as in past work such as Hall and Jones (2007). A population of individuals $(i = 1,...,N)$ vary in their private income y_i. Individuals derive flow utility from their consumption $u(c_i)$, and medical spending determines their life expectancy, $\lambda(m_i)$, where we assume diminishing returns to more health care spending.[6] The government provides each person with a cash benefit, *R*, and an in-kind medical benefit, *M*, funded by taxes collected according to a progressive tax schedule $T(y_i)$. Individuals choose whether to buy additional top-up care m_i subject to constraints imposed by the system. We write the individual choice problem as:

$$\begin{aligned} &\max_{c_i, m_i} \lambda(M + m_i) \cdot u(c_i) \\ &\text{s.t.} \quad c_i + m_i = y_i - T(y_i) + R \end{aligned} \tag{1}$$

The constraint on m_i depends on the design of public insurance. We consider two possibilities:

1. **Uniform benefit:** $m_i = 0$ *(individuals cannot top-up the public benefit)*
2. **Top-up benefit:** $m_i \geq 0$ *(individuals can top-up above M with private funds)*

Note that this setup also allows for a purely private health system, which is equivalent to a top-up benefit with $M = 0$.

Now consider demand for health care under a completely private system ($M = 0$). The model predicts, not surprisingly, that privately chosen medical spending rises with income. That is, health care spending equates the value or marginal willingness to pay (WTP) to extend life by an additional year, $WTP_{LY}(c)$, with the marginal cost of doing so, $MC_{LY}(m)$. This can be seen from the first-order condition for *m*, which can be expressed as:

$$WTP_{LY}(c_i) \equiv \frac{u(c_i)}{u'(c_i)} = \frac{\lambda(m_i)}{\lambda'(m_i)} \equiv MC_{LY}(m_i) \tag{2}$$

A key insight of Hall and Jones (2007) is that willingness to pay to extend life rises steeply with income; for the wealthiest in society, the marginal value of another Lamborghini is low, but

[6] It is straightforward to interpret $\lambda(m_i)$ as quality-adjusted life-years; that is, health care inputs m are likely to affect the quality as well as quantity of life.

an additional year of good health in which to enjoy it is nearly priceless.[7] As a result, privately chosen medical spending also increases rapidly with income.[8] Relative to the poor, the rich proceed further up the marginal cost curve, spending more on less valuable services until $MC_{LY}(m)$ equals their much higher value of a life-year.

In Panel A of Figure 1, we graphically depict an example of this private health care-income relationship in a simple case with two income types, rich (*H*) and poor (*L*). The x-axis is medical spending (*m*), and the green curve is the marginal cost of a life-year (MC_{LY}), as defined above. For a given level of medical technology, marginal cost first rises gradually but then steeply as the limits of medical technology are reached, or as more spending takes the form of amenities. Unlike a physical production technology, at some point one can no longer "produce" additional units of health simply by spending more; when all possible treatments are exhausted, the marginal cost curve is vertical. [9]

The WTP for an additional life-year is depicted by the downward sloping blue curve ("WTP_{LY} *(Rich)*") for the rich type and the orange curve ("WTP_{LY} *(Poor)*") for the low-income type. (We defer discussion of the dashed orange curve to the next subsection.) Because willingness to pay is much higher for the rich, the level of medical spending is greater for the rich (m_H) than the poor type (m_L).

For simplicity, we include just a single input measure, *m*, but in practice demand for health care across income groups may also reflect differences in types of treatment, convenience, and

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[7] This is evident from the expression for WTP of a life year: higher income people have higher consumption, implying a larger $u(c_i)$ and smaller $u'(c_i)$.

[8] This does not need to require that health care is a "luxury" good (income elasticity > 1) but simply that it is a normal good (income elasticity > 0). See Acemoglu et al. (2013) who argue that health care is normal but not a luxury.

[9] An anecdote illustrates this point. An ICU physician, Goetz (2004) stated in a letter to *Health Affairs*: "Here is an example I have used when teaching medical students and residents: You are taking care of a patient in the ICU. You have done every test and procedure you know to do and have done everything that all the consultants have recommended. I now tell you that you must spend another $5,000 (originally I used $1,000) to improve the patient's quality of care. What would you do with the money? By this point the student or resident is in a bit of a quandary because they are not quite sure how to use the additional money. If there were a continuing positive linear relationship, it should be reasonably easy to suggest more things that result in improved patient care. Generally, the suggestions are more, or repeated, tests and procedures. I respond to the common answers with a statement that if you do more tests or procedures, you could in fact make the patient worse. How? If you do more tests, all tests have false positives and negatives. How will you use results that contradict earlier tests? With again more tests, and the subsequent potential for much more confusion. If you repeat or do another procedure, how do you interpret the results? Also, procedures generally have potential side effects or complications, so again you have a very high risk of NOT improving quality or outcome with more money."

amenities not immediately reflected in survival. For example, Cheng et al. (2018) found that lottery winners in the United Kingdom (i.e., those experiencing an unexpected increase in income) did not consume more health care in terms of hospital days or physician visits but instead shifted to private rather than public care. This finding is in line with how we are thinking of "generosity" in the model – as improving quality (through short wait-lists, more comfortable hospital beds, and greater provider choice) rather than quantity.

An entirely free market in health care would be viewed as inequitable if the level of care the poor can afford is below what society has deemed adequate. Cash transfers can narrow the gap, but most countries use in-kind health insurance benefits as a more direct way of doing so – most likely because of a deep-seated concern about the health of their fellow citizens, or what we call an *egalitarian social preference* for health. We turn next to study how such egalitarian preferences affect the optimal benefit design for health insurance.

2.2 Egalitarian Social Welfare and the Government Problem

Absent political constraints, the government has considerable latitude both in designing how transfer programs are funded and in choosing the composition of benefits between in-kind medical care and cash (or near-cash) benefits. The government can levy taxes to fund cash and in-kind transfers. But why provide in-kind health insurance benefits at all? The argument in favor of cash benefits is familiar from Economics 101: for the same cost to taxpayers as an in-kind benefit, cash benefits raise recipients' utility more because they do not constrain their choices. But there are multiple arguments in favor of in-kind benefits, such as better differentiation between targeted and non-targeted beneficiaries and taxpayer preferences about recipients' use of resources (Currie and Gahvari, 2008).

We focus on a rationale based on *egalitarian social preferences* for an equitable distribution of health care.[10] A simple way to capture the idea of egalitarian social preference is to add to private utility an additional term, $e(m_i)$, capturing the value to society of an individual i's access to medical care – or the extent to which taxpayers care about the health care of others. We assume

[10] Other rationales suggested in the literature include direct externalities from the in-kind good, indirect benefits through the tax/transfer system (e.g., subsidizing goods that complement work, or providing goods differentially attractive to low-ability types), and insurance market failures such as adverse selection; see Currie and Gahvari (2008). We focus on equity, which seems the most straightforward way to justify a uniform program like Medicare.

that $e'(m) > 0$ for low levels of spending but that it declines and reaches zero at some "adequate" level of health spending – such that for the high-income person in our graphical analysis, it has dropped to zero. Returning to Figure 1 Panel A, this egalitarian preference shifts out the social value of health care for the poor type from WTP_{LY}^{Poor} up to the dashed orange line. Society would like the *L* type to obtain medical care $m_L' > m_L$. The divergence between private and social optima motivates the in-kind medical benefit.

The government funds these benefits with taxes. To allow for progressivity in a simple framework, we model taxes as a scaled version of a baseline progressive schedule $T_0(y_i)$, so that $T(y_i) = \tau \cdot T_0(y_i)$ where τ is the scale factor. Rather than model the full labor supply problem, we model deadweight loss in a simple way. We assume that levying taxes that reduce individuals' consumption by \$1 only raises tax revenue of $\$(1-\chi(\tau))$, where $\chi(\tau)$ captures revenue leakage due to the excess burden of taxes. As taxes rise, $\chi(\tau)$ will increase due to the rising marginal excess burden of higher tax rates.

Putting these pieces together, the government chooses the tax scalar (τ), cash transfer (*R*), medical benefit (M), and design of medical benefits to maximize the social welfare function:

$$SW = \sum_i \left[\lambda(m_i) u(c_i) + e(m_i) \right] \tag{3}$$

subject to public budget constraint:

$$\sum_i \left(R + M \cdot (1+\kappa) \right) = \sum_i \tau \cdot T_0(y_i) \cdot (1-\chi(\tau))$$

and where $\{m_i, c_i\}$ are set by individual choices from the problem in (1) and κ captures the excess administrative costs of providing in-kind medical benefits.

Benefit Design: Uniform vs. Top-Up

The government can provide medical benefits with either a uniform or top-up design. It is natural to ask why one would ever adopt a uniform benefit design instead of a top-up design. A uniform benefit imposes an additional constraint on recipients – a ceiling on medical spending at M – not present with top-up benefits. However, in practice, a top-up system creates additional complexity, including greater administrative costs and adverse selection problems associated with

letting consumers choose among generosity levels. We model this by assuming that $\kappa^{TopUp} > \kappa^{Uniform}$ in the problem above. The lower κ provides a rationale for the uniform system, all else equal.

In the case of a uniform benefit, the government must decide on a level of care that balances the different demands for the lower income households and for the high income households. One seemingly egalitarian solution would be to make the uniform level of coverage equal to m_H, so that few, if any, high-income households would want to opt-out into a more generous private plan. This appears to be what we observe with the U.S. Medicare program. Yet the downside of providing the generous plan is the opportunity cost of doing so, including less ability to fund cash transfers or other social programs that might provide greater value to lower-income households.

The economic model presented above suggests an alternate way of setting an optimal uniform public medical benefit: finding a middle ground between the ideal points for the rich and poor. Panel B of Figure 1 shows this middle-ground benefit, M^*_{Unif}, which is less generous than what the rich would like (m_H) but more generous than the social optimum for the poor (m'_L).[11] This result is analogous to the Samuelson condition for an optimal public good: it is set where the average WTP of beneficiaries is equal to the average marginal cost of providing the service.

Even when chosen optimally, there is an implied efficiency loss as shown in the red highlighted areas in Panel B of Figure 1. High-income households would prefer more than what was provided, while low-income households demand less, meaning that they might prefer the cash to high-amenity health care or access to unproven treatments. We call this loss the *"cost of uniformity"* involved with a uniform benefit system.

Figure 2 plots the optimal determination of top-up benefits (superimposed on top of the optimal uniform benefit from Figure 1B). The top-up design still provides a public benefit to ensure a floor on medical spending for the poor, but it does not impose a medical ceiling on the rich. This allows the government to set the optimal top-up benefit (M^*_{Top})based on the social optimal level for the poor – where the marginal cost curve intersects the social WTP for a life-year. The rich top-up by purchasing health care privately up to their desired value. In this simple two-type case,

[11] Technically, the optimum occurs where the curve is vertically equidistant from the blue curve and dashed orange "social value for poor" curve.

the top-up system eliminates the "cost of uniformity" by letting each group get their optimal level of care.[12] However, it also creates additional administrative/complexity costs (κ^{Top}), shown by the upward shift of the green marginal cost curve and the highlighted losses in the green area. We turn next to a more detailed discussion of the tradeoffs involved between the two systems.

2.3 Tradeoffs between Uniform vs. Top-Up Medical Systems

Notice several implications of optimal top-up benefits in comparison to the uniform design, as depicted in Figure 2:

- ***Public*** **health insurance benefits are lower under top-up benefits** – (i.e., $M^*_{Top} < M^*_{Unif}$)

  This result follows from the logic of the public goods problem. The uniform benefit determines medical spending for everyone, while the top-up benefit determines medical spending only for the (poorer) constrained group who choose not to top-up. Eliminating uniformity frees up the government to set up a low-cost, basic public benefit based on demand by poorer households, rather than having to balance the desires of the rich and poor in a single system, or (as Medicare appears to be designed) a uniform program targeted to the needs of higher income households.

- **However,** ***total*** **medical spending (public and private) may be higher or lower in the top-up design.** It will be lower for poor households (who receive a smaller benefit) but larger for the rich (who top-up), so the overall change depends on the shape of the marginal cost curve and the size of each group in the population.

- While not evident from the graphs, under the parameters we assume in the model, **optimal** ***cash transfers*** **can be higher under a top-up medical system.** Intuitively, cash and health insurance benefits are substitutable forms of redistribution. As noted by Baicker (2000) and Bradley and Taylor (2013), when the government spends less on health care, there is more to redistribute as cash (or use for other purposes). This fact is important for

[12] In a more realistic case with many types, the cost of uniformity would not be completely eliminated, since any floor created by a public benefit would still constrain the choices of some people with low willingness to pay.

interpreting the equity implications of the two designs. While the poor get less generous health care under top-up benefits, they may also get more cash income.[13]

- **The top-up system (by design) allows for greater medical inequality.** This health care disparity for rich vs. poor is often seen as inequitable – even if it originates from private choices and allows the government to fund more cash transfers.

Whether a uniform vs. top-up design is preferred depends on the relative losses from uniformity (red areas) versus losses from administrative complexity (green area). We discuss next the reasons that this cost of uniformity has likely risen over time.

3 Rising Cost of Uniformity: Medical Technology, Inequality, and Taxes

As noted above, uniform benefits provide equal access to health care, but this uniformity comes at a cost when income groups differ in their demand for health care. In this section, we ask how this "cost of uniformity" has changed over time. The medical and economic world was quite different in 1965 when Medicare was created. How should we think about the impact of forces like improved medical technology, rising income inequality, and changing tax rates? Using the graphical framework developed above, we argue that these forces tend to imply *rising costs of uniformity*.

3.1 Baseline: Medicare in 1965

The four panels of Figure 3 walk through the basic logic. Panel A starts by applying the model to the environment at Medicare's founding in 1965. There was much less income inequality than there is today, reflected in the narrower gap between rich and poor's WTP for medical care. Medical technology was much less advanced (and expensive) than today. In 1965, few options for treatment were available for common health care conditions. Rather than a production function with gradually diminishing returns, there was relatively little to do beyond relatively few low-cost interventions for common diseases such as cancer and cardiovascular disease.[14] Graphically, this

[13] This result depends on the preferences of taxpayers; if they only care about health care for the poor and nothing else, they may not choose to distribute more in cash.

[14] Bypass surgery had been developed by 1965, but this was a high-risk and quite rare intervention that was not appropriate for the vast majority of people with cardiovascular disease; statins, stents, and trans-catheter aortic valve replacements (TAVR) were still far in the future.

is reflected in the steep asymptote in the green marginal cost curve per life-year at a relatively low level of medical spending.

The key implication of this 1965 environment is that optimal medical spending for rich and poor were not too divergent. Just as today, the rich could certainly afford more and better health care than the poor. But after accounting for the egalitarian social value of providing basic health care to the poor, the optimal spending for rich and poor (labeled as m_H and m_L') are quite close. As a result, optimal uniform benefits (M^*_{Unif}) are also not too different from either group's private optimum and the loss from the uniform constraint (red area) is small. This logic suggests that when Medicare was established, a single uniform program for rich and poor seniors made good sense. The cost of uniformity was low, so even a small complexity cost from a more flexible top-up system would be enough to tip the scales towards a uniform program. Moreover, this program would optimally be quite generous, since health care was relatively cheap and the government budget (and associated taxes) relatively small.

3.2 Improving Medical Technology

Now consider the impact of improving medical technology from new and more expensive treatments (Cutler et al., 2006; Chandra and Skinner, 2012; and Howard et al., 2015). Treatments for nearly all conditions – but especially heart disease and cancer – have vastly advanced since 1965, but these new treatments are also very expensive. The heart attack that would have resulted in death in 1965 can now be treated and a life extended – but at a cost per hospital admission of $20,000 or more.

Panel B in Figure 3 shows how improving medical technology is reflected in our graphical model. The result is a large outward shift and flattening of the green marginal cost curve. This shift reflects the idea that at a given level of *m*, the marginal returns to medical spending are much higher than 1965. The marginal cost curve (or dollars per life-year) is the reciprocal of the marginal returns (e.g., life-years per dollar), so the marginal cost curve is lower and flatter. Of course, the marginal cost curve eventually steepens at a much higher level of *m* – and these are the marginal technologies that are both high-cost and low-value.

The outward shift and flattening of the MC curve have an important implication: Privately demanded medical spending for rich and poor are now much further apart. This follows from the simple logic of demand that higher-income households are more willing (and able) to pay the huge

bills associated with modern medicine. Indeed, Medicare's annual costs of $10,739 per elderly enrollee is 63% of the average Social Security benefit ($16,956 in 2017), which is the only source of income for many lower-income seniors.[15] The poor simply cannot afford to pay the full cost of the Medicare premium without a substantial subsidy.

The egalitarian social value narrows but does not close this growing gap between rich and poor. As a result, the optimal uniform benefit (M^*_{Unif}) is much further apart from the group-specific optima for rich and poor (m_H and m_L') than in the baseline in Panel A. This divergence implies a larger cost of uniformity, reflected in the bigger red shaded area in Panel B.

3.3 Rising Income Inequality

One of the major economic trends of the past 50 years is rising income inequality (Piketty and Saez, 2014). While low and middle-income earners have seen modest economic growth since about 1975, the rich have experienced rapid gains. Rising inequality should also be reflected in rising inequality in demand for medical care.

We depict rising inequality in Panel C of Figure 3 via a large upward shift in the willingness to pay (WTP) for a life-year for the rich. (Note that we retain the marginal cost curve for 2015 from Panel B.) The rich therefore proceed much further up the marginal cost curve up to the point that it starts becoming quite steep – reflecting the marginal low-value care. For example, private hospital rooms or proton beam therapy for prostate cancer may be more convenient and worth the extra expense for high-income households, but given the lack of demonstrated health benefits, might not be worth it for low-income households.[16] Indeed, the example of proton beam therapy shows how rising inequality works together with expensive new medical technologies to produce the patterns we describe, since rising income inequality would have little impact on medical spending gaps without the existence of expensive treatments with limited health benefits.

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[15]For Medicare spending in 2017, see https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nhe-fact-sheet.html For the average Social Security benefit in the same year, see https://www.fool.com/retirement/2017/08/30/how-big-is-the-average-persons-social-security-che.aspx

[16] Other examples of tradeoffs between costs and convenience/quality come from comparing Medicaid to Medicare. Medicaid is lower cost than Medicare but provides less choice of physicians (about 30% of doctors do not accept Medicaid). Medicaid is more aggressive about managing care, denying claims, and requiring prior authorization for expensive treatments (Gottlieb, Shapiro, and Dunn, 2018).

Therefore, rising income inequality – in conjunction with improving technology – results in a growing divergence in optimal medical spending between rich and poor and a growing divergence between the optimal top-up and uniform benefits. The red shaded "cost of uniformity" grows larger versus Panel B. Further, the rich are increasingly dissatisfied with the care provided by the uniform medical benefit, which falls short of the generosity they would privately choose.

The poor, while not dissatisfied with the generous medical care itself, could increasingly prefer less generous medical care (perhaps closer to Medicaid in coverage) coupled with assistance in paying for other aspects of health care, including Part B premiums (at least $1,626 annually in traditional Medicare for those not covered by Medicaid), and assistance with other non-medical needs such as housing, transportation, or their grandchildren's educational debt. This is the paradox of the egalitarian motive to provide equitable access to health care; while leveling the health care playing field, it comes at the opportunity cost of forgoing other public assistance that the poor and middle class might prefer. This opportunity cost becomes sharper over time as medical costs rise and inequality grows, making a basic top-up program increasingly attractive even to the non-rich.

3.4 Rising Deadweight Loss of Taxes

Although top income tax rates have fallen since the 1960s, average overall marginal tax rates are higher today than in 1965 (Mertens and Olea, 2018). Moreover, the large federal debt and impending cost of Social Security and Medicare for an aging population suggest that tax rates will likely rise further, which suggests rising deadweight loss of taxation. What effect does this have in our framework? The idea, which we show more formally in our model in Section 4, is that when the marginal tax rate is 50 percent (for example), the efficiency cost (whether through reduced labor supply, capital accumulation, or tax avoidance) of raising an extra dollar of revenue is higher. Thus, publicly provided health insurance must be that much more valuable to society. We depict this in Panel D of Figure 3 via a leftward shift (i.e., reduction) in the optimal uniform benefits.

Although a higher deadweight loss of taxation would also reduce optimal benefits under a top-up system, the welfare impact is larger under a uniform system. With a top-up system, the rich can purchase additional care above the public benefit and obtain privately optimal generosity (m_H) with their own money. But with the uniform system, the rich must consume only the public benefit, moving further away from what the rich would privately choose. This increases the total size of

the red shaded area, which was previously set to optimally balance needs of rich and poor but is now more tilted towards the poor. Intuitively, higher deadweight losses from taxation requires cutting the public benefit, which in turn makes the restriction against topping-up in the uniform system more costly.

We have presented a simple graphical model that describes a variety of factors that may affect the desirability of a uniform health insurance plan like Medicare, but one might reasonably ask whether these factors are important in more than a theoretical sense. For this reason, we turn next to a model of health insurance demand across the income distribution (rather than just for rich and poor), using plausible parameters based on the empirical literature and calibrated to fit the observed patterns of health care utilization during the past 50 years.

4 Simulation Model of Uniform vs. Top-Up over Time

We specify a simple simulation model with parameters drawn from the literature and calibrated to economic data to simulate how much secular trends in income inequality, medical care technology, and the marginal cost of taxation affect the relative advantages of a uniform insurance benefit compared to a top-up system.

4.1 Model Setup and Calibration

To judge the magnitude of these effects in practice, we calibrate a model matched to U.S. data with income heterogeneity, income redistribution, technology growth, and an egalitarian preference that values longevity for those with low income. We calibrate the model's parameters to capture the growth in income, income inequality, and medical spending over the 1968-2045 period. (We begin in 1968 to allow the phasing in of Medicare benefits and enrollment.) We then solve the model under different policies at roughly 10-year intervals (1968, 1975, 1985, …, 2045) for a population of 100 individuals who each represent one percentile of the income distribution. We outline the model setup and its calibration here; model details are discussed Appendix A.

The simulation model is based closely on the public policy problem in equation (3) and the individual decision problem in equation (1). To implement this empirically, we need to specify an income distribution and a functional form for consumption utility $u(c)$, the health production function $\lambda(m)$, and the progressive tax function $T(y)$. We discuss each of these pieces in turn.

Income, Taxes, and Deadweight Loss

For the income distribution, we draw on historical data from the Census/ACS for 1970-2015 (with all values inflation-adjusted to 2015 dollars) to estimate the income distribution in each simulation year. This allows us to capture both income growth and widening inequality. We project forward future income distributions from the 2015 distribution using an assumed 1.5% real annual growth rate.

For taxes, we estimate a smooth increasing baseline tax function $T_0(y)$ for the average tax rate matched to the actual schedule for U.S. income, payroll, and state taxes (see Appendix A for a plot of this function). As discussed in Section 2, the government then chooses a tax multiplier (τ) to balance its budget, with the final tax function equaling $T(y_i) = \tau \cdot T_0(y_i)$. As also discussed in Section 2, for the excess burden of taxes, we do not model the full labor supply problem but instead specify that levying taxes that reduce individuals' consumption by \$1 only raises tax revenue of $\$(1-\chi(\tau))$, where $\chi(\tau)$ captures revenue leakage due to the excess burden of taxes. As taxes rise, $\chi(\tau)$ will increase due to the rising marginal excess burden of higher tax rates.[17]

Utility and Health Production Functions

The next pieces of our model are the utility and health production functions. For utility, we specify a log-utility form with a constant added to match a value of life-year of \$100,000. In addition to this private value of life, there is an egalitarian social externality of health care ($e(m)$ in the model). We specify the egalitarian externality as an additional social value of living an extra year, valued at the flow utility of consuming the year's median income, $u(\bar{y})$. By using a fixed $u(\bar{y})$ for all individuals, it effectively places more weight on improving the health of the poor relative to their private value of health.

For the health production function, we specify a simple function (see Appendix A) that captures the probability of survival as a function of medical spending. A key feature of the function we adopt is that the ability to purchase better health with more spending is *bounded*. With an

[17] We specify $\chi(\tau)$ to approximate the average revenue leakage from a tax increase from zero up to a given marginal tax rate. See Appendix A for the derivation.

unbounded function (e.g., a constant elasticity function), any extension to longevity can be purchased with sufficient spending, which often leads to health care being an extreme luxury good, with higher-income people always spending a larger share of their income on health care. A bounded health production function capturing more closely both the medical reality and empirical evidence on income elasticities (Acemouglu et al., 2013).

We then calibrate the model's parameters to match two moments in each simulation year: (1) the historical or projected Medicare spending per beneficiary, drawing on projections from the Medicare trustees, and (2) historical or projected average life expectancy at age 65 from the Social Security Administration (Bell and Miller, 2005). By flexibly calibrating $\lambda(m)$ in each simulation year, we capture the way that technology improves to both extend life and to induce people to spend more on medical care. Calibrated medical spending rises from 4% of average income in 1968 to 15% in 2015 and to 24% in 2045.

Government Policies

We model government policies as follows. For simplicity, we model a fixed exogenous cash transfer of R = 5% of the year's average income. We also assume "extra" government spending (on non-transfer programs like defense) of E = 10% of average income. With these two policies set, the government makes a single policy choice of the generosity of health insurance benefits (M). Taxes (τ) are set at the level needed to balance the government budget. We consider three policies for health insurance benefits:

1. **Generous uniform:** A uniform benefit (no top-up allowed) with the benefit level exogenously set the level of medical care a rich individual (95th income percentile) would privately choose to purchase; we believe this is a reasonable approximation to Medicare's generous plan.
2. **Optimal uniform:** A uniform benefit with the level of M set to maximize the egalitarian social welfare function. This would correspond to a Medicare-style uniform plan but with likely more restrictive benefits, and with topping-up prohibited.
3. **Optimal top-up:** A basic benefit M that individuals can privately top-up (with $m_i \geq 0$) if they choose. The level of M is set to maximize egalitarian social welfare, recognizing that some individuals will choose to top-up.

We think of the generous uniform policy as roughly analogous to Medicare in that it provides extensive coverage and provider choice so that even higher-income households view the plan as roughly what they would demand even in the absence of Medicare.[18] Because it is an popular entitlement and is not subject to a budget constraint, its generosity evolves mechanically, so that it grows even in the face of budget pressures and changing economic fundamentals. Optimal uniform and top-up benefits, by contrast, reflect the model's optimal tradeoff between equity and efficiency given the respective benefit structures and changing economic circumstances. For top-up benefits, we assume an additional administrative cost of $\kappa = 2\%$ (with $\kappa = 0$ for the uniform systems), which ensures that the top-up policy need not always be socially preferable.

4.2 Simulation Results

Medical Spending Inequality

A key premise of our analysis is that inequality in *private demand* for medical care across the income distribution has widened over time. Although it is difficult to observe real-world measures of the income elasticity of private medical demand – not influenced by public programs or employment-based health insurance[19] – we can test this idea in our simulation model.

Figure 4 plots privately chosen medical spending for various income percentiles (25$^{\text{th}}$%, 50$^{\text{th}}$%, 75$^{\text{th}}$% and 95$^{\text{th}}$%) in a simulation with cash redistribution (R = 5% of average income) but no public health insurance benefits (M = 0). All values are reported as a share of the average income in each year; this adjusts for general economic growth but makes levels comparable across groups for a given year.

Medical spending rises sharply for all groups over time, reflecting the improved medical technology in our calibrated health production function. But in addition to general growth, *inequality* in health spending across incomes widens. While the rich always buy more health care than the poor, the gap grows as health care becomes more expensive relative to income. In 1968,

[18] Even when wealthy elderly people sign up for "concierge" medical services, Medicare is still commonly relied upon for inpatient services.

[19] Studies on this topic have used income shocks such as oil price shocks (Acemoglu et al. 2013) or lottery winnings (Cheng et al. 2018) to estimate positive income elasticities of health spending. Another source of information is individual market health insurance choices in exchanges. Demand estimates from these settings are consistent with higher-income people being less price-sensitive – and therefore more sensitive to quality – in plan choices (Shepard 2016, Jaffe and Shepard 2019, Tebaldi 2017). However, there are few measures on whether or how this income elasticity has changed over time.

the 95th income percentile spends 4.1% of mean income on health care (about $2,500) versus 1.4% of mean income (about $880) for the 25th percentile – a gap of 2.7% of mean income. By 2045, these numbers grow to 23.9% of mean income ($31,000) for the 95th percentile versus 9.6% of income ($12,500) for the 25th percentile – a gap that has widened five-fold to 14.2% of mean income. Most of this widening gap reflects the simple fact that medical spending grows as a share of income. As a result, similar *proportional* gaps – the 95th percentile spends about 2-3 times the 25th percentile in all years – implies much larger *absolute* gaps in desired spending.

Public Health Insurance Benefits

Under a uniform insurance system, the government must choose a single level of health insurance benefits for everyone. But because of rising inequality in desired spending, any single choice will increasingly diverge from the private optimum for many income groups. This presents a dilemma for policymakers. If they choose benefits to satisfy the rich (as in the "generous uniform" policy), this choice will be increasingly inefficient for the middle class and poor who would prefer other forms of support. But if they choose benefits to satisfy the middle class, the rich will become increasingly dissatisfied.

Figure 5 shows how our simulated policymaker balances this tradeoff under the three policies we consider: generous uniform, optimal uniform, and top-up benefits. It plots the chosen level of the public medical benefit (M) over time, both in levels as a share of average income (Panel A) and in terms of its percentile in the private medical distribution from Figure 4 (Panel B). Recall that the generous uniform policy is mechanically set at the 95th percentile of private medical spending, so it grows accordingly. The optimal uniform and top-up benefits also grow but at a slower rate so that they diverge over time from the generous uniform policy.

In 1968, all three policies are similarly generous: 4.2% of mean income for generous uniform, 3.8% for optimal uniform, and 3.6% for top-up – or a gap of 0.6% of income from most to least generous policies. By 2015, the gap has widened, with benefits of 14.7%, 12.4%, and 11.7% of mean income for the three policies – or a gap of 3% of income. By 2045, it has still further widened to 24.0%, 18.5%, and 16.7% of the mean income – a gap of over 7% of mean income. These numbers also indicate that the gap between optimal uniform and top-up benefits grows over time (from 0.2% of income to 1.8% of income), another prediction of our graphical analysis.

Panel B shows this divergence another way. While the generous uniform policy grows with the preferred spending of the rich, both the optimal uniform and top-up policies cannot keep up with this growth. They fall relative to the distribution of privately optimal health spending, from the 90th and 85th percentiles in 1968 down to the 69th and 59th percentiles in 2045. This distributional fall also suggests the growing rationale for a top-up system. In 1968, just the richest 10% of people want health care more generous than the optimal uniform benefit. By 2015 this share grows to 22% and by 2045 to 31%. This suggests that the political economy of a uniform system without a top-up would be increasingly difficult to sustain (Baicker et al. 2013).

Underlying these simulation findings is the changing tradeoff between efficiency and (egalitarian) equity being made by the model. In the years around 1965 when health care was cheap, the cost of providing generous uniform insurance for all was low. But over time, the efficiency cost rises for two reasons. The first is the rising inequality in privately desired health spending highlighted above. A single uniform policy is increasingly divergent from what individuals would have chosen on their own. The second reason is that the rising cost of public health insurance pushes up tax rates, and therefore the marginal deadweight loss of taxes. Generous medical care becomes increasingly unaffordable even for the government. Figure 6 plots the top marginal tax rate under the different policies. This top rate rises from about 30% in 1968 to 66% in 2045 under generous uniform insurance. Shifting to the less generous optimal uniform or top-up benefits allows for a more moderate top marginal rate of about 50% in 2045.

Distributional Incidence and a Progressive Top-Up Reform

How do the uniform and top-up policies affect overall welfare and the welfare of different income groups? In the simulations above with fixed cash benefits, less generous uniform health insurance benefits imply lower taxes, which disproportionately benefits the rich. Moreover, shifting to a top-up system further benefits the rich because it removes a constraint on their desire to buy health care beyond the public benefit. It also allows the government to reduce the generosity of the public benefit, which is reflected in the lower *M* under top-up in all years in Figure 5A. For these reasons, shifting from generous uniform to either optimal uniform or top-up is at baseline a regressive change.

However, this distributional effect comes from our (simplifying) assumption that the savings from lower public medical spending – or the "Medicare dividend" – is entirely devoted to lowering

taxes. In practice, governments have a choice of how to spend this Medicare dividend. Governments could instead use the savings to increase cash transfers, which may allow for a more progressive incidence. We consider a policy exercise in which, starting from the top-up policy modeled above, we increase cash transfers (R) (and the taxes needed to finance them) until *all* individuals in the bottom 30% of the income distribution have higher egalitarian welfare (utility plus the egalitarian externality) than their welfare under the generous uniform policy. If this change can be implemented while still reducing government spending, it suggests that the efficiency rationales for shifting to a top-up system can be realized while simultaneously benefitting the poor.

Figure 7 shows the welfare change across the income distribution due to the shift from generous uniform to the baseline and progressive top-up policies in several simulation years (1975, 2015, and 2035). In each panel, the x-axis is the income percentile, and the y-axis is the (equivalent variation) welfare change for that income level expressed as a percent of income.[20] In all years, the baseline top-up policy (shown in black) reduces welfare for the poorest individuals and increases welfare for the rich. The welfare changes from the baseline top-up policy are small in 1975 but grow sharply by 2015 and 2035. This is consistent with the point discussed above that uniform and top-up policies are in practice quite similar in early years but diverge over time.

The blue curves in the panels of Figure 7 show the welfare change from the progressive top-up policy. By construction, the poorest 30% of incomes all have a positive welfare change. In practice, however, welfare increases for *all income groups* in 2015 and 2035, and in 1975 increases for everyone except some middle-income groups (whose welfare is essentially unchanged, declining by no more than 0.1%). This improvement is paid for by a small reduction in the welfare gains for the richest 30%, who pay higher taxes to fund the increased cash transfer. Despite this, the rich are still the primary beneficiaries of the policy, with welfare gains of 1-5% of income in 2015 and 3-9% of income in 2035. This suggests that governments might consider even larger increases in cash redistribution to share the welfare gains more equitably.

In addition to this, total public spending (shown in the text at the bottom right of each graph) decreases relative to the generous uniform policy. For instance, in 2015 public spending declines by 2.6% of mean income under the progressive top-up policy. This decline is only slightly less

[20] Equivalent variation measures the change in income at the initial policy (generous uniform) required to match the individual's welfare level at the new policy (top-up). We use egalitarian welfare as the welfare metric in this calculation to avoid having our results be driven by the divergence between individual utility and social welfare that is the original motivation for in-kind medical benefits.

than the 2.8% of mean income decrease under baseline top-up, with the 0.2% difference representing the higher cash transfer. Thus, a relatively small amount of cash redistribution is enough to ensure that the poor are not hurt by the shift to top-up in our simulations.

These welfare and spending results illustrate the "win-win" nature of the progressive top-up reform. Underlying these results is the fact that the generous uniform policy – which provides medical care designed for the rich to all income groups – is increasingly inefficient over time. The simple switch to a more basic medical benefit that allows for top-up generates a welfare gain that (if shared equitably) can improve average welfare across the board.

5 Discussion and Conclusion

Means-tested in-kind transfers of housing, food, and health care are the predominant form of income redistribution to low-income households (Currie and Gavhari, 2008). Medicare is a prominent example of a uniform in-kind benefit provided to *both* high- and low-income populations. In this paper, we develop a model that allows us to gauge the tradeoffs involved in this uniform benefit design.

Using a stylized model, we show how tax distortions, income inequality, egalitarian preferences, and technology growth affect the efficient structure of the program. Our results suggest that in 1965 when Medicare was first created, its uniform generous structure was relatively well suited to the economic and technological environment. But by 2019 it has become much less efficient relative to a "top-up" health insurance program where more basic public coverage can be supplemented by private health insurance. Our results are consistent with policies seen in many other developed countries, which provide a basic universal public insurance plan and where many citizens take advantage of the opportunity to pay extra for amenities and additional services.

Our model also helps to explain the puzzle of why the share of GDP devoted to health care has grown so much faster in the U.S. than in some other countries. The combination in the U.S. of an in-kind benefit reflecting the preferences of higher-income taxpayers coupled with lower tax rates (and commensurately lower excess burden of taxation) provided an ideal environment for rapid growth since 1965. In Europe, many countries had already elected to provide universal coverage, and with their high existing marginal tax rates, had limited scope for expanding benefits (Chandra and Skinner, 2012). By contrast, Medicare covered only a fraction of the population and

marginal tax rates were relatively low, so the increase in spending on covered health care could, for a time, be absorbed without generating extremely high marginal tax rates. Expanding Medicare to a greater share of the population would only hasten the anticipated growth in tax rates necessary to fund it.

We explore the implications of an alternative "basic" form of public insurance that provides more restricted benefits with regulated prices and allows higher income households to top-up their coverage with privately financed plans. Under such a plan, lower income households would consume less health care than their higher income counterparts, and perhaps less care than they do now. This naturally raises concerns about equity. Many who support a uniform benefit structure point to the "right to health care" as a foundational rationale. It is worth noting, however, that a uniform benefit is likely to result in a substantially higher share of income being devoted to health care (rather than, for example, food, education, or housing) than the typical lower-income household might choose. It is also likely to result in fiscal pressures over time that not only raise taxes but also crowd out spending on other public goods and transfer programs (Baicker, 2001). We demonstrate in our model that it is possible to offset some of the equity effects of the top-up redesign by appropriate redistribution of the taxpayer savings generated by scaling back the public benefit. Ultimately, the distributional implications of the plan redesign hinge on how the government uses this "Medicare dividend" – whether to reduce marginal tax rates on high-income households or increase social support for low-income households.

The tension between uniform (and thus "equitable") benefits and differential benefits extends to other public programs such as education. Universal higher education provided by the government and financed largely by taxpayers has been proposed by several 2020 presidential candidates and is provided in many European countries. In practice, because of budgetary pressure, many such "universal" higher education systems in other countries have converged on providing lower per-student expenditures, with wealthier students opting out into private universities.

This top-up structure is not only similar to that seen in some other countries, but is also related to other proposals discussed in the U.S. context, including value-based insurance design (Chernew et al., 2007) and premium support plans proposed by Emanuel and Fuchs (2005), Aaron and

Reischauer (1995), and Ryan (2012).[21] Reinhardt (2012) suggested a three-tier system, with high-income households eligible for "the sky's the limit" insurance, largely unsubsidized by the government, middle-income households receiving a "reference pricing" insurance policy that reimburses only for the lowest-cost regional provider, and low-income enrollees receiving Medicaid-like public care under strict cost control rules.

Some of the current "Medicare-for-All" proposals simply extend the current uniform benefit to more people (or, in some cases, simultaneously increase the generosity).[22] Others suggest a hybrid "public option" in which Medicare (or even Medicaid) is provided as an option in addition to conventional private insurance – raising the questions of what payment rates the public plan would offer to providers, what network restrictions would be included, and how those features would affect competition between the private and public options. If the savings from choosing the cheapest option accrued to enrollees, such plans share some of the features of a top-up system.

Moving to a basic benefit-plus-top-up plan would of course pose both practical and political challenges because of the reliance on potentially controversial determinations of cost-effectiveness. Political pressures might, though, play out differently with different plans and different eligible populations. Following the birth of the National Health Service in Britain in 1948, cutbacks were quickly implemented in response to overly optimistic budget projections (Lane, 2012; pp. 191-93). A similar evolution could occur under a "Medicare for All" plan, in which budgetary pressures and monopsony power could lead to an erosion in reimbursements and a curtailment of benefits, creating a national program that more closely resembles "Medicaid for All" but with people free to top up or opt out into private plans.

As new technologies arrive with ever-larger price-tags, pressure will continue to mount on public budgets; and equality of access to care, rather than guaranteed access to a minimum level of care, will become increasingly costly. It is vital that policymakers consider how alternative

[21] While our model has focused primarily on "top-up" plans, other systems require higher-income households to step outside the insurance plan to pay entirely out-of-pocket, as is the case for, e.g., concierge medicine or treatments not covered under the National Health Service in England.

[22] To the extent that reforms such as alternative payment models improve the efficiency of the Medicare program, those improvements would also scale up with expansion. Expanding the Medicare Advantage program would also have different implications for the efficiency of delivery than expanding the traditional Medicare fee-for-service component. The important questions of efficient payment, cost-sharing, and network design within insurance plans are beyond the scope of this discussion.

program designs affect the overall wellbeing of households across the income distribution as they debate Medicare's future.

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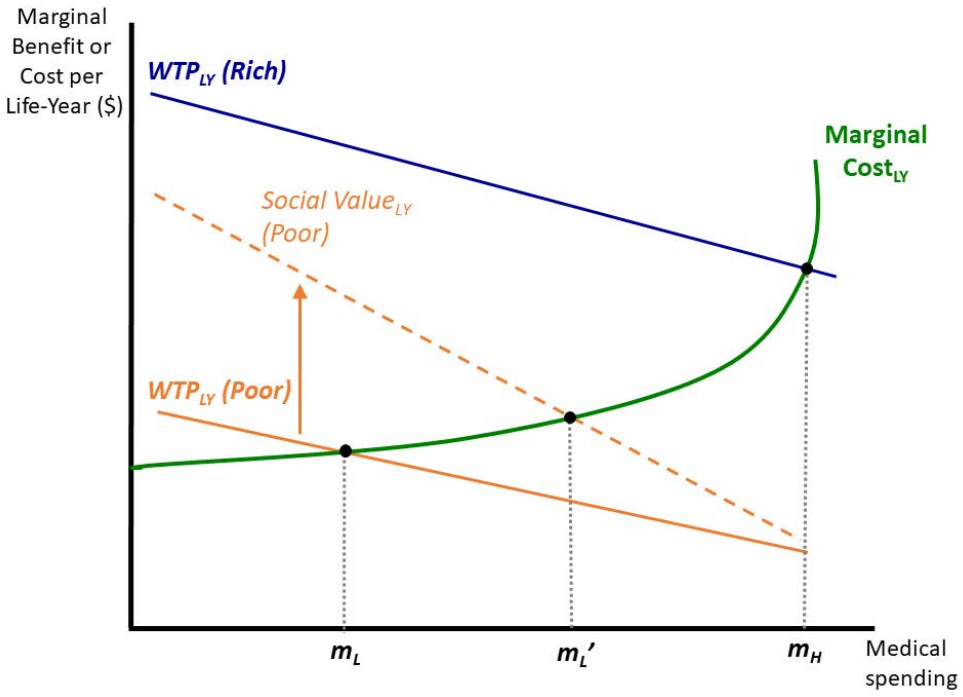
Figures

Figure 1: Graphical Model of Private and Public Medical Spending

Panel A: Private Medical Spending Choices



Panel B: Uniform Benefits

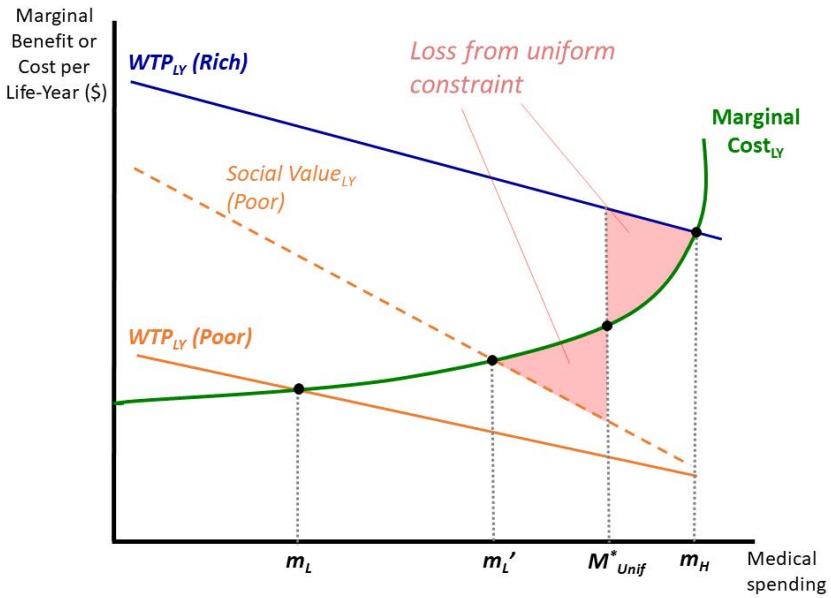


Figure 2: Top-Up vs. Uniform Benefits

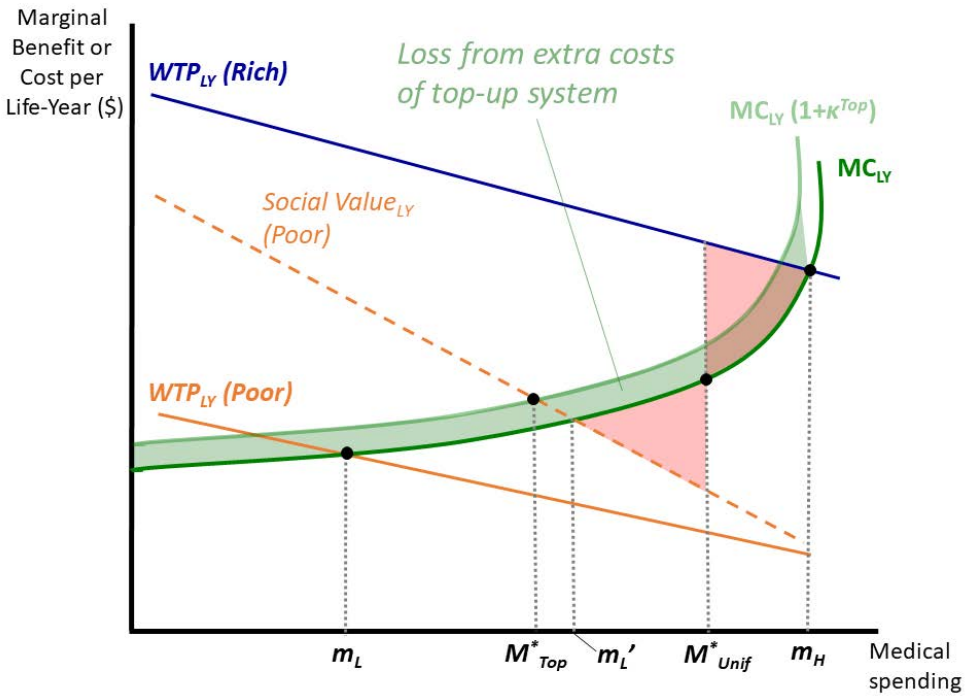
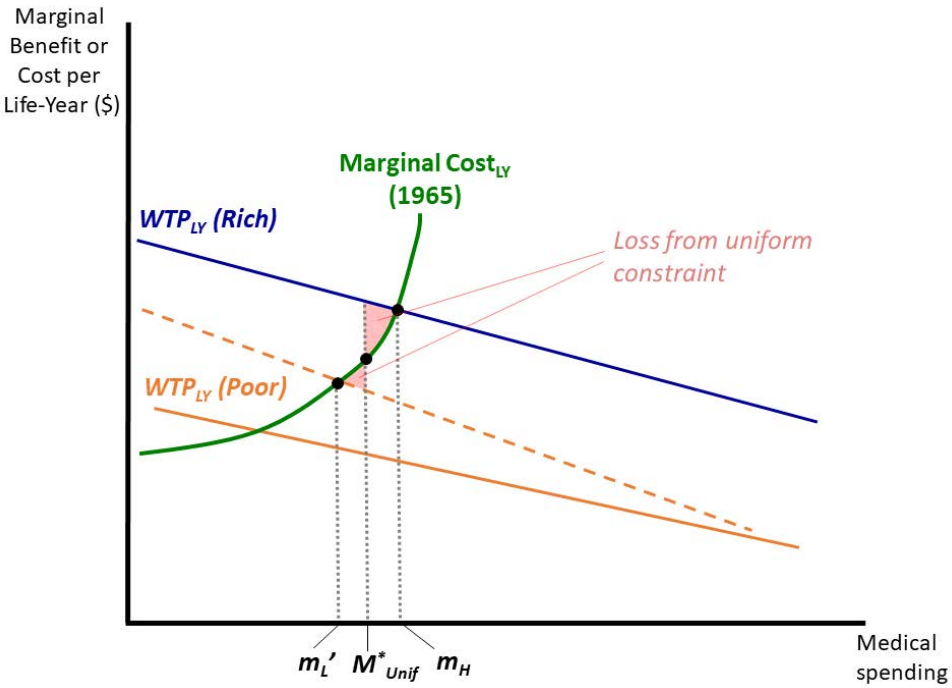
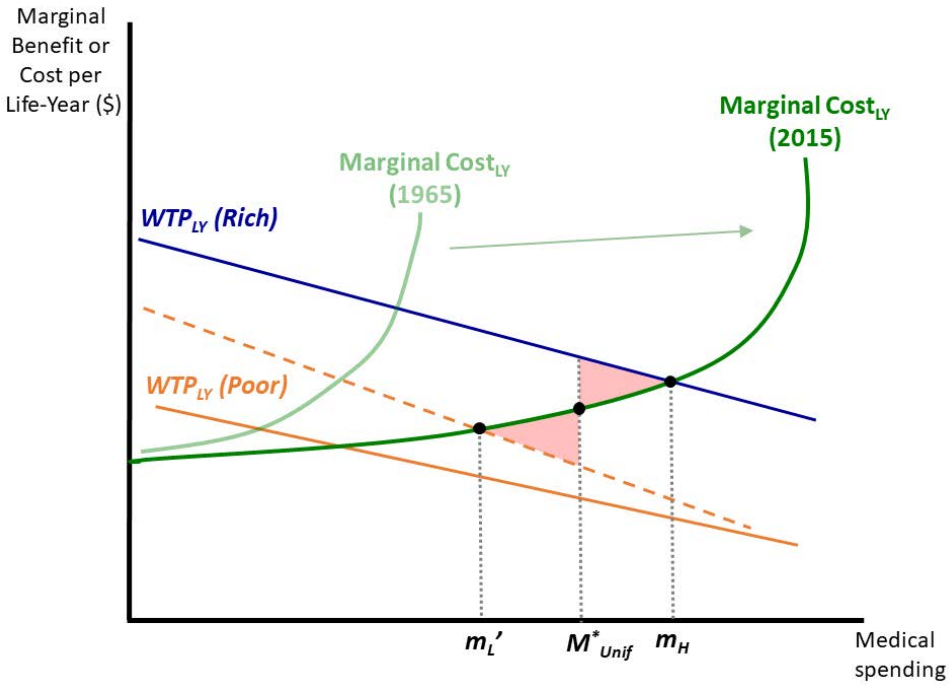


Figure 3: Rising Costs of Uniform Health Insurance Benefits

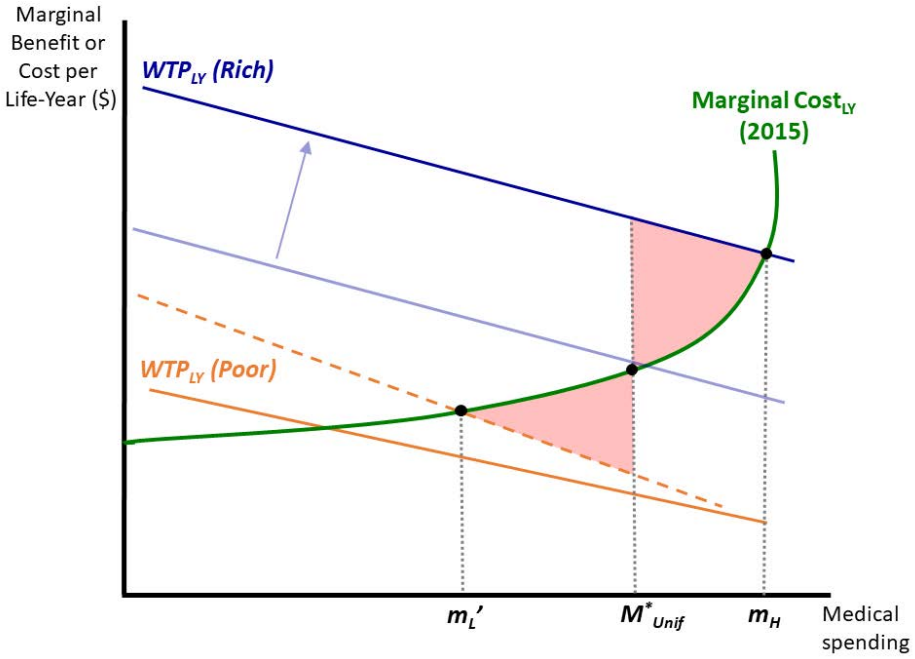
Panel A: Baseline (Medicare in 1965)



Panel B: Improving Medical Technologies



Panel C: Rising Income Inequality



Panel D: Rising Deadweight Loss (DWL) of Taxation

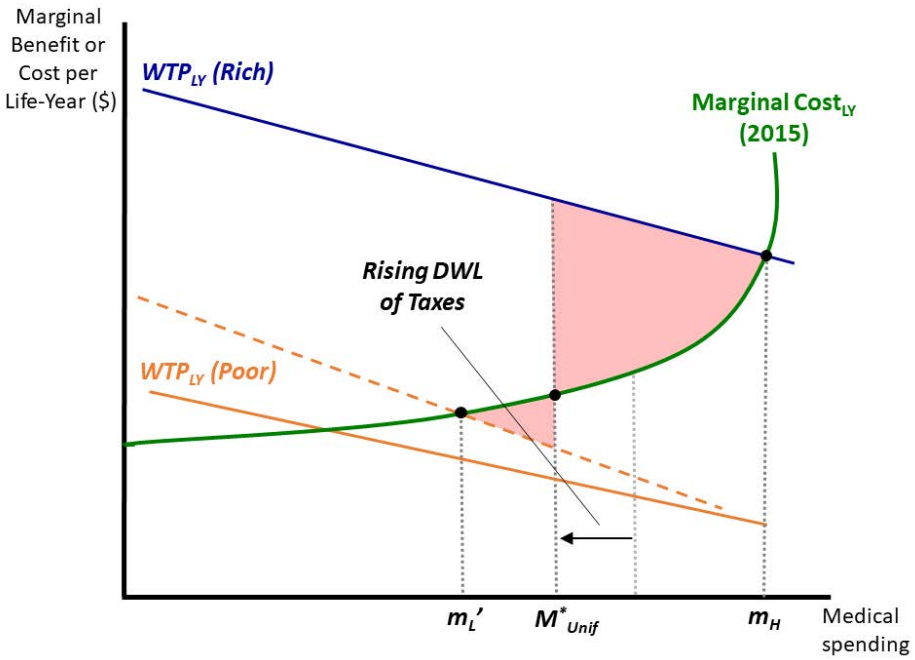


Figure 4: Simulations: Widening Inequality in Private Medical Spending

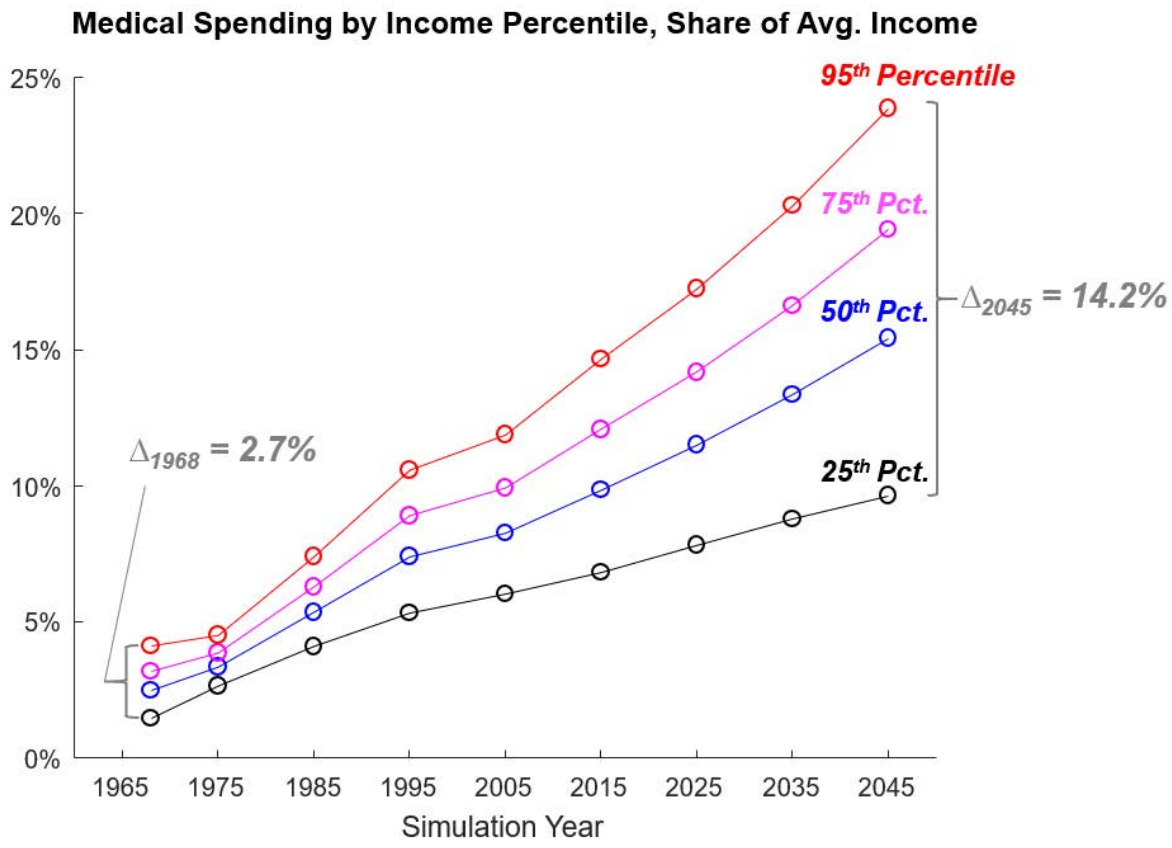


Figure 5: Simulations: Public Medical Benefit Level

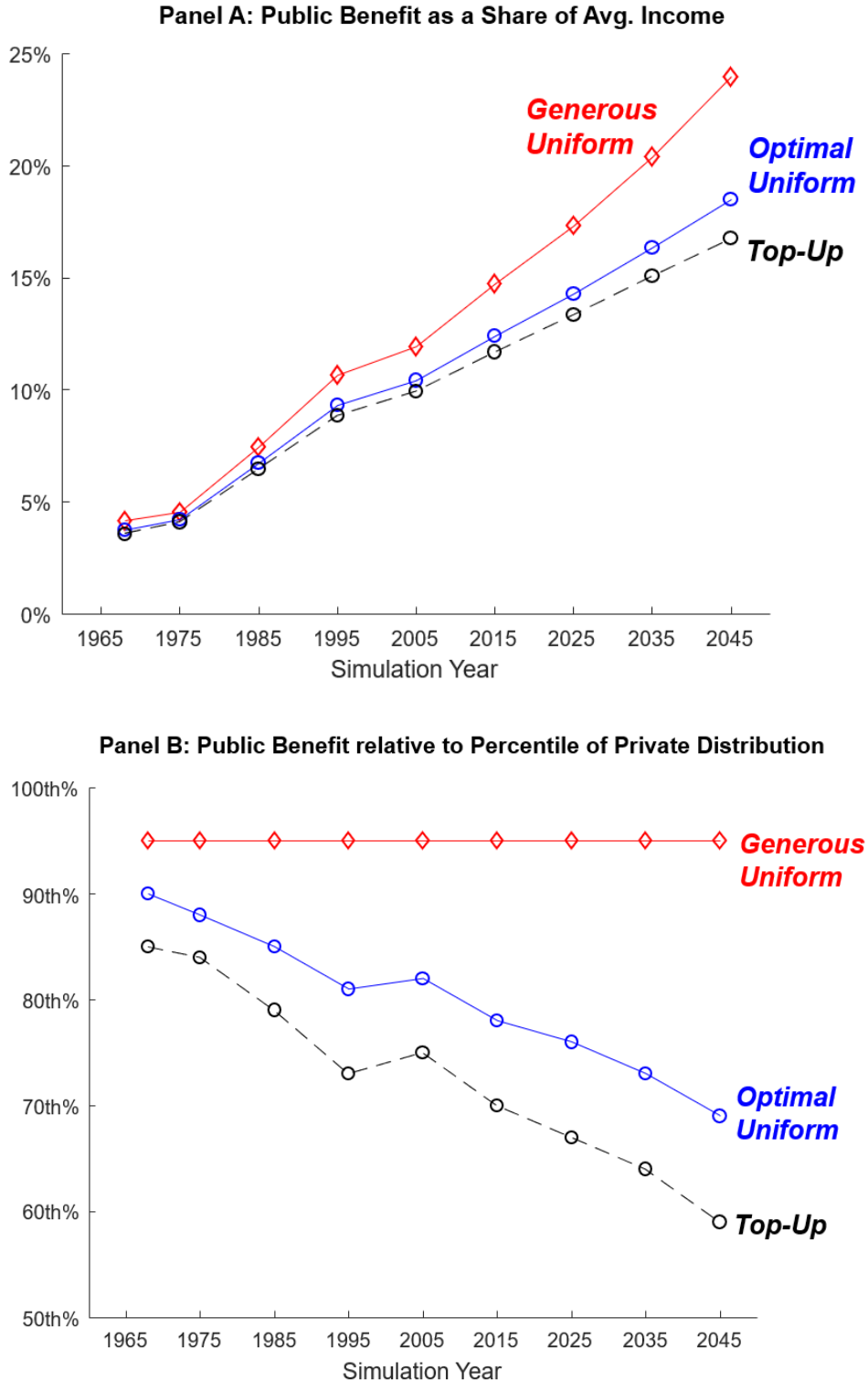


Figure 6: Simulations: Top Marginal Tax Rates

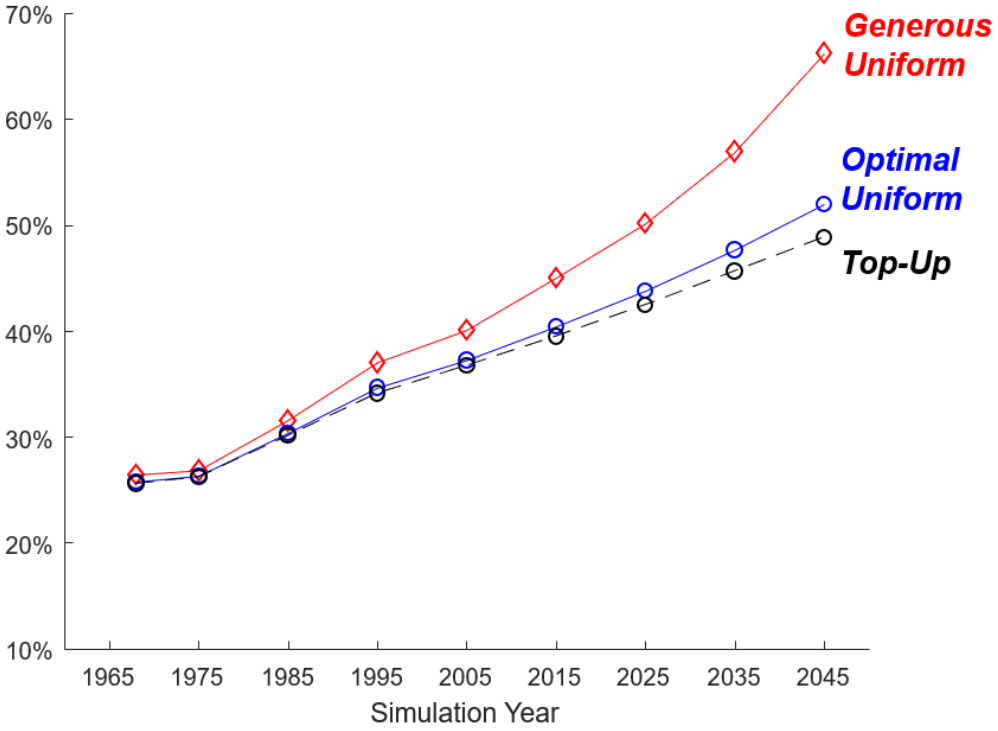
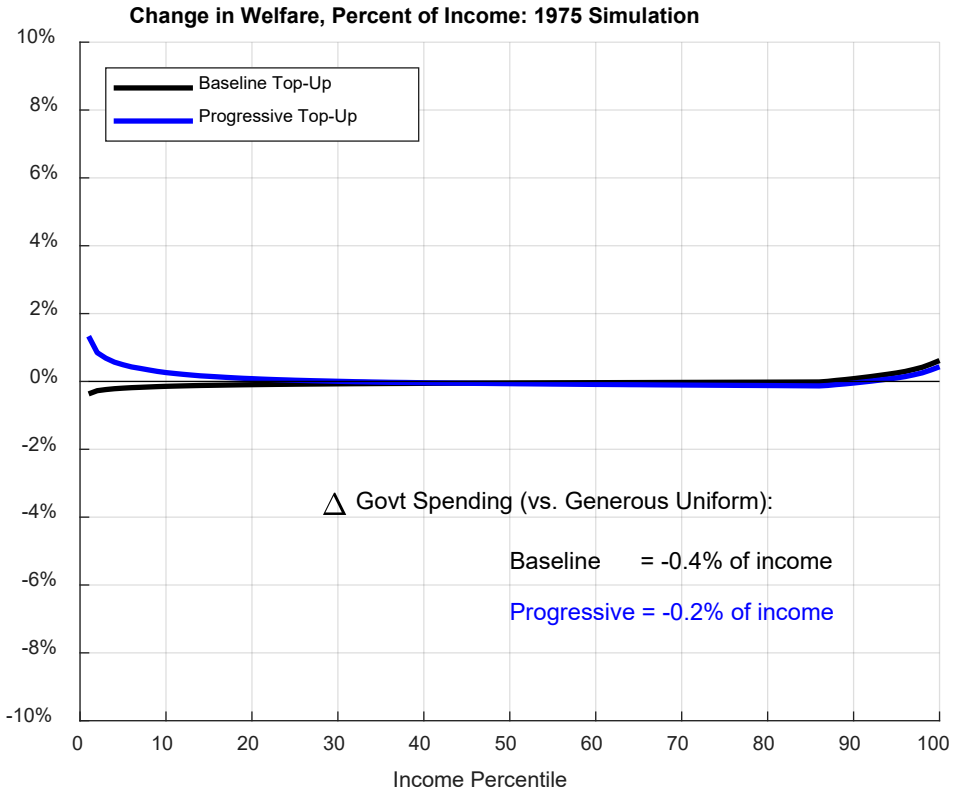
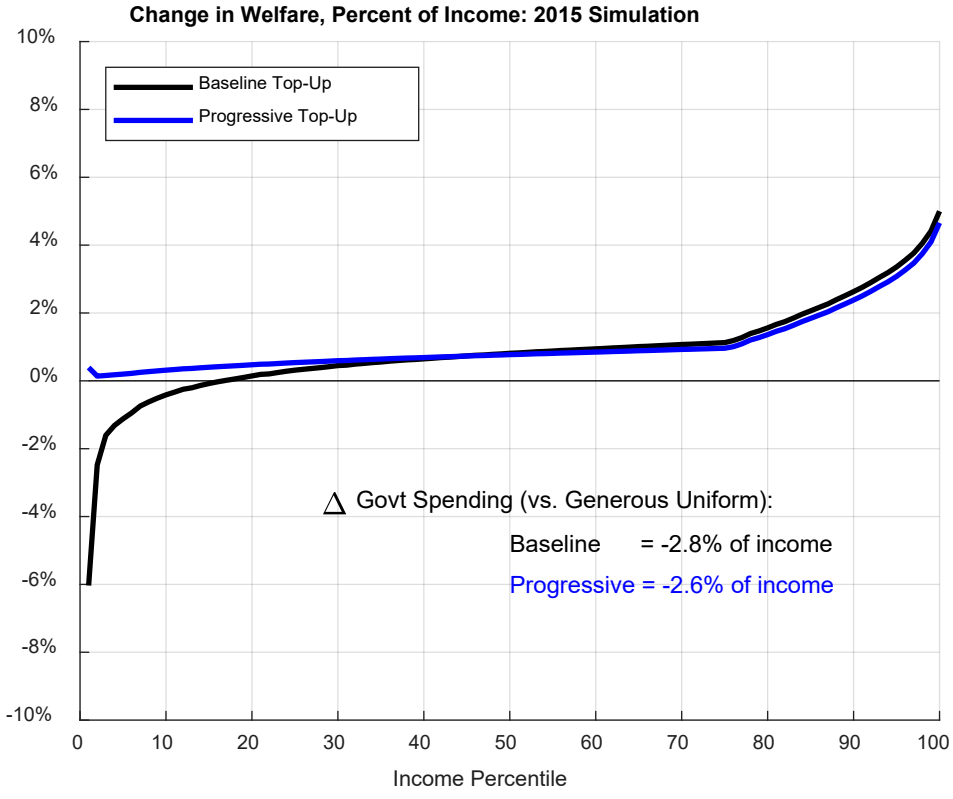
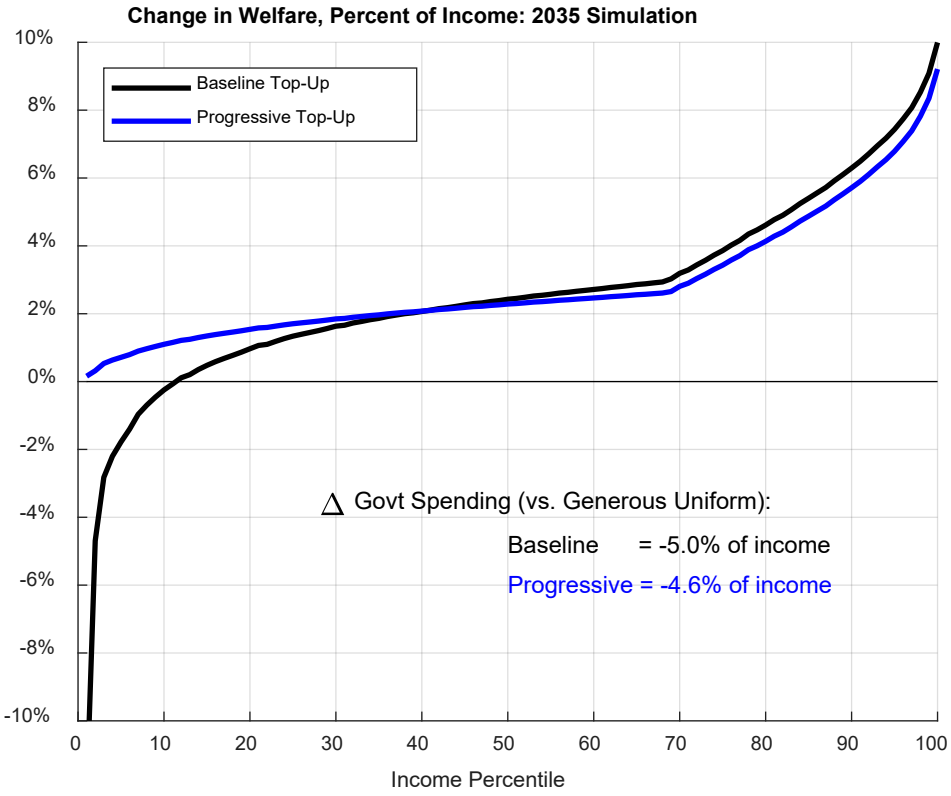


Figure 7: Distributional Welfare Impacts of Shift to Top-Up Benefits






Change in Welfare, Percent of Income: 2035 Simulation
Baseline Top-Up
Progressive Top-Up
△ Govt Spending (vs. Generous Uniform):
Baseline = -5.0% of income
Progressive = -4.6% of income
10%
8%
6%
4%
2%
0%
-2%
-4%
-6%
-8%
-10%
0
10
20
30
40
50
60
70
80
90
100
Income Percentile

Appendix A: Simulation Model Details

This appendix presents the details of the specification and calibration of our simulation model. The model takes the form of standard public economics two-level optimization, with the government choosing economic policy and individuals making choices given the government policy. We discuss these two parts in reverse order. We start by recapping the model setup for each part and then discuss specification and calibration details.

Individual Problem

As shown in equation (1) in the text, the individual (*i*) optimization problem is:

$$\max_{c_i, m_i} \lambda\left(M + m_i\right) \cdot u\left(c_i\right)$$
$$\text{s.t.} \quad c_i + m_i = y_i - T\left(y_i\right) + R$$

where M is the public medical benefit and m_i is extra individual health spending, $\lambda(M + m_i)$ is longevity as a function of total medical spending $M + m_i$ (i.e., the health production function), $u(c)$ is flow utility of consumption, and y_i is individual income, $T(y_i)$ is income taxes owed, and R is a government cash transfer.

The individual also faces a constraint on extra individual health spending that depends on the public insurance system. We consider two possibilities:

1. **Uniform benefit:** $m_i = 0$ *(individuals cannot top-up the public benefit)*
2. **Top-up benefit:** $m_i \geq 0$ *(individuals can top-up above M with private funds)*

Note that this setup also allows for a purely private health system, which is equivalent to a top-up benefit with $M = 0$.

Function Specifications: We make the following specification choices for $u(.)$, $T(.)$, and $\lambda(.)$:

- Flow utility: $u(c) = b + \log\left(c\right)$, where b is a constant set so that the implied value of a life-year is \$100,000 at $c = \$30{,}000$. We have also experimented with other constant relative risk aversion specifications (e.g., CRRA = 2) and found little change in the main results.

- Taxes: We model taxes as a scaled version of a baseline progressive schedule $T_0(y_i)$, so that $T(y_i) = \tau \cdot T_0(y_i)$ where τ is the scale factor that the government sets to balance its budget. The baseline tax schedule $T_0(y)$ is set to be a smoothed version of the U.S. income, payroll, plus state tax schedules. This function smooths over jumps in marginal tax rates (which simplifies computation) and ensures globally increasing marginal tax rates, to avoid problems associated with non-convex budget sets. We first fit a polynomial function to the marginal tax rate schedule (with arguments of $\log(y + 2000)$ to improve the fit) then integrate up to calculate the smoothed taxes owed schedule. Appendix Figure A.1 shows the resulting fit.

- Health production function: The health production function captures the map between medical spending (m) and expected longevity/health. To specify this, we start by specifying a function for an annual survival rate $\sigma(m)$ (one minus the mortality rate):

$$\sigma(m) = s_0 + \left(1 - \exp(-\alpha \cdot m)\right) \cdot (s_{\max} - s_0)$$

This function implies that an individual with no health care (m = \$0) has a survival rate of s_0, and as $m \to \infty$ the survival rate approaches $s_{\max}$. The marginal returns to a given level of medical spending (i.e., the function concavity) are determined by α, with a larger α implying more concavity or more steeply diminishing returns at low levels of spending. Total life expectancy at age 65 equal the inverse of the mortality rate, or:

$$\lambda(m) = \frac{1}{1 - \sigma(m)}$$

which is the life expectancy implied by a constant mortality rate of $1 - \sigma(m)$. We fix $s_0 = 0.75$ in all years but estimate $s_{\max}$ and α separately to match spending and life expectancy moments in each simulation year. To match the growing spending and improving longevity, we estimate that α declines (from 0.0012 in 1968 to 0.00016 in 2045) and $s_{\max}$ increases (from 0.82 in 1968 to 0.94 in 2045).

Government Policy Problem

The government makes the following policy choices. It chooses the tax scalar (τ), cash transfer (R), medical benefit (M), and design of medical benefits to maximize the social welfare function:

$$SW = \sum_i \left[\lambda(m_i) u(c_i) + e(m_i) \right]$$

subject to public budget constraint:

$$\sum_i \left(R + M \cdot (1+\kappa) + E \right) = \sum_i \tau \cdot T_0(y_i) \cdot (1 - \chi(\tau))$$

and where $\{m_i, c_i\}$ are set by individual choices from the problem in (1) and κ captures the excess administrative costs of providing in-kind medical benefits as opposed to cash. The functions and parameters that need to be specified here are:

- Egalitarian externality ($e(m)$): The egalitarian externality determines the extra social value of medical spending that motivates in-kind medical benefits (as opposed to purely cash transfers). We specify it as the additional social value of living an extra year, valued at flow utility of consuming the year's median income, $u(\bar{y}_t)$. Mathematically:

  $$e(m) = \lambda(m) \cdot u(\bar{y}_t)$$

  By using a fixed $u(\bar{y}_t)$ for all individuals, it effectively places more weight on improving the health of the poor relative to their private value of health.

- Deadweight loss of taxes: To capture these losses, we do not model a full labor supply problem but instead specify that levying taxes that reduce individuals' consumption by \$1 only raises tax revenue of $\$(1 - \chi(\tau))$, where $\chi(\tau)$ captures revenue leakage due to the excess burden of taxes. As taxes rise, $\chi(\tau)$ will increase due to the rising marginal excess burden of higher tax rates. We specify the excess burden term as $\chi(\tau) = \varepsilon_{TI} \cdot \overline{MTR}(\tau)$, where ε_{TI} is the elasticity of taxable income (assumed to be 0.5) and $\overline{MTR}(\tau)$ is the average marginal tax rate for tax scalar τ. This function for $\chi(\tau)$ is derived from a

calculation of average revenue leakage (starting from an initial tax of 0) assuming a constant elasticity of taxable income. To see this, note that by definition:

$$d\log\left(Rev\right) = \varepsilon_{TI} \cdot d\log\left(1 - MTR\right)$$
$$= \varepsilon_{TI} \cdot \frac{-dMTR}{1 - MTR}$$

Now consider a particular income group *g* and consider a tax increase from *MTR* = 0 up to the rate implied by tax scalar τ, which is $MTR_{0,g} \cdot \tau$ where $MTR_{0,g}$ is the group's baseline marginal tax rate given the baseline tax schedule. We then adapt the formula for $d\log(Rev)$ to approximate this discrete tax increase (starting from an initial *MTR* = 0):

$$\%\Delta Rev_g \approx \varepsilon_{TI} \cdot \frac{\tau \cdot MTR_{0,g} - 0}{1 - 0} = \varepsilon_{TI} \cdot \tau \cdot MTR_{0,g}$$

We then calculate an income-weighted average of this $\%\Delta Rev_g$ term across income groups to generate $\chi\left(\tau\right) = \overline{\%\Delta Rev} = \varepsilon_{TI} \cdot \tau \cdot \overline{MTR_{0,g}} = \varepsilon_{TI} \cdot \overline{MTR}\left(\tau\right)$. This captures a measure of the *average* percent change in revenue (or average "revenue leakage") from the tax increase from zero. Note that this differs from the more familiar formula for the *marginal* revenue leakage of a tax increase (see Saez, Slemrod, and Giertz, 2012).

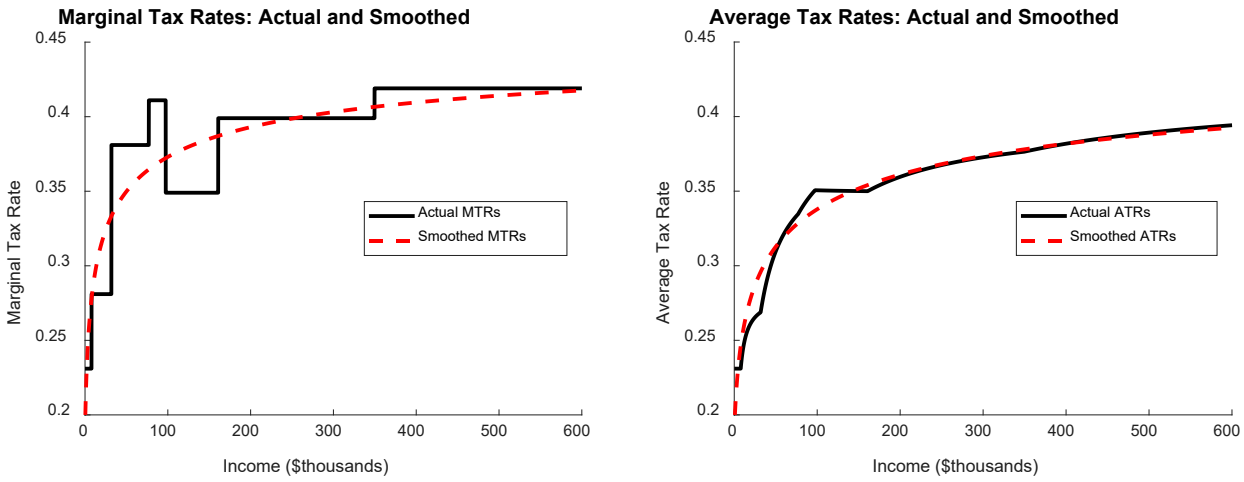
- Administrative costs (κ): There is little evidence from which to draw on in specifying the costs due to administration. In practice, only the difference in κ between the uniform and top-up settings is relevant for our analysis. We therefore normalize $\kappa = 0$ for the uniform systems (generous and optimal). We set $\kappa = 2\%$ for top-up benefits in order to add a small additional value of administrative costs ensures that the top-up policy need not always be socially preferable. In practice, this results in the optimal uniform benefits being socially preferred over top-up in the earlier years of the model and top-up benefits being preferred in later years. Both top-up and optimal uniform yield higher welfare than the generous uniform specification in all years.

Calibration to Medical Spending and Life Expectancy Data

We flexibly calibrate the parameters $s_{\max}$ and α of the health production function for each simulation year to match two moments: (1) the historical or projected Medicare spending per beneficiary, drawing on projections from the Medicare trustees, and (2) historical or projected average life expectancy at age 65 from the Social Security Administration (Bell and Miller, 2005). We match these moments under the policy of generous uniform medical benefits (i.e., *M* set at what the 95th income percentile would choose), since this is intended to proxy for the Medicare policy in place to generate the historical data.

By flexibly calibrating $\lambda(m)$ in each simulation year, we capture the way that technology improves to both extend life (and, more generally, quality of life) and to induce people to spend more on medical care. Because the estimation is just-identified, we match all of the moments exactly. Appendix Table A.1 lists the moments and parameter estimates for each simulation year.

Appendix Figure A.1: Smoothed Tax Rate Functions for Model



Appendix Table A.1: Moments and Parameter Estimates

Simulation Year	Moments		Parameter Estimates	
	Medicare Spending per Elderly Person (in 2015 $)	Life Expectancy at Age 65	Smax	Alpha
1968	$2,637	70.5	0.821	1.16E-03
1975	$3,040	72.7	0.871	1.52E-03
1985	$5,268	74.7	0.898	9.27E-04
1995	$7,845	75.9	0.909	6.13E-04
2005	$10,182	77.2	0.919	4.97E-04
2015	$12,741	78.2	0.925	4.00E-04
2025	$17,345	79.1	0.930	2.94E-04
2035	$23,634	80.1	0.935	2.15E-04
2045	$32,182	80.9	0.938	1.57E-04