

Proposal to Use Three Initiatives to Lower Healthcare Spending and Finance Universal Health Insurance Coverage in California

Report

Nicholas C. Petris Center on Health Care Markets and Consumer Welfare

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Richard M. Scheffler, Ph.D.

Director, Nicholas C. Petris Center on Health Care Markets and Consumer Welfare
Distinguished Professor of Health Economics and Public Policy
School of Public Health and Goldman School of Public Policy, University of California, Berkeley

Brent D. Fulton, Ph.D., MBA

Associate Director, Petris Center
Assistant Adjunct Professor of Health Economics and Policy
School of Public Health, University of California, Berkeley

Donald D. Hoang, MBA, MPH

Research Associate, Petris Center

Stephen M. Shortell, Ph.D., MBA, MPH

Blue Cross of California Distinguished Professor of Health Policy and Management and Professor of Organization Behavior, Emeritus
School of Public Health and Haas School of Business, University of California, Berkeley
Co-Director, Center for Health Care Organizational and Innovation Research (CHOIR)

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Questions about the report can be sent to Dr. Brent Fulton at fultonb@berkeley.edu.

Abstract

Health expenditures in California continue to grow with respect to the state's gross domestic product, resulting in healthcare becoming more unaffordable to the state, employers, and individuals. In this report, we project health spending in the California from 2015 to 2022 using data from the Centers for Medicare and Medicaid Services' Office of the Actuary. We then estimate potential reductions in spending from the Berkeley Forum for Improving California's Healthcare Delivery System's initiatives to increase the use of global budgets/integrated care systems, patient-centered medical homes, and palliative care.¹ By 2022, these initiatives generate an estimated \$15.4 billion in health spending reductions, an amount sufficient to provide universal health insurance coverage in the state at a cost of \$7.2 billion. The State of California, the federal government, and the private sector should consider accelerating their programs related to these initiatives to help achieve these health expenditure reductions.

Introduction

The Centers for Medicare and Medicaid Services (CMS) Office of the Actuary recently released its annual estimate of health spending in the United States (Hartman et al. 2017). In 2016, health spending was \$10,348 per capita totaling \$3.3 trillion, which accounted for 17.9% of the gross domestic product (GDP).² In comparison, California's health spending as a percentage of its GDP has been 2 to 3 percentage points lower than the United States' percentage (Lassman et al. 2017). There are numerous reasons for this, but the impact of capitated and other risk-based payment models – especially within integrated delivery systems such as Dignity Health, Kaiser Permanente, MemorialCare Health System, Sharp HealthCare, and Sutter Health – is an important factor.

Capitated and other risk-based payment models can produce healthcare spending reductions. For instance, accountable care organizations (ACOs) in the Medicare Shared Savings Program (MSSP) produced net savings to Medicare of \$685 million, or 1.6% of total spending, in 2014 (McWilliams 2016). Meanwhile, recent evidence has shown that increases in Medicare Advantage enrollment may have spillover effects on the traditional Medicare patients and other patients. Those studies found that when more seniors enrolled in Medicare Advantage, hospital costs declined for all seniors and for commercially insured younger populations (Johnson et al. 2016; Baicker, Chernew, and Robbins 2013).

Our analysis estimates the impact of risk-adjusted, risk-based global budgets and integrated care systems on health spending in California as well as the impact of improvements in care coordination, including patient-centered medical homes and palliative care. The term "risk-adjusted" means the global

¹ The Berkeley Forum included the CEOs of six of California's leading health systems, three health insurers and two large physician organizations, along with the California Secretary of Health and Human Services, the U.S. Department of Health and Human Services Region IX Director and California insurance regulators (see <https://berkeleyhealthcareforum.berkeley.edu/>). The University of California, Berkeley School of Public Health was pleased to serve as a neutral facilitator for discussions and as the analytic staff for this effort. The Berkeley Forum's work complemented California Governor Jerry Brown's "Let's Get Healthy California" report of December 2012 (see <https://letsgethealthy.ca.gov/>). The Governor's report established baseline indicators and target goals for the health of Californians and progress in priority areas, such as integrated care. Our analysis provides estimates of the expenditure reductions that can be achieved by pursuing some of those initiatives. The Berkeley Forum was active from 2012 to 2014.

² Health expenditures and healthcare expenditures are sometimes used interchangeably in the literature; however, they are distinct (Centers for Medicare & Medicaid Services 2016). CMS defines Personal Health Care as all medical goods and services used to prevent or treat a specific disease or condition for a particular person. This category is often referred to as healthcare expenditures and accounted for 85% of all health expenditures in 2016. The remaining 15% comprised of expenditures from government administration, net cost of health insurance, government public health activities, and investment. In this report we use the term health expenditures, because it represents the total.

budget is set at a level that accounts for patient illness severity and patient case-mix. The term “risk-based” means that providers could share in the savings if expenditures were below the risk-adjusted budget and they could be at-risk for expenditures above that budget.

Data

The Centers for Medicare and Medicaid Services’ (CMS) Office of the Actuary produce the official estimates of health spending in the United States and by state, see: (Martin et al. 2017; Lassman et al. 2017; Keehan et al. 2017). CMS recently released three health expenditure datasets that we used in our updated projection for California’s health spending through 2022:

- *Historical NHE Tables: Table 01: National Health Expenditures; Aggregate and Per Capita Amounts, Annual Percent Change and Percent Distribution: Selected Calendar Years 1960-2015* (released November 28, 2016)³
- *Health Expenditures by State of Residence, 1991-2014* (released June 14, 2017)⁴
- *NHE [National Health Expenditure] Projections 2016-2025 - Tables* (released February 14, 2017)^{5,6}

In addition, we used several other data sources. We used historical intercensal population estimates from the U.S. Census Bureau for California’s population from 2000-2009.⁷ We used updated U.S. Census population estimates for California from 2010-2016⁸ and California Department of Finance population projections for 2017-2025, with 2016 as the baseline year.⁹ California GDP estimates for 2000-2014 were based on the Bureau of Economic Analysis June 2017 data.¹⁰ To project GDP growth in California from 2015-2025, we applied the projected growth rate of U.S. GDP provided by CMS—the same methodology as Scheffler et al. 2014 used.

Health insurance coverage status was based on data from the U.S. Census Bureau’s 2016 American Community Survey, released on August 24, 2017.¹¹ The American Community Survey estimated insurance coverage status by state and by age.

³ <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html>, accessed July 6, 2017

⁴ <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsStateHealthAccountsResidence.html>, accessed July 6, 2017

⁵ <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsProjected.html>, accessed July 6, 2017

⁶ The health expenditure projections from the Office of the Actuary in CMS were used for our analysis. This included projections for 2016, which fell within 1% of actual national health expenditures recently reported by Hartman et al. 2017.

⁷ <https://www.census.gov/data/tables/time-series/demo/popest/intercensal-2000-2010-state.html>

⁸ U.S. Bureau of the Census Fact Finder. Accessed July 6, 2017. For years. 2010-2016.

https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2016_PEPANNRES&src=pt

⁹ California Department of Finance. 2017. P-1: State Population Projections (2010-2060) Total Population by County (1-year increments). Accessed July 6, 2017. <http://www.dof.ca.gov/Forecasting/Demographics/Projections/>

¹⁰ U.S. Department of Commerce Bureau of Economic Analysis. 2017. Regional Data. Annual GDP by State. GDP in Current Dollars. NAICS (1997-forward). Accessed July 6, 2017.

<https://bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=10&isuri=1&7003=1000&7035=-1&7004=naics&7005=1&7006=06000&7036=-1&7001=11000&7002=1&7090=70&7007=2016,2015,2014,2013,2012,2011,2010,2009,2008,2007,2006,2005,2004,2003,2002,2001,2000&7093=levels>

¹¹ U.S. Census Bureau American Community Survey. Table HI-05: Health Insurance Coverage Status and Type of Coverage by State and Age for All People: 2016. <https://www.census.gov/data/tables/time-series/demo/health-insurance/acs-hi.html>.

Methodology

The Berkeley Forum was assembled to generate ideas to decrease healthcare spending while improving or maintaining quality. The seven initiatives it recommended included the following: (1) increased use of global budgets/integrated care systems, (2) increased use of palliative care, (3) increased use of patient-centered medical homes, (4) increased rates of physical activity, (5) increased use of nurse practitioners and physician assistants, (6) reductions in healthcare associated infections, and (7) reductions in pre-term births. We explain the methods used to project health expenditures in California under the status quo and with these initiatives in the 2013 Berkeley Forum [report](#) “A New Vision for California’s Healthcare System: Integrated Care with Aligned Financial Incentives”, which was published in the peer-reviewed journal *California Journal of Politics and Policy* (Scheffler et al. 2014). Detailed descriptions of the projection methodology can be found in the [appendices](#) of the Berkeley Forum report (Scheffler et al. 2013a).

For this report, we estimated health spending reductions from increased use of global budgets/integrated care systems,¹² patient-centered medical homes,¹³ and palliative care.¹⁴ We selected these three initiatives, particularly global budgets/integrated care, because California has prioritized these areas and is making progress in them. For example, Let’s Get Healthy California [data](#) indicate an increase of Californians receiving care from an integrated system, from 50.9% in 2013 to 62.9% in 2016. Increased use of palliative care was also emphasized in the [Let’s Get Healthy California Task Force Final Report](#).

Furthermore, the Integrated Healthcare Association (IHA) just released its [California Regional Health Care Cost & Quality Atlas 2.0](#), which tracks cost and quality measures across the state and compares different levels of integration (Integrated Healthcare Association 2018). IHA [compared](#) HMO and PPO total costs of care in 2015 for enrollees in employer-sponsored and individual market plans. They found that the mean, risk-adjusted, per-member-per-year cost for HMO enrollees was \$4,529, which was 9% lower than PPO enrollees’ average cost of \$4,912, even though HMO enrollees had higher hospital and emergency department utilization. This suggests that while HMO enrollees’ utilization was higher for these expensive services, the unit prices paid directly (or the prices paid indirectly via other payment arrangements such as capitation) by HMO health plans to providers was lower in general. In a similar [analysis](#) that compared Medicare Advantage and traditional Medicare enrollees’ total cost of care in 2015, IHA found that the mean, risk-adjusted, per-member-per-year cost for Medicare Advantage enrollees was \$13,572, or 25% less than traditional Medicare beneficiaries’ mean cost of \$18,112. Some of this difference was explained by lower hospital utilization: Medicare Advantage enrollees had 808 inpatient bed days per 1,000-member years (PTMY), which was 379 days PTMY less than the 1,187 days PTMY for traditional Medicare beneficiaries.

¹² See Berkeley Healthcare Forum Appendix V: “Global Budgets, Integrated Care Systems (Initiative Memorandum)” for sources, assumptions, and additional detail (Scheffler et al. 2013b). <http://berkeleyhealthcareforum.berkeley.edu/wp-content/uploads/Appendix-V.-Global-Budgets-Integrated-Care-Systems-Initiative-Memorandum.pdf>

¹³ See Berkeley Healthcare Forum Appendix VI: “Patient-Centered Medical Homes (Initiative Memorandum)” for sources, assumptions, and additional detail (Scheffler et al. 2013c). <http://berkeleyhealthcareforum.berkeley.edu/wp-content/uploads/Appendix-VI.-Patient-Centered-Medical-Homes-Initiative-Memorandum.pdf>

¹⁴ See Berkeley Healthcare Forum Appendix VII: “Palliative Care (Initiative Memorandum)” for sources, assumptions, and additional detail (Scheffler et al. 2013d). <http://berkeleyhealthcareforum.berkeley.edu/wp-content/uploads/Appendix-VII.-Palliative-Care-Initiative-Memorandum.pdf>

To project health expenditures in California for 2015 to 2022, we projected personal healthcare expenditures and non-personal health expenditures separately.¹⁵ Although California's personal healthcare expenditures per capita have historically been lower than the United States' average, the annual growth rate trends between California and the United States were similar from 2000-2014: 4.0% versus 4.4%, respectively. Therefore, to project California's personal healthcare expenditures per capita, we applied CMS's United States personal healthcare expenditures per capita annual growth rate to California. As CMS does not provide projections of non-personal health expenditures at the state level, we assumed that California's non-personal health expenditures per capita were the same as the United States'.

To estimate spending reductions from increased use of global budgets/integrated care systems, patient-centered medical homes, and palliative care, we applied the same percentage reduction to health spending as estimated in our 2014 report (Fulton et al. 2014). This method assumes that the status quo's health expenditure projections already incorporate the extent to which these initiatives have progressed since our 2014 report, and then assumes the implementation of these initiatives accelerate at the same rate as modelled in our 2014 report. Detailed descriptions of the methodology can be found in the [appendices](#) of the Berkeley Forum report (Scheffler et al. 2013a).

To estimate the combined impact of these initiatives, we adjusted each initiative's reductions in spending for potential overlap. The global budgets/integrated care systems initiative comprises numerous components such as expanding the number of ACOs and increasing patient enrollment in capitated and other risk-based payment models. We included 100% of the spending reductions associated with this initiative. For the other two initiatives, we included only 50% of the spending reductions because we assumed the remainders were already accounted for in the global budgets/integrated care systems initiative. Chronic disease management and palliative care are often high priority areas for organizations operating under global budgets/integrated care systems.

To determine whether spending reductions from the three Berkeley Forum initiatives would be sufficient to pay for universal health insurance coverage in California by the end of 2022, we calculated the difference between these spending reductions and the increase in healthcare spending of individuals gaining insurance. We used Massachusetts' 2016 uninsured rate of 2.5% as the universal coverage goal for California. Therefore, we estimated the increase in healthcare spending by simulating a decrease in California's uninsured rate from 7.3% to 2.5% from 2016 to 2022 (US Census Bureau 2017a). We first calculated the number of uninsured adults (aged 19+ years old) and children (aged 0 to 18 years old) gaining insurance coverage each year. Second, we multiplied the cumulative number gaining insurance coverage by Hadley and colleagues estimated increase in healthcare spending per capita as a result of gaining coverage (Hadley et al. 2008). They estimated that adults and children gaining insurance would increase their healthcare expenditures by \$2,260 and \$781, respectively. We inflated these 2008 estimates to current-year 2018 to 2022 dollars using the annual change in

¹⁵ CMS categorizes health expenditures into two subcategories: health consumption and investment. Health consumption includes personal healthcare, government administration, net cost of health insurance, and government public health activities. Investment categories include research, structures, and equipment. In this report, health expenditures include both health consumption and investment expenditures, but it separates personal healthcare expenditures from non-personal health expenditures. The former includes healthcare expenditures from categories such as hospitals, physician services and pharmaceuticals. The latter includes government administration, net cost of health insurance, government public health activities, as well as investment in research, structures, and equipment. CMS does not estimate non-personal health expenditures at the state level, so our California projections of these expenditures are based on United States' per capita projections of these expenditures.

healthcare expenditures per capita in California.¹⁶ For example, in 2018, the estimated increase in healthcare spending from a person gaining insurance was \$3,182, based on a \$3,416 expenditure increase for adults and a \$1,181 expenditure increase for children, assuming adults account for 89.5% of the uninsured and children account for 10.5% of the uninsured, as was the case in 2016 (US Census Bureau 2017a).

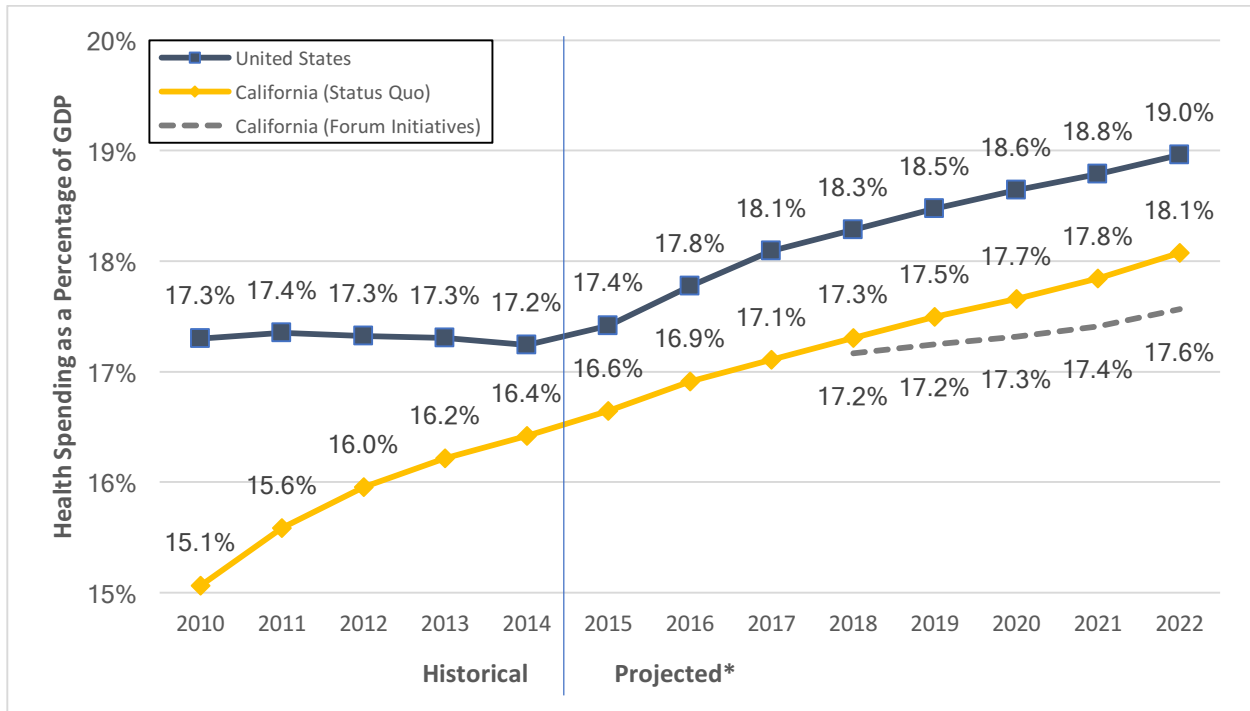
¹⁶ Hadley et al. (2008) used this same approach to inflate expenditures to 2008 dollars. An important review of indices available to adjust health expenditures for inflation recommended using the Personal Health Care index when adjusting total healthcare expenditures for inflation (Dunn, Grosse, and Zuvekas 2016). We examined that index, which is a United States index (https://meps.ahrq.gov/about_meps/Price_Index.shtml), but thought it understated recent healthcare expenditure increases per capita in California, partially because of the share of people gaining insurance in California recently exceeded the United States' share.

Results

Exhibit 1 shows historical and projected health spending as a percentage of GDP for the United States and California from 2010 to 2022, including the impact of the three Berkeley Forum initiatives in reducing projected health expenditures. For all three projections, health expenditures account for a greater share of GDP over time. For the United States, the health expenditures increase from 17.8% to 19.0% between 2016 and 2022.

For California, health expenditures are projected to reach 18.1% of the state’s GDP in 2022 under the status quo, about 0.9 percentage points lower than the United States. Under the Berkeley Forum’s three initiatives, California’s health expenditures are projected to be one-half of a percentage point less in 2022 at 17.6% of its GDP. This is because California’s projected health expenditures are estimated to decrease from \$548.0 billion to \$532.6 billion (or \$15.4 billion), as a result of the three initiatives. In terms of spending growth rates, we projected that spending in the state will grow at an annual rate of 5.9%, from \$411.4 billion in 2017 to \$548.0 billion in 2022. However, the three initiatives reduce that growth rate to 5.3%, meaning that spending would have grown to only \$532.6 billion in 2022.

Exhibit 1. Historical and Projected Health Expenditures as a Percentage of Gross Domestic Product, United States and California from 2010 to 2022



Source: Authors’ analysis of CMS Office of the Actuary’s health expenditure accounts data.

*For the United States, the exhibit shows actual health spending from 2010 to 2015 and projected health spending from 2016 to 2022. For California, the exhibit shows actual health spending from 2010 to 2014 and projected health spending from 2015 to 2022. See Berkeley Healthcare Forum [Appendix III: “California Cost Curve, Healthcare Expenditures and Premium Projections \(Methodology\)”](#) for sources, assumptions, and additional detail.

Exhibit 1 also shows the convergence of the United States’ and California’s health expenditures as a percentage of GDP over time. This convergence is partially due to the convergence of health spending. From 2010 to 2014, California’s health expenditures per capita were below the United States average, but that gap narrowed after the enactment of the Affordable Care Act. For example, in 2010, California’s

expenditures per capita were \$6,514, or 8.3% below the United States average of \$7,103. By 2014, this difference had narrowed to 5.2%: \$7,628 in California versus \$8,050 in the United States.

One key reason that the gap narrowed is because California’s uninsured rate decreased more than United States’ rate between 2010 and 2014 (Berchick and Barnett 2017), resulting in relatively greater healthcare expenditure increases in California. From 2010 to 2014, the American Community Survey estimated 3.5 million Californians gained insurance coverage, which led to the uninsured rate decreasing from 18.5% to 12.4% (or –33%) (US Census Bureau 2017b). During the same period, the uninsured rate also decreased in the United States, but not as sharply, from 15.5% to 11.7% (or –25%). California’s rate decreased more because it is one of 33 states (including Washington, D.C.) that has expanded Medicaid (Kaiser Family Foundation 2017) and it operates a successful state-based health insurance Exchange, Covered California. As of 2016, California’s uninsured rate stood at 7.3%, while the United States’ uninsured rate was higher at 8.6% (US Census Bureau 2017a).

Exhibit 2 shows the estimated health expenditure reductions of the three Berkeley Forum initiatives from 2018 to 2022: 1) global budgets/integrated care systems, 2) patient-centered medical homes, and 3) palliative care. In total, the initiatives are estimated to reduce health expenditures by \$47.5 billion cumulatively over this period. In 2022 alone, the estimated reduction is \$15.4 billion, or 2.8% of projected health spending in California.

Exhibit 2. Estimated Health Expenditure Reductions from Berkeley Forum Initiatives (\$billions)

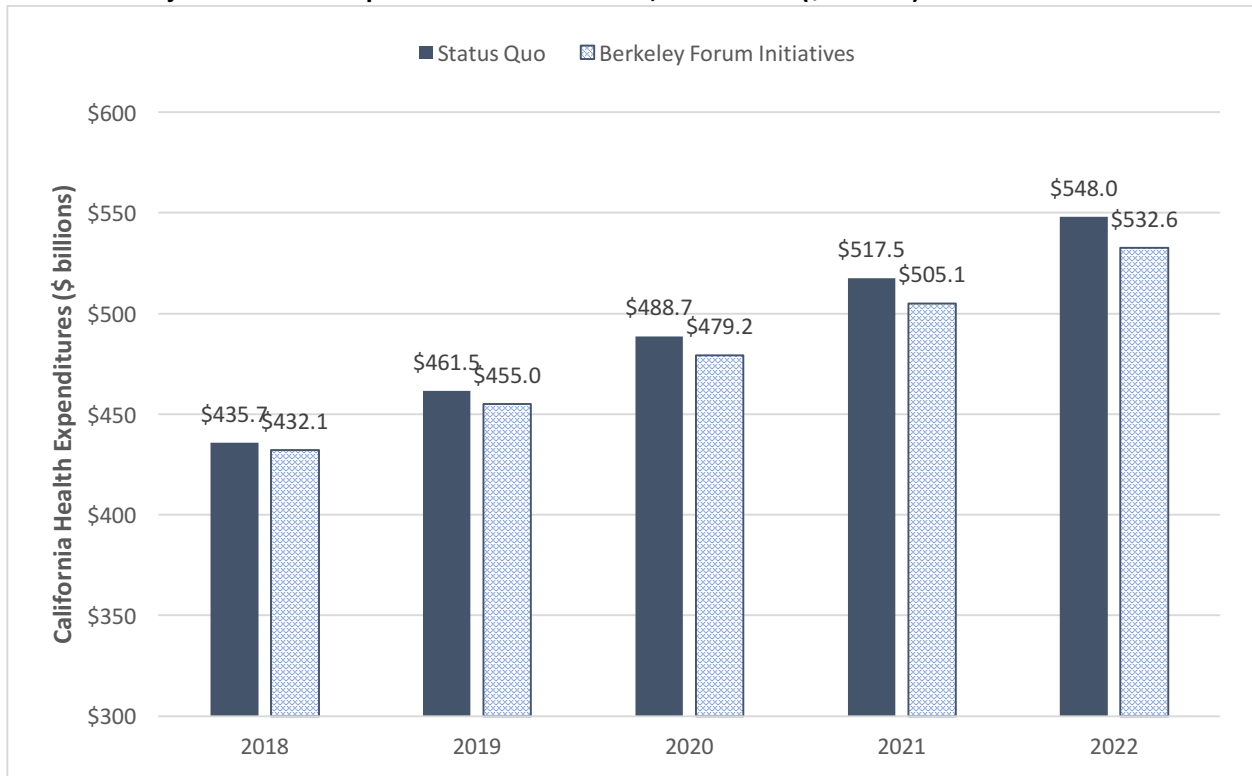
Initiative	Description	2018	2019	2020	2021	2022	Total
Global Budgets, Integrated Care Systems	Increase the number of people who receive care from integrated care systems that operate under risk-adjusted global budgets, which encompass primary care, specialty care, post-acute care and pharmaceuticals	\$3.35	\$5.60	\$7.84	\$10.08	\$12.32	\$39.19
Patient-Centered Medical Home	Increase use of patient-centered medical homes to more effectively manage care for patients with chronic diseases and to reduce their avoidable / non-urgent emergency department and inpatient visits	\$0.12	\$0.62	\$1.13	\$1.64	\$2.15	\$5.66
Palliative Care	Increase use of concurrent curative and community-based palliative care for seriously ill patients, including advanced care planning and physical, emotional and social support	\$0.09	\$0.31	\$0.53	\$0.74	\$0.96	\$2.64
Total Berkeley Forum Initiatives’ Health Spending Reductions		\$3.56	\$6.53	\$9.50	\$12.46	\$15.43	\$47.49

Source: Authors’ analysis of CMS Office of the Actuary’s health expenditure accounts data.

Notes: Totals may not sum due to rounding. The reported spending reductions were weighted by a contribution factor to adjust for potential overlap among initiatives. The global budgets/integrated care systems initiative comprises numerous components such as expanding the number of ACOs and increasing patient enrollment in capitated payment models. We reported 100% of the spending reductions associated with this initiative. For the other two initiatives, we reported only 50% of the spending reductions because we assumed the remainders were already accounted for in the global budgets/integrated care systems initiative. See Berkeley Forum initiative memorandums [Appendix V: “Global Budgets, Integrated Care Systems”](#), [Appendix VI: “Patient-centered Medical Homes”](#), and [Appendix VII: “Palliative Care”](#) for sources, assumptions, and additional detail.

Exhibit 3 shows projected health expenditures in California under the status quo and under the three Berkeley Forum initiatives from 2018 to 2022. During the initial years, the difference in spending between the status quo and the Berkeley Forum initiatives is small, as the initiatives are in the relatively early stages of being accelerated. Much of the spending reductions occur in the years closer to 2022, as significantly greater uptake rates of each initiative begin to pay off through reduced health expenditures. To illustrate the contrast, the expenditure reduction under the Berkeley Forum initiatives represents just 0.8% of the status quo’s projected expenditures in 2018, but represents 2.8% by 2022. One implication of this expenditure reduction trend is that we would expect these initiatives to generate even greater expenditure reductions beyond 2022.

Exhibit 3. Projected Health Expenditures in California, 2018-2022 (\$billions)



Source: Authors’ analysis of CMS Office of the Actuary’s health expenditure accounts data.

Notes: Projections are in current-year dollars. The Berkeley Forum initiatives include global budgets/integrated care systems, patient-centered medical homes, and palliative care.

Exhibit 4 shows the results of a financial simulation to determine whether the health spending reductions associated with the three Berkeley Forum initiatives would be sufficient to pay for the increased healthcare expenditures associated with providing universal health insurance coverage in California. The estimated spending reductions from 2018 to 2022 total \$47.49 billion, while the increased expenditures stemming from the uninsured gaining insurance are estimated to be substantially less at \$20.08 billion. By year, the health expenditures reductions associated with the three Berkeley Forum initiatives range from \$3.56 billion in 2018 to \$15.43 billion in 2022, while the health expenditure increases from the uninsured gaining coverage range from \$1.14 billion in 2018 to \$7.22 billion in 2022.

Exhibit 4. Financial Simulation of Using Health Spending Reductions Generated from the Three Berkeley Forum Initiatives to Pay for Universal Health Insurance Coverage in California, 2018 to 2022

	2017	2018	2019	2020	2021	2022	Total
California State Population	39,693,627	40,033,093	40,375,963	40,719,999	41,061,544	41,402,168	--
x Uninsured rate	7.3%	6.3%	5.4%	4.4%	3.5%	2.5%	--
= California's Uninsured Population	2,897,635	2,538,098	2,172,227	1,799,824	1,420,729	1,035,054	--
Uninsured newly gaining coverage, per year		359,537	365,871	372,403	379,095	385,675	1,862,581
Cumulative uninsured gaining coverage		359,537	725,408	1,097,811	1,476,905	1,862,581	--
x Change in per capita spending as a result of the uninsured gaining coverage		\$3,182	\$3,342	\$3,511	\$3,689	\$3,874	--
= Incremental health spending increase (\$ billions)		(\$1.14)	(\$2.42)	(\$3.85)	(\$5.45)	(\$7.22)	(\$20.08)
+ Berkeley Forum spending reductions (\$ billions)		\$3.56	\$6.53	\$9.50	\$12.46	\$15.43	\$47.49
= Net spending reductions from Berkeley Forum initiatives after financing universal coverage (\$ billions)		\$2.42	\$4.11	\$5.64	\$7.02	\$8.22	\$27.41

Sources: Authors' analysis of CMS Office of the Actuary's health expenditure accounts data. CMS Projections, U.S. Census Bureau American Community Survey. Table HI-05: Health Insurance Coverage Status and Type of Coverage by State and Age for All People: 2016. Hadley, Jack, et al. "Covering the uninsured in 2008: current costs, sources of payment, and incremental costs." *Health Affairs* 27.5 (2008): w399-w415.

Notes: Totals may not sum due to rounding. The Berkeley Forum initiatives include global budgets/integrated care systems, patient-centered medical homes, and palliative care. The total column only includes values when relevant. Negative numbers in the table are displayed in parentheses.

Although the health spending reductions from the three Berkeley Forum initiatives would be sufficient to pay for the increased healthcare expenditures associated with providing universal health insurance coverage in California, only a portion of those spending reductions would be captured by the State of California to provide financing for universal coverage, as some of the spending reductions would accrue to Medicare, private insurers, and healthcare providers participating in capitated and other risk-based payment models such as shared savings programs. California would need to recover almost 42% of these spending reductions to finance universal health insurance coverage, which may be possible if some Medicare and federal Medicaid spending reductions accrued to the state.

CMS Office of the Actuary estimates the share of health expenditures paid by public versus private sources, based on the sponsor responsible for financing the payment. In 2016, CMS estimated that 45% of health expenditures were from a public sponsor, including 28% from the federal government and 17% from state and local governments (US Census Bureau 2017b). However, public sources indirectly pay for a larger share of health care, because of tax subsidies for private insurance (e.g., employment-sponsored insurance) and public financing for government employees' private health insurance (Himmelstein and Woolhandler 2016). A recent study incorporated these indirect payments as well as

accounted for subsidies within Covered California to estimate that public sources accounted for 71% of California's healthcare expenditures in 2016, including 53% from the federal government and 18% from state and local governments (Sorensen, Nonzee, and Kominski 2016). The large public share is partially because nearly one of three Californians are in Medicaid, known as Medi-Cal in the state (California Department of Health Care Services: Research and Analytic Studies Division 2016). Therefore, the State of California could finance universal health insurance coverage if a portion of the federal spending reductions were recuperated by the state. However, this would require federal waivers or statutory changes to the Medicare and Medicaid programs (Bindman, Mulkey, and Kronick 2018).

Conclusion

Both public and private efforts are needed to curb health spending in California. The Berkeley Forum's three initiatives of global budgets/integrated care systems, patient-centered medical homes, and palliative care show promise. Health spending projections through 2022 show that the global budgets/integrated care systems initiative would account for approximately 80% of the spending reductions. The acceleration of this initiative appears achievable because of several factors. First, there is a large presence of integrated delivery systems, such as Dignity Health, Kaiser Permanente, MemorialCare Health System, Sharp HealthCare, and Sutter Health, that have the scale to accept risk-based payments and provide integrated care. Second, CMS has committed to having one-half of Medicare spending be based on value-based payment models by the end of 2018 (Cothran 2017; Mechanic and Zinner 2016). Third, accountable care organizations have an established presence in California and use risk-based payment models (Shortell et al. 2015; Integrated Healthcare Association 2017).

The state of California and the private sector should consider continuing and even accelerating the adoption of global budgets/integrated care systems, patient-centered medical homes, and palliative care, as well as the other four Berkeley Forum initiatives mentioned above. Doing so could allow the state to achieve sufficient health expenditure reductions to finance universal health insurance coverage. It would also provide more affordable and better-quality care for all California residents.

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