



**A NEW VISION FOR CALIFORNIA'S HEALTHCARE SYSTEM:
Integrated Care with Aligned Financial Incentives**

**Appendix III. California Cost Curve, Healthcare
Expenditures and Premiums Projections
(Methodology)**

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Appendix III. California Cost Curve, Healthcare Expenditures and Premiums Projections (Methodology)

Executive Summary

This memorandum provides additional details on our approach and assumptions used to forecast the Cost Curve (i.e. healthcare expenditures as a percent of Gross State Product) and premiums affordability (i.e. employer-sponsored health insurance premiums as a percent of median household income) in California. Our projections were based on historical trends and other forecasts, which we adjusted for the California context and the Affordable Care Act's 2014 coverage expansion. The principal data sources for modeling the Cost Curve included the Centers for Medicare & Medicaid Services' (CMS) *Health Expenditures by State of Residence* and *National Health Expenditures Projections*, the Bureau of Economic Analysis' state and national Gross Domestic Product (GDP) data, and the California Simulation of Insurance Markets (CalSIM) model of the Affordable Care Act. The principal data sources for projecting premiums affordability included the Berkeley Forum forecasts of healthcare expenditures, the Kaiser Family Foundation / California HealthCare Foundation's *Employer Health Benefits Survey* and the U.S. Census Bureau's *Current Population Survey*.

Between 2012 and 2022, we project healthcare expenditures per capita will grow from \$8,251 to \$13,755 in current-year dollars, an average annual growth rate of 5.2%. Healthcare expenditures would total \$4.4 trillion between 2013 and 2022. Between 2012 and 2022, we project that Gross State Product (GSP) per capita will grow from \$53,739 to \$80,380, an average annual growth rate of 4.1%. Because healthcare expenditures per capita are projected to grow 1.1 percentage points faster than GSP per capita, the Cost Curve is expected to increase from 15.4% in 2012 to 17.1% in 2022. By comparison, the 2009 U.S. Cost Curve was 17.9%. (For more background on California versus U.S. healthcare expenditures, see Appendix XII: "Assessing California's Healthcare Spending (Brief)").

In California, we project that total premiums for employer-sponsored insurance, including both employer and employee contributions, will increase an average 6.6% annually between 2011 and 2022. This results in an expected increase in total family-coverage premiums during this period, from 23.8% to 32.2% of the under-65 median household income. For single-coverage, total premiums as a percent of under-65 household income are expected to increase from 13.5% to 18.2% during this time period.

Overview

This memo has two objectives:

- 1) To project per capita California healthcare expenditures between 2013 and 2022 and use this information to project the California healthcare Cost Curve through 2022.*
- 2) To project California premiums as a percent of median household income through 2022.*



*Due to lags in available data, we begin projecting GSP figures in 2012 and state healthcare expenditures in 2010. However, for the purposes of the Berkeley Forum report, “A New Vision for California’s Healthcare System: Integrated Care with Aligned Financial Incentives,” we are interested in the decade between 2013 and 2022. As such, state healthcare expenditure projections are discussed for the 2013 – 2022 timeframe. We begin projecting both premiums and median household income in 2012, and discuss affordability of premiums for the 2012 – 2022 period.

Background Notes

- 1) Many discussions of healthcare spending in the U.S. are based on CMS’ definition of national healthcare expenditures.¹ This includes *personal* healthcare expenditures, which is the total spending to treat “individuals with specific medical conditions,” and entails hospital care, professional services, home healthcare, nursing care, retail medical products and other health, residential and personal care expenses. CMS’ definition of national healthcare expenditures also includes *non-personal* spending: Government healthcare administration, net costs of private health insurance (profit, taxes, administration, etc.), government public health activities, and investments in healthcare research, structures and equipment. At the state level, CMS provides historical data only for personal healthcare expenditures. Thus, to compare California healthcare spending with that in the United States as a whole, we need to estimate *non-personal* healthcare expenditures in California. Several assumptions, noted in the “Healthcare Expenditures Modeling Methodology” section, were used to do so.

- + Personal healthcare expenditures
- + Government healthcare administration
- + Net costs of private health insurance
- + Government public health activities
- + Investments in healthcare research, structures and equipment
- = National / state healthcare expenditures

- 2) The sources used for historical and projected data are detailed in Table 1A in the “Additional Charts / Figures” section at the end of the memorandum.

- 3) All dollars are reported in nominal, or current-year, dollars.

I. Historical and Projected Healthcare Expenditures and Gross State Product

Healthcare Expenditures Modeling Methodology

We first obtained historical data on U.S. and California healthcare expenditures from the sources listed in Table 1A. As a first step in arriving at an estimate for total California healthcare spending, we assumed that between 1991 and 2009, Californians had the same per capita

¹ Centers for Medicare & Medicaid Services (2010).



amount of non-personal healthcare expenditures as the U.S. average.^{2,3} We then had consistent historical healthcare expenditures for both the United States and California from which to build the projections.

We next looked at U.S. national healthcare expenditure projections through 2021 from the sources noted in Table 1A. Because these sources only project through 2021, we used the five year average growth rate between 2016 and 2021 to arrive at the U.S. figure for 2022.

To project California's personal healthcare expenditures, we applied CMS' U.S. per capita personal healthcare expenditures growth rate projections to California, starting with California's 2009 per capita figure. We chose this approach because California personal healthcare expenditures per capita growth has tracked the comparable U.S. figure for nearly the last twenty years (see Figure 1A in "Additional Charts / Figures"). U.S. and California per capita Medicaid and Medicare expenditures growth rates have also tracked each other.

Then, to obtain our projected California per capita personal healthcare expenditures figure, we added the per capita non-personal healthcare expenditures estimate using CMS' national projections. This assumption allowed us to arrive at California projections for per capita state healthcare expenditures beginning in 2010. We followed the above approach to obtain California projections through 2022, with slight modifications for 2013.

For 2013, we used a different personal healthcare expenditures growth rate than the one projected by CMS nationally. CMS' 2013 projections included a 30.9% physician payment reduction required under the Sustainable Growth Rate Formula. This scenario was considered politically and economically unlikely, and ultimately did not come to pass, owing to the passage of the American Taxpayer Relief Act of 2012.⁴ We instead calculated a different U.S. personal healthcare expenditure 2013 growth rate based on an alternative CMS scenario in which physician payments grow at 1%.⁵ We applied this alternative growth rate to project California healthcare expenditures in 2013.

For 2014, due to the implementation of the Affordable Care Act, we use a different approach.

² We estimate that California non-personal healthcare expenditures represented between 16.9% and 18.4% of total state healthcare expenditures between 1999 and 2009.

³ It is important to note, however, that Californians are likely to have slightly different non-personal healthcare expenditures than the U.S. average, but we expect this has negligible impact on our results. For example, California is ranked 8th highest in state public health spending per capita (\$66.04 per capita in fiscal year 2010 - 2011), but is ranked below the national average in terms of federal Centers for Disease Control and Prevention as well as Health Resources and Services Administration per capita funding. (Trust for America's Health (2013)). All of these categories would be included in government public health expenditures.

⁴ U.S. Congress (2013).

⁵ Although our model was based on the CMS scenario of a 1% increase in physician reimbursement in 2013, the American Taxpayer Relief Act (ATRA) of 2012 froze Medicare Part B physician reimbursement rates through 2013. There were various other healthcare related provisions of ATRA, which we did not model specifically, but they are not expected to have a significant impact on our results. Piper (2013).



2014 Healthcare Expenditures Methodology Overview

The main coverage expansion provisions of the ACA are expected to go into effect in 2014. Due to the substantial difference between the number of newly insured in California and the number in the rest of the United States (due to factors such as the current uninsured rate, the number of undocumented individuals ineligible for ACA coverage, and state-specific implementation efforts), we do not apply national growth rate projections to California in 2014. Instead, we calculate a California-specific growth rate in 2014, because it is the key year for ACA coverage expansion. In subsequent years, we assume the growth rates for California and U.S. healthcare expenditures will once again converge.

We first estimated California's healthcare expenditures in the absence of ACA implementation by using historical trends. We then used this estimate to calculate healthcare expenditures per capita by coverage type -- Medicare, Medi-Cal, and private, as well as for the uninsured. Finally, we applied estimates on the shift in coverage among these four groups due to ACA implementation, to the projected per capita costs for each group, and obtained projected 2014 healthcare expenditures under the ACA.

2014 Healthcare Expenditures Methodology Details

We first used California's five-year (2008-2013) historical growth rate in aggregate personal healthcare expenditures to estimate 2014 personal healthcare in the state in the absence of the ACA. We then looked at California Simulation of Insurance Markets (CalSIM) model estimates of what 2014 insurance coverage sources would have been had the ACA not been implemented (See Table 1A for data sources). To project California's Medicare and Medi-Cal 2014 personal healthcare expenditures per capita under this scenario, we applied CMS' annual national growth rate projections for these populations' personal healthcare spending, beginning with California's 2009 figures. Modifications were made for 2013 to adjust for the Sustainable Growth Rate Formula alternative scenario (as described in the above "Healthcare Expenditures Modeling Methodology") and for 2014 in order to forecast a non-ACA scenario.

To estimate the total personal healthcare expenditures of the privately insured and uninsured, we subtract aggregate Medicare and Medi-Cal personal healthcare expenditures from the aggregate 2014 California personal healthcare expenditures in the non-ACA scenario.⁶ We then estimate personal healthcare expenditures per capita for the privately insured and the uninsured using the Hadley et al. simulation on coverage expansion, which estimates that an uninsured person has approximately 43% of the expenditures of a privately-insured person.^{7,8}

⁶ In our 2014 privately-insured enrollment figure, we also include approximately 600,000 Californians who are insured in non-Medi-Cal, non-Medicare and non-Healthy Family Programs (e.g. Tri-Care).

⁷ Hadley, et al. (2008).

⁸ In making our estimate of healthcare expenditures of a newly insured person who was previously uninsured, we examined preliminary evidence in Massachusetts following implementation of coverage expansion in the state (See "Additional Charts /



We used the CalSIM estimates on coverage changes due to the ACA, along with our estimated personal healthcare expenditures per capita for each group, to project 2014 personal expenditures for California with the ACA. CalSIM estimates 2014 insurance coverage source for Californians under the ACA to be 1.9 million newly insured via the combination of Medi-Cal and the California Health Benefit Exchange. CalSIM projections generally estimate a lower number of newly insured in 2014 versus other sources (see “Additional Charts / Figures” Table 2A).⁹ However, we selected this model because it was developed exclusively for California, with great attention to the state’s unique characteristics. We chose the CalSIM Enhanced Scenario instead of the CalSIM Base Scenario because the Enhanced Scenario figures, although still relatively conservative, were more in line with projections from other sources.

We used Hadley’s simulation on coverage expansion to estimate that the newly insured populations (both Medi-Cal and those in the Exchange) spend 118% *more* than they would have had they been uninsured.¹⁰ Finally, we converted California personal healthcare expenditures to total state healthcare expenditures as described in the “Healthcare Expenditures Modeling Methodology” section above.

Gross State Product Modeling Methodology

We obtained historical data on U.S. and California GDP/GSP, and projected data on U.S. GDP from the sources listed in Table 1A. Because the U.S. GDP data was only projected through 2021, we used the five year average growth rate between 2016 and 2021 to arrive at the U.S. figure for 2022. We then projected California GSP per capita through 2022. We assumed that California GSP per capita would grow at the same rate as U.S. GDP per capita; historically, the two figures have also tracked each other closely for the last nearly twenty years. (See “Additional Charts / Figures” Figure 2A).

Figures” Table 3A). The Pioneer Institute (Lischko, et al. (2010)) undertook an analysis of healthcare expenditures before and after the Massachusetts 2006 health reform law, which established Commonwealth Care (the state’s health insurance exchange) (Kaiser Family Foundation (2012)). The analysis showed that average healthcare expenditures per capita of someone insured via Commonwealth Care were \$4,000 in FY 2008. Those remaining uninsured and receiving care via Massachusetts’ safety net system, in comparison, had \$1,300 in per capita expenditures in 2008 (or 32.5% of a Commonwealth Care member’s costs of \$4,000). A further comparison can be done by examining the Commonwealth Care spending per capita of \$4,000 in 2008, versus the \$1,600 in spending per capita of the uninsured in the safety net in 2005 (which presumably includes many 2008 Commonwealth Care enrolled members). Growing the 2005 figure of \$1,600 by the average Massachusetts expenditures growth rate between 2005 and 2008 provides an estimate of about \$1,920 in per capita expenditures for this group, in 2008 dollars. This represents 48% of the \$4,000 expenditures of a Commonwealth Care member in 2008. Thus the range of 32% – 48% from the Massachusetts experience supports our assumption that an uninsured Californian has about 43% the healthcare expenditures of a privately insured Californian.

⁹ Under, the CalSIM Enhanced Scenario, we estimates that only 5.5% of California’s under-65 population will be newly insured in 2014 due to the ACA, a relatively conservative figure as compared to CMS’ estimate of 8% for the U.S. under-65 population (See Table A1 for data sources).

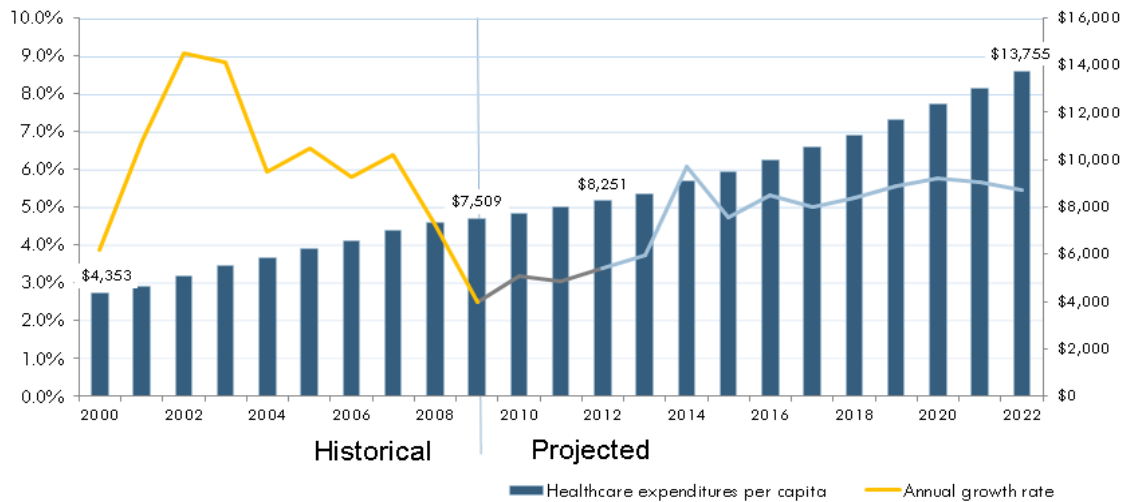
¹⁰ We recognize that the new Medi-Cal and privately insured populations will be different than the existing populations, and thus per capita costs for these groups may change as a result of the changing risk pool. Although the entering newly insured population is expected to be slightly younger and healthier than the existing population, those demographics may be counteracted by pent-up demand for healthcare from this population, at least in the early years of the ACA. For reference, we ran two parallel analyses assuming that the new Medi-Cal and privately-insured populations had +/-20% lower per capita expenditures than in our baseline projections. These scenarios show a relatively minor difference (+/- 0.8% of aggregate healthcare expenditures) versus our baseline projections.



Results

We first examine our estimates for historical California healthcare expenditures per capita. After growing at the relatively low average annual rate of 3.7% in nominal terms between 1991 and 2000, the growth rate spiked to 8.2% between 2000 and 2003 (See Figure 1). Between 2000 and 2009, healthcare expenditures per capita in the state grew at an average annual rate of 6.3%, from \$4,353 to \$7,509. The annual per capita growth rate began decreasing near the end of the decade, falling to 2.5% in 2009, largely due to the 2008-2009 recession.¹¹

Figure 1: Historical (2000 – 2009) and Projected (2010 – 2022) Healthcare Expenditures per Capita and Annual Growth Rate in California



Notes: Healthcare expenditures per capita are reported in current-year dollars.

Source: Berkeley Forum analysis; see Table 1A for data sources

Figure 1 also shows projected healthcare expenditures per capita in current-year dollars and growth rates through 2022. The figure shows that healthcare expenditures per capita in California are expected to grow to \$13,755 by 2022, representing an average annual growth rate of 5.2% between 2012 and 2022. Due to the ACA coverage expansion, we project a 6.1% increase in healthcare expenditures per capita in 2014, followed by annual growth rates between 4.7% and 5.8% through 2022. Aggregate healthcare expenditures in the state are expected to reach \$572 billion in 2022, and total \$4.4 trillion between 2013 and 2022.

To benchmark healthcare expenditures, we examined the Cost Curve (i.e., the share of GSP represented by healthcare expenditures), which grew from 11.2% to 15.1% between 2000 and 2009.¹² In the early and late part of the decade, the Cost Curve grew rapidly, with healthcare expenditures per capita growth outpacing GSP per capita growth by an annual average rate of almost six percentage points. In contrast, the Cost Curve was relatively flat in the middle of the

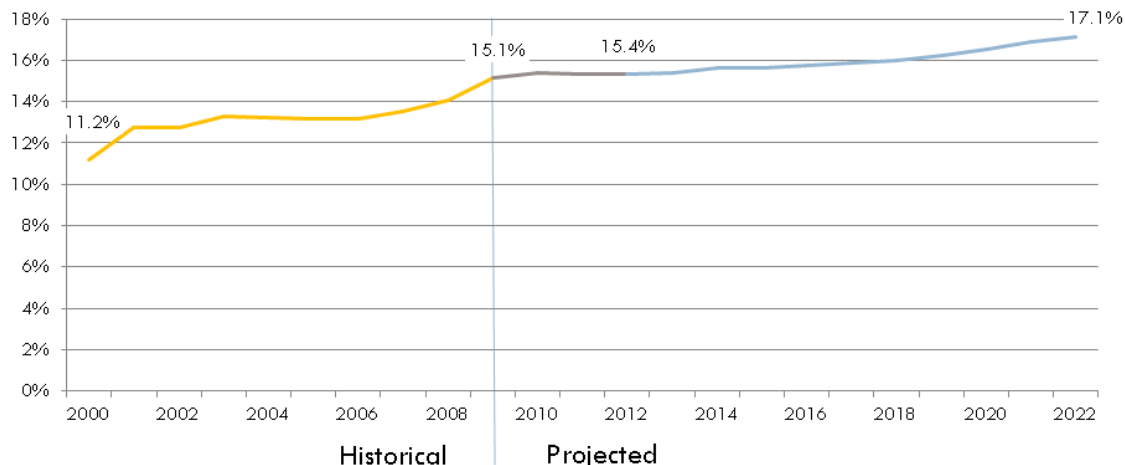
¹¹ Martin, et al. (2012).

¹² The share of California's 2009 GSP represented by healthcare expenditures is less than the 2009 U.S. share of 17.9% of GDP.



decade, a brief period during which economic growth stayed on pace with the rise in healthcare expenditures.

Figure 2: California's Cost Curve: Historical (2000 – 2009) and Projected (2010 – 2022) Healthcare Expenditures as a Percent of Gross State Product



Source: Berkeley Forum analysis, see Table 1A for data sources

Figure 2 also shows the projected change in the Cost Curve over the coming 10 years. Based on these estimates, healthcare expenditures per capita are projected to increase from 15.4% to 17.1% of GSP per capita between 2012 and 2022. During this period, aggregate healthcare expenditures are forecast to grow 6.2% annually, or about 1.1 percentage points more than the 5.1% annual aggregate GSP growth rate.¹³

II. Historical and projected health insurance premiums

Modeling Methodology

While aggregate expenditures and the Cost Curve are important measures of healthcare affordability, families and employers tend to be interested in a more tangible statistic: the cost of health insurance premiums. In the 2010-2011 period, approximately 45% of Californians received healthcare coverage via employer-sponsored insurance (ESI).¹⁴ The cost of premiums is important, but what determines affordability is the share of an individual's or a family's household income that is represented by those premiums.

We first projected ESI premiums between 2012 and 2022 for single and family coverage. Because economists generally consider the employer-paid portion of health insurance premiums

¹³ The approximate one percentage-point difference between aggregate and per capita healthcare expenditures growth during this period (6.2% aggregate vs. 5.2% per capita) is due to the expanding California population.

¹⁴ Kaiser Family Foundation (2011).



to be part of an employee's total compensation, our analysis considers the total cost of health insurance premiums, that is, it includes the portions from both the employer and employee. We examined projections for total state healthcare expenditures per capita from Section I above, as healthcare expenditures are the most significant factor affecting premiums. Our "baseline" scenario assumes that premiums will grow at 1.3 times the annual rate of projected healthcare expenditures per capita, since premium growth in recent years has far outpaced per capita state healthcare expenditures growth.¹⁵

We also projected median household income through 2022 for single and family households under age 65, since this population is often covered via ESI and generally does not qualify for Medicare. We did so by adjusting our projections of annual per capita income growth through 2022 (see Section I above) downward slightly, as mean GSP per capita has grown faster than median household income over the past decade.^{16,17}

Finally, we use these projections to estimate ESI premiums as a percent of median household income for single and family households through 2022.

Results

Historically, ESI premiums in California have increased quite rapidly. The 2000s saw average premiums increasing more than 9% annually for both single and family coverage, with highly variable fluctuations. Single coverage premiums grew from \$2,304 to \$5,976 between 2000 and 2011, while family coverage premiums grew from \$5,904 to \$15,720 (see Table 1A for sources).

We project that ESI premiums for both single and family coverage will grow at an average annual rate of 6.6% between 2011 and 2022. ESI premiums for single coverage are projected to rise from \$5,976 in 2011 to \$12,062 in 2022. For family coverage, premiums are projected to grow from \$15,720 to \$31,728.

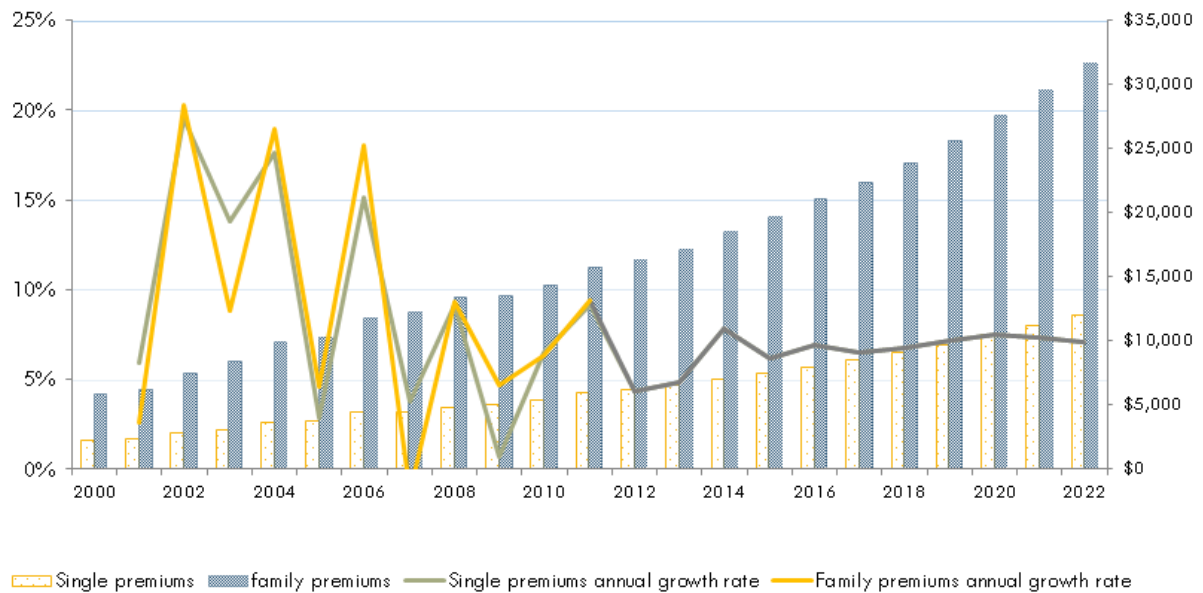
¹⁵ Between 1999 and 2009, ESI premiums grew at an average annual rate that was 1.6 times that of healthcare expenditures per capita. However, there are a few reasons to expect that ESI premium growth rates relative to per capita healthcare expenditure growth rates may temper. First, the Medical Loss Ratios (MLRs) imposed by the ACA require that individual/small group market plans and large group market plans spend at least 80% and 85% of premium dollars on medical care, respectively. (Centers for Medicare & Medicaid Services (2011a).) Second, premiums in the 2000s are considered to have increased exceptionally rapidly, coming as they did after the low growth managed care era of the 1990s. Thus, we believe that while premium growth rates will continue to outpace the growth of healthcare expenditures per capita, the difference will not be as dramatic as it has been in recent history.

¹⁶ While mean GSP per capita has grown at an average annual rate of 1.87% between 2000 and 2011, median household income has only grown at an average annual rate of only 1.72% during this period.

¹⁷ Because of data limitations, the historic growth rate analysis of median household income is based on all households in California, not just households under-65.



Figure 3: Historical (2000-2010) and Projected (2011-2022) Employer-Sponsored Health Insurance Premiums and Annual Growth Rates in California



Notes: Premiums include both employer and employee contributions. Our projected ESI premium growth rates for single and family coverage from 2012-2022 are the same, because their historical growth rates were similar.¹⁸ Dollars are reported in current-year dollars.

Source: Berkeley Forum analysis; see Table 1A for data sources.

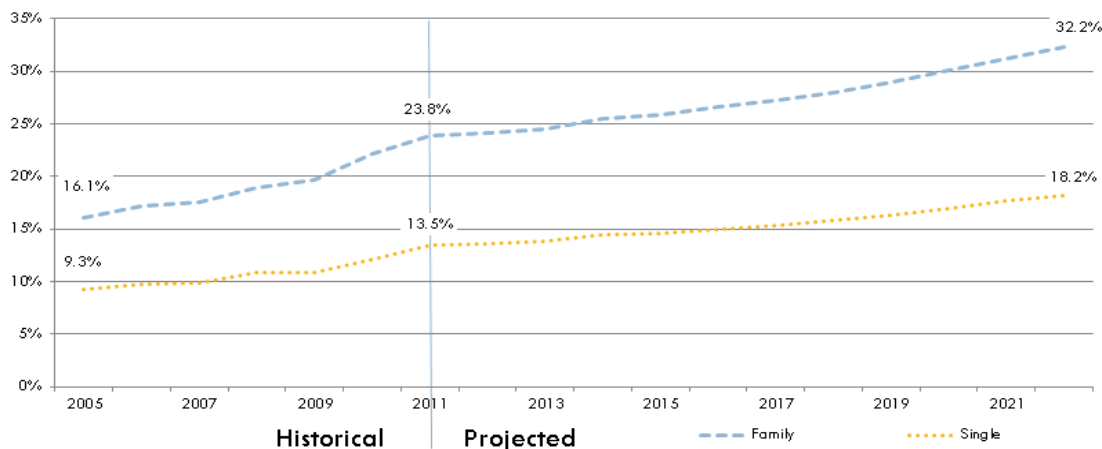
As a measure of affordability, we assess the percent of California's income that is spent on single and family ESI premiums by dividing the total premium by the median under-65 income for single and family households, respectively.

Figure 4 shows that the share of median single-person household income spent on ESI premiums for single coverage grew from 9.3% to 13.5% between 2005 and 2011, an increase of almost 50%. Similarly, premiums for ESI family coverage increased from 16.1% of median family household income in 2005 to 23.8% in 2011. These large increases are the result of premiums growing at an average annual rate of about 7.5%, but median household incomes growing at average annual rates of just 1.1% for single-person households and 0.5% for family households over this period.

¹⁸ U.S. Census Bureau (2012).



Figure 4: Historical (2005 – 2011) and Projected (2012 – 2022) Employer-Sponsored Health Insurance Premiums for Single and Family Coverage as a Percent of Median Household Income in California



Notes: Premiums include both employer and employee contributions. Median household income is for the under-65 population.

Source: Berkeley Forum analysis; see Table 1A for data sources

As in previous years, ESI premiums are projected to grow significantly faster than the median household income. As a result, the percent of median household income devoted to ESI premiums between 2011 and 2022 is projected to increase from 13.5% to 18.2% for single coverage and from 23.8% to 32.2% for family coverage, as shown in Figure 4. By substantially reducing the amount households have to spend on items other than healthcare, this anticipated decline in health insurance affordability over the next decade will have a significant negative impact on the standard of living for Californian households.

Discussion

This memorandum provides details on the approach and assumptions used by the Berkeley Forum in projecting healthcare expenditures and employer-sponsored health insurance premiums in California over the coming 10 years. We are not aware of any other studies that have attempted to do the same.

Our projections have several limitations. First, given the unprecedented nature of the Affordable Care Act, it is very difficult to project exactly how it will affect healthcare spending either in the aggregate, or for specific coverage groups. Our estimate for state healthcare expenditures per capita growth in 2014 is somewhat lower than CMS's national projection: 6.1% vs. 6.4%. There are several reasons why healthcare expenditures, in the U.S. or California, may not grow as much as one might expect in connection with ACA coverage expansion: 1) the uninsured already account for some healthcare expenditures, even prior to coverage expansion; 2) A Berkeley Forum analysis using CalSIM (2012) projections indicates that the newly insured are expected to represent approximately 5.5% of the state's under-65 population in 2014; 3) Many of the state's



newly insured will be covered by Medi-Cal, which has below-average healthcare expenditures per capita, partly due to relatively lower reimbursement rates.

Second, our estimates rely heavily on extrapolating national projections involving GDP and healthcare expenditures growth rates to California. While there is high correlation between U.S. and California growth rates, the linkage is not perfect. Furthermore, we have assumed these growth rates will continue to correlate closely. By relying heavily on CMS national forecasts, we are assuming that demographic and other factors affecting healthcare spending will not change significantly differently in the United States as a whole than in California specifically.

Third, our healthcare projections do not account for any major changes to the healthcare system other than those due to the ACA, namely the shift in coverage sources that will occur with the law's implementation. Other anticipated reforms, involving either policy or market changes, are not represented in the model. Much of the slower growth in healthcare expenditures over the last few years is thought to be attributable to the 2008 – 2009 recession. There is uncertainty, however, about whether there are other systematic changes that may have contributed to the slower spending.¹⁹ While the recession's effects are factored into California estimates for the several years following 2009, major structural changes to the system are not. Finally, our model does not account for the specific healthcare-related provisions of The American Taxpayer Relief Act of 2012 (agreed to in January 2013), aside from that of the Sustainable Growth Rate change.

Fourth, although the ACA's overall impact on healthcare expenditures is not expected to be dramatic, the government share of healthcare financing post-ACA is expected to increase significantly, relative to private financing. This reality, along with the continuous budget deficit debate in Washington D.C., makes it unclear if or how future Medicare and Medicaid spending might change. Nonetheless, our model does not attempt to predict healthcare spending by specific payers.

A final limitation involves the uncertainty of the future relationship between healthcare expenditures and ESI premium growth rates. Between 1999 through 2011, ESI premiums in California increased at an average annual rate of 1.6 times that of healthcare expenditures per capita growth rate. We project more convergence between these two indicators in the future, for some of the reasons described in footnote 15. However, the extent of any such convergence remains unclear.

Overall, the Berkeley Forum projections offer a comprehensive view of healthcare spending and affordability in California over the coming decade. We project that healthcare expenditures per capita in California will grow to \$13,755 by 2022 (in current-year dollars), representing an

¹⁹ Hartman (2013).



average annual growth rate of 5.2% between 2012 and 2022. At the aggregate level, healthcare expenditures in the state are expected to reach \$572 billion in 2022, and total \$4.4 trillion between 2013 and 2022. These figures result in an increase in the share of GSP devoted to healthcare expenditures from 15.4% in 2012 to 17.1% in 2022.

We project ESI premiums will grow at a 6.6% average annual rate between 2011 and 2022; similar to historical trends, this means they will continue to grow faster than healthcare expenditures. Family coverage premiums via ESI are projected to grow from \$15,720 in 2011 to \$31,728 in 2022. Single coverage premiums via ESI are projected to rise from \$5,976 in 2011 to \$12,062 in 2022. Most importantly for Californians, we also project that the percent of median household income devoted to premiums via ESI will increase between 2011 and 2022 from 13.5% to 18.2% for single coverage and from 23.8% to 32.2% for family coverage.

Our projections provide an important impetus for action. To help address the affordability crisis presented here, the Berkeley Forum leaders have articulated their vision and recommendations in the main report: “A New Vision for California’s Healthcare System: Integrated Care with Aligned Financial Incentives.”

Acknowledgements

We are very grateful for the comments we received on this memorandum from the national reviewers of the main Berkeley Forum Report, “A New Vision for California’s Healthcare System: Integrated Care with Aligned Financial Incentives,” including: Timothy T. Brown, Department of Health Policy and Management, School of Public Health, University of California, Berkeley; William H. Dow, Department of Health Policy and Management, School of Public Health, University of California, Berkeley; Deborah A. Freund, Claremont Graduate University; Elizabeth McGlynn, Kaiser Permanente Center for Effectiveness and Safety Research; Cathy Schoen, The Commonwealth Fund; Tom Williams, Integrated Healthcare Association (IHA). These individuals do not necessarily endorse the contents of this memorandum.



Additional Charts / Figures

Table 1A: Data Sources Utilized to Document Historical Trends and to Make Projections

Measure	Type	Geography	Year	Source	Notes
Healthcare expenditures	Historical	U.S	1991-2011	Centers for Medicare & Medicaid Services. (2013). <i>National Health Expenditures CY 1960 – 2011</i> . http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html . Accessed in January 2013.	
Healthcare expenditures	Projected	U.S	2012-2021	Centers for Medicare & Medicaid Services. (2012). <i>National Health Expenditure Projections</i> . http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/Proj2011PDF.pdf . Accessed in September 2012.	Some research suggest that CMS National Health Expenditure Projections tend to produce high estimates relative to other measures. However, this research was conducted primarily before CMS redesigned its methodology in 2010.
Personal healthcare expenditures (Aggregate, Medicare, Medicaid)	Historical	California	1991-2009	Centers for Medicare & Medicaid Services. (2011). <i>Health Expenditures by State of Residence, 1991-2009</i> . http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsStateHealthAccountsResidence.html . Accessed in April 2012.	
Population	Historical	U.S	1991-2005	Centers for Medicare & Medicaid Services. (2011). <i>National Health Expenditure by State of Residence</i> . http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MedicareMedicaidStatSupp/2011.html . Accessed in September 2012.	
Population	Historical / Projected	U.S	2006-2010 / 2011-2021	Centers for Medicare & Medicaid Services. (2012). <i>National Health Expenditure Projections</i> . http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/Proj2011PDF.pdf . Accessed in September 2012.	
Population	Historical	California	1991-2009	Centers for Medicare & Medicaid Services. (2011). <i>Health Expenditures by State of Residence, 1991-2009</i> . http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsStateHealthAccountsResidence.html . Accessed in April 2012.	
Population	Projected	California	2010, 2015, 2020	California Department of Finance. (2012). <i>DOF Population projections, May 2012 release</i> . http://www.dof.ca.gov/research/demographic/reports/projections/ . Accessed in July 2012.	1) The California DOF data is benchmarked from the 2000 and 2010 Census Bureau data. DOF projects that the California population will grow from 37.3 million in 2010 to 40.8 million in 2020. 2) We assume straight-line population growth between 2010 and 2015 (0.84% per year) and straight-line growth between 2015 and 2020 (0.95% per year). We assume that the 2015-2020 growth rate continues into 2021 and 2022, leading to a 2022 California population of 41.6 million.

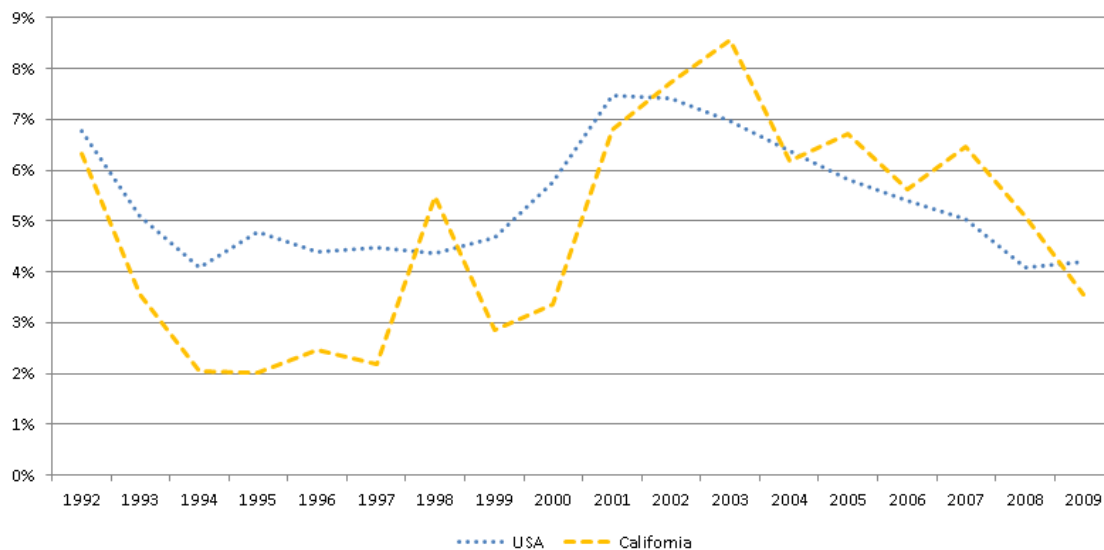


Table 1A: Data Sources Utilized to Document Historical Trends and to Make Projections (continued)

Measure	Type	Geography	Year	Source	Notes
Gross Domestic Product	Historical	U.S	1991-2011	U.S. Department of Commerce. (2012). Bureau of Economic Analysis. <i>National Income and Product Accounts Tables</i> . http://www.bea.gov/itable/ . Accessed in September 2012.	
Gross Domestic Product	Projected	U.S	2012-2021	Centers for Medicare & Medicaid Services. (2012). <i>National Health Expenditure Projections</i> . http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/Proj2011.pdf . Accessed in September 2012.	a) CMS macroeconomic projections are exogenous inputs produced annually by the Social Security Administration. b) We did not utilize the Congressional Budget Office's baseline GDP and budget projections available at the time because they included the impact of the "Fiscal Cliff," i.e., the expiration of Bush tax cuts and spending reductions under the Budget Control Act of 2011. This scenario was considered politically and economically unlikely, and ultimately did not come to pass because of the passage of the American Taxpayer Relief Act of 2012.
Gross State Product	Historical	California	1991-2011	U.S. Department of Commerce. (2010 & 2012). <i>Bureau of Economic Analysis. Gross Domestic Product by State</i> . http://www.bea.gov/itable/ . Accessed in September 2012.	
Premiums	Historical	California	1999-2011	Kaiser Family Foundation (1993-2003). <i>Employer Health Benefits Annual Survey Archives</i> . http://www.kff.org/insurance/ehbs-archives.cfm . Accessed in December 2012. <i>California Employer Health Benefits Survey, 2004-2011</i> . http://www.chcf.org/publications/2011/12/employer-health-benefits . Accessed in December 2012.	
Number of newly insured, 2014	Projected	California	2014	Kominski, G., Jacobs, K., Roby, D., Graham-Squire, D., Kinane, C., Gans, D., et al. (2012). California Simulation of Insurance Markets (CalSIM): UCLA Center for Health Policy Research & UC Berkeley Labor Center. October 2012, by special request to UC Berkeley.	Developed by the UC Berkeley Center for Labor Research and Education and the UCLA Center for Health Policy Research, and utilized by the California Health Benefit Exchange Board.
Median household income	Historical	California	2005-2011	U.S. Census Bureau. (2012). <i>Current Population Survey</i> . http://www.census.gov/hhes/www/income/ . Accessed in September 2012.	1) Includes households classified as under 65 years of age. 2) The median income for a non-family household, defined as individuals living alone or in a household with non-relatives, is used as a benchmark for single coverage. 3) Median family income is used as a benchmark for family coverage.

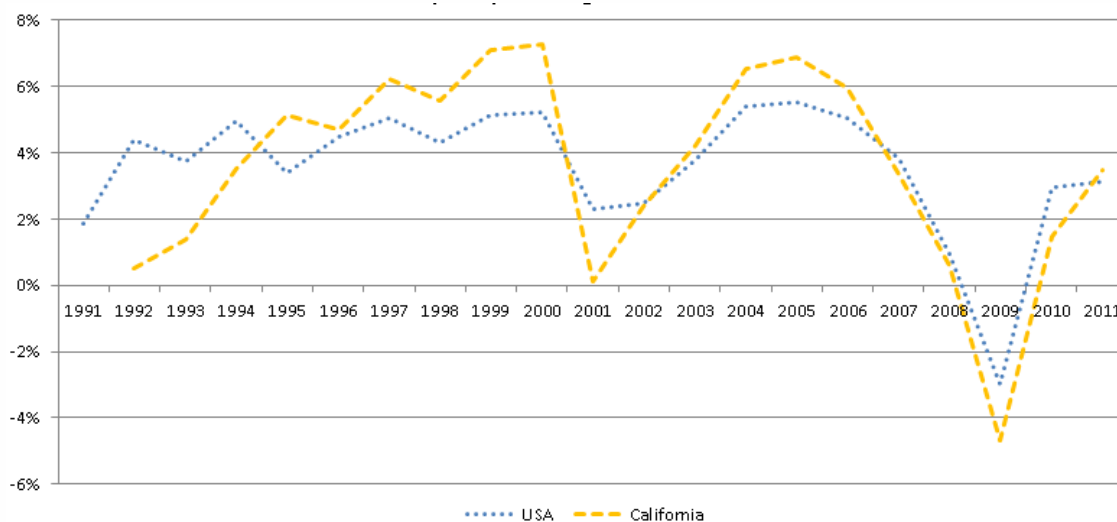


Figure 1A: Personal Healthcare Expenditures Per Capita Annual Growth Rate, California vs. the U.S., 1992-2009



Source: Berkeley Forum analysis using Centers for Medicare & Medicaid Services (2011b) data.

Figure 2A: Annual GDP Per Capita Annual Growth Rate, California vs. the U.S., 1991-2011



Source: Berkeley Forum analysis using U.S. Department of Commerce (2010 & 2012) data.



Table 2A: Projections for the Number of Newly Insured in California in 2014

Data source	ACA Newly Insured (Lives, in millions)		
	Medicaid	Exchange	Total
California Simulation of Insurance Markets (CalSIM): Base (1)	0.7	0.4	1.1
California Simulation of Insurance Markets (CalSIM): Enhanced (1)	1.2	0.7	1.9
Gruber / Long: "Comprehensive" (2)	1.7	1.0	2.7
Mercer consulting	NA	2.6	NA
RAND COMPARE model (1)	3.4	2.1	5.5
Extrapolation of CMS' national newly insured rate for under-65 population (3)	NA	NA	2.8

Notes: NA: Not available. (1) For these data sources, the Berkeley Forum calculated Exchange enrollment based on the *net* enrollment in California's employer-sponsored insurance market, the individual market, and the California Health Benefits Exchange (i.e. The Exchange figure for these data sources represents the net number of newly insured *not* covered by Medi-cal). (2) Because precise figures were not publicly available, these estimates are based on a Berkeley Forum extrapolation of 2014 figures from Exhibit 2 in Long (2011). (3) CMS U.S. data shows that an estimated 8% of the under-65 population will be being newly insured in 2014. The Berkeley Forum estimate shown here is based on extrapolating this figure to California.

Sources (In order above): Kominski et al. (2012) (October 2012, by special request from the Berkeley Forum); *ibid*; Long & Gruber (2011); Mercer Health & Benefits LLC (2011); Auerbach et al. (2011); Centers for Medicare & Medicaid Services (2012).

Table 3A: Spending on Uncompensated Care (Uninsured) and Commonwealth Care, 2005 and 2008

	FY 2005	FY 2008	% Change
UCP / HSNTF¹			
Number of Utilizers	451,000	309,000 ³	-31%
Total Costs	\$739,400,000	\$415,600,000	-44%
Per Capita Spend	\$1,600	\$1,300	-19%
Commonwealth Care²			
Number of Utilizers	NA	158,000 ⁴	NA
Total Costs	NA	\$628,000,000	NA
Per Capita Spend	NA	\$4,000	NA
Total			
Number of Utilizers	451,000	467,000	8%
Total Costs	\$739,400,000	\$1,043,600,000	41%
Per Capita Spend	\$1,600	\$2,200	38%

Notes: Commonwealth Care is the Massachusetts Exchange system established by the state's 2006 health reform law. (Kaiser Family Foundation (2012)). (1) Fiscal year for Massachusetts's safety net system, the "Uncompensated Care Pool" (UCP), now known as the Health Safety Net Trust Fund (HSNTF) runs from October 1 to September 30 of the following year. (2) Fiscal year for Commonwealth Care runs from July 1 to June 30 of the following year. (3) Annualized based on first 3 quarters of FY 2008. (4) As reported in December 2007. Includes premium and non-premium members.

Source: Lischko et al. (2010).



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(*See Table 1A for additional data sources referenced)

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