Health Care Spending in the United States: What is Next?

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Summary

Health care spending will always command public policy attention given the prominence of government payers in this market and the role played by the tax system in subsidizing health insurance purchases. But, with President-elect Trump's campaign promise to repeal and replace the Affordable Care Act (ACA) and a Republican House and Senate that have campaigned on the same agenda the health care insurance market will face another round of reforms.

Here we examine the past path and possible future paths of health care spending. We also discuss several ways to reform the public insurance programs and to reform the tax treatment of employer provided health insurance. These reforms would constrain the growth in explicit and implicit government spending on health care. Limiting government spending on health care to the growth in the economy is the stated goal of most recent proposals regardless of the political leaning of the group making the proposal.

Achieving such a goal while still replacing the ACA's coverage of the newly insured can be accomplished by a tax reform that reduces tax expenditures on employer sponsored health insurance, by offering risk-adjusted tax credits for the newly insured, by Medicare reforms that include more flexibility, premium support and increased means-testing, and by state-level innovations in the Medicaid program.

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Introduction

This presidential election was atypical in all respects. The two candidates differed dramatically on health care policy. President-elect Trump promised to repeal and replace the Affordable Care Act (ACA). He has outlined broad principles to reform the health care market, but has offered few specifics on the replacement of the insurance now provided under the ACA. The election hype diverted attention from recent news that premiums for health insurance sold on the exchanges are rising while options have declined. As the new enrollment period begins a natural question is: How many current enrollees will balk at the higher prices? The annual enrollment period runs through the end of January. Whether this is the final enrollment period will be determined by the next Congress. The big question is: If the ACA is repealed, how will its replacement be restructured?

The ACA left little of the health sector unaffected and thus repealing and replacing the legislation will do likewise. Since the passage of the ACA many Americans now have health insurance through the exchanges or through the expansion of Medicaid. Critical to the passage of the ACA was the promise to constrain Medicare's growth through regulatory constraints. Replacing the ACA program will require addressing alternatives to these regulatory constraints.

Regardless of how the replacement questions are answered, the new president and the next Congress face an environment in which health expenditures are again growing faster than the economy and a market in which some 45% of direct health care spending is paid through Medicare, Medicaid and CHIP, and other public programs.

In addition to the direct government outlays, the Congressional Budget Office estimates that in 2016 the tax exclusion extended to employer provided health insurance will amount to over $260 billion in tax expenditures (foregone tax revenues). Further, the new health insurance exchanges will produce another $43 billion in spending.[1]

Since 1960 health care spending as a share of the economy has grown from 5% to about 18% today. In contrast, since the economy started recovering in the middle of 2009, the rate of growth in the economy at large has kept up with health care spending growth. As a result, health care's share of the economy remained relatively stable until 2014. Some credited the ACA for this period of constant health care spending share. However, similar periods of relatively stable shares punctuate the time series and since the end of 2014 health care spending is once again growing faster than the rest of the economy.

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[1] "The 2016 Long-Term Budget Outlook," Congressional Budget Office, July 2016.

The long history of what is referred to as the "excess cost growth" of health care, when health care spending has grown faster than the total economy, has been attributed variously to the tax preference afforded employer provided health insurance, to the falling share of spending paid by patients, to population aging, to the expansion of public insurance programs, to rising incomes, to technological advances, and to a handful or other factors. All of these factors play a part in accounting for past excess cost growth and will influence future growth.[2]

Tax Preference - When purchased through an employer, health insurance is not considered taxable income. Consequently, the effective price of the insurance is reduced by the amount of income and payroll taxes workers would face if they had to pay for the insurance with after tax dollars. By taking compensation in this way, workers have lower taxable wages and salaries. Workers in the highest income tax brackets actually have the lowest health insurance prices.

Employer purchased insurance includes all workers and their family members who have differing expected health care expenditures. Employer groups thus overcome the adverse selection problem currently plaguing the insurance exchanges where enrollment is dominated by high health care expenditure enrollees. On the other hand, given the tax advantage, workers buy more comprehensive insurance than they would otherwise, thus increasing the level of health expenditures.

Out-of-Pocket Spending – While the tax preference has increased the level of spending, it is another matter as to whether it has increased the rate of growth in health spending. The tax preference is related to second factor: the declining share of spending paid by patients. Group members have the incentive to expand the generosity of the insurance through lowering the copays and deductibles, or through expanding coverage to a broader set of services or pharmaceuticals, given that they share the expense of expansion with the other members. Since 1960 the share of out-of-pocket cost has declined from 48% to 11% in 2014.

Population Aging - Health care spending rises with age. In 2012, the average American 19 to 44 years of age spent $4,458 on personal health care. Those 45 to 64 years of age spent $9,513 and those 65 and above spent almost $19,000 on personal health care. As the population ages spending will consequently rise.[3] In 1960, the population 65 and older accounted for 17.3% of the population. Today they account for 25%, and in 2029, when the youngest members of the Baby Boom generation are 65, they will account for 35%. By itself, population aging is expected to increase real per capita spending by 10% over the next two decades.

Public Insurance - Medicare and Medicaid are now in their 51st year. In 2014, they paid for 37% of all health care spending. When combined with other government programs the total

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[2] See Newhouse (1992) and Smith, Newhouse, and Freeland (2009) for discussions of the magnitude of each of these potential causes of health expenditure growth.

[3] From Table 7, Age and Gender Tables, Health Expenditures by Age and Gender, Centers for Medicare and Medicaid Services webpage, https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Age-and-Gender.html

public share comes to 45%, up from 39% just 15 years ago. The primary causes of the increased share are Medicare's expansion in 2006 to cover pharmaceuticals and the Medicaid coverage expansion under the ACA in which some states expanded coverage to adults whose income falls between 100% and 138% of the poverty level. In addition, Medicaid enrollments across the states have expanded after the ACA as those who were already eligible have enrolled.

Public Policy - Tax policy and legislative changes to the main public insurance programs, Medicare and Medicaid, has affected past spending and will affect the course of future spending. The scope of the ACA has touched tax policy and has directly made changes to Medicare and Medicaid. But, in addition, the new legislation also requires firms and individuals to participate in the provision or purchase of insurance or face penalties. These policy changes will increase health care spending.

Rising incomes - Real per capita income has more than tripled since 1960 and is up 20% since 2000. Because health care is a normal good, its consumption will rise with income. But, estimates of the income effect on health care expenditures is difficult to identify given that all of the other factors affecting the higher growth rate are changing at the same time. Increases in per capita income has certainly increased our ability to pay for medical devices, such as knee and hip replacements, that improve our quality of life. It is possible that the combination of increased ability to pay and medical advancements may make the share of income devoted to health care rise, and have contributed to the fact that real per capita health care spending has increased ten-fold since 1960.

Other factors - The prices of health care services are sometimes identified as contributing to the rise in health care spending. Prices are inherently difficult to identify given that much of health care spending is paid through third parties. The ultimate reimbursed price for a service or course of treatment is seldom known to the patient at the point of consumption. Further the contribution of higher medical prices are confounded with changes in quality.

One factor that has not been discussed in relation to explaining health care's rising share of consumption is the role of shifting health care production from the home to the market. Since 1960 the percentage of women, ages 25 to 54, who were employed has risen from 41% to 71%. As women's labor market participation increased, some new products and services recognized in GDP replaced products and services that had been produced in the home. In the case of health care, the relabeling, as market production, of services such as long-term care has tended to increase this sector's spending and its share.

Technological Advances - After all of the factors that contribute to health care spending growth have been accounted for, technological change serves as the catch-all for the remaining unaccounted for growth. Technological advances have occurred in all sectors of the economy, but some of the medical advances or range of services and products available result from the expansion of the demand through insurance coverage.

Below we discuss how health care spending has grown in the past, how the present environment will shape future policy options, and how the future spending path may evolve. We also outline tax reforms and policy options that can constrain tax financed health care spending in Medicare and Medicaid. Next, we discuss proposals to replace the ACA.

The Past

Figure 1 depicts two health expenditure series as percentages of GDP. The National Health Expenditures series is from the Centers for Medicare and Medicaid Services (CMS). This series indicates that National Health Expenditures grew from 5.0% to 17.5% of GDP from 1960 to 2014.[4] The other series is calculated from National Income and Product Account tables from the Bureau of Economic Analysis (BEA). The calculation of this series follows Hartman, Kronfeld, and Catlin (2010).[5]

Figure 1. National Health Expenditures and Total Health Expenditures from National Income and Products Accounts as a Percent of GDP
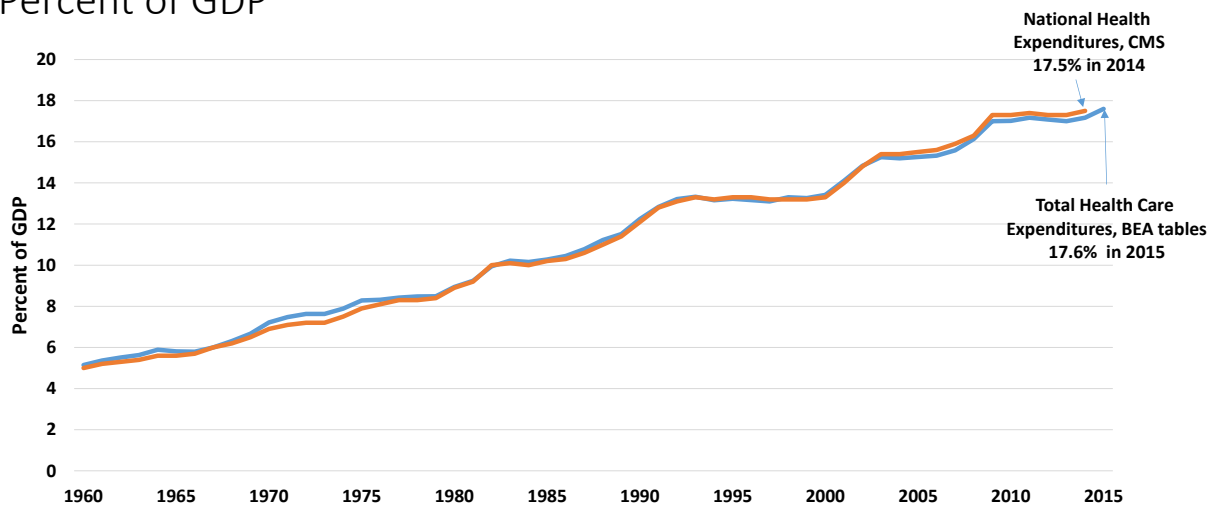
Sources: Centers for Medicare and Medicaid Services, National Health Expenditure Accounts, 2014 and U.S. Bureau of Economic Analysis, Tables 2.4.5U, 3.17, 5.4.5U, and 5.5.5U. See also Hartman, Kornfeld, and Catlin (2010).

As evident from the figure, the two series have similar paths through time. The advantage of the second series is that it can be updated as new quarterly estimates from the BEA become available. The series based on the BEA tables has been slightly lower than the NHE series and produces total health care spending equal to 17.6% of GDP in 2015. The figure illustrates that there are several periods during which health care's share remained relatively stable. These
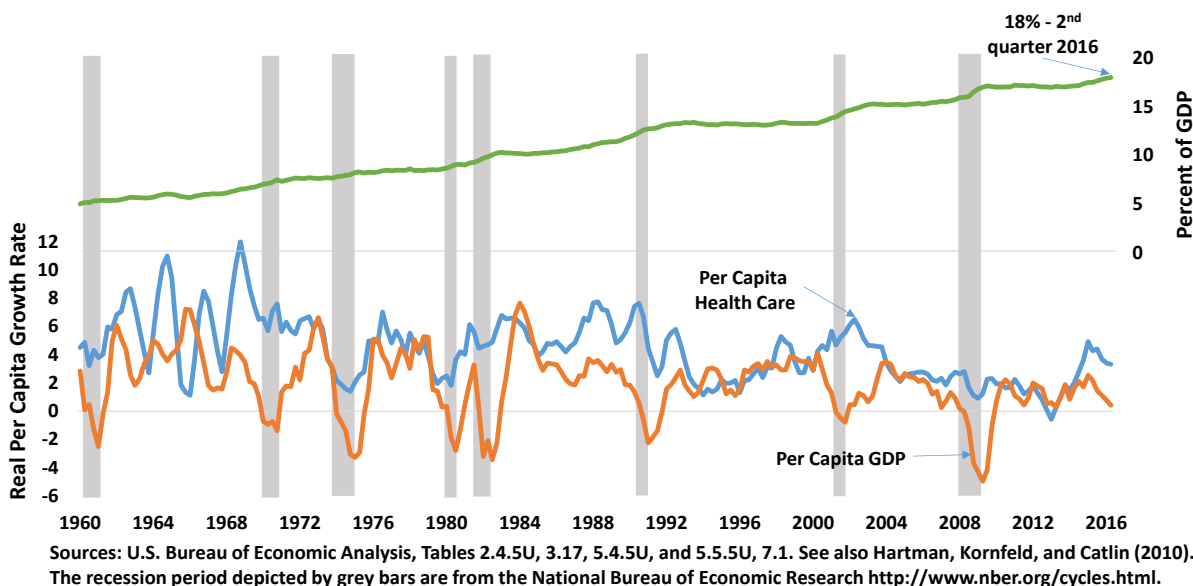
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[4] The historical National Health Expenditure Accounts are available at https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html

[5] Estimates based on methodology described in Hartman, Kornfeld, and Catlin, "A Reconciliation of Health Care Expenditures in the National Health Expenditure Accounts and in Gross Domestic Product," Survey of Current Business, September, 2010, pp. 42-52. See the appendix for details.

periods, 1982-1984, 1992-2000, 2003-2007, and 2009-2014, coincide with economic expansions when the growth in per capita GDP grew at approximately the same rate as per capita health care spending.

The connection between health care spending's share of GDP and the relative annual growth rates in per capita GDP and per capita health care spending is illustrated in Figure 2. Health care spending's share of GDP in the top panel is based on the quarterly BEA series, and as of the second quarter of 2016 the estimated share is 18%. As with the annual series in Figure 1, this series also reveals the periods of more rising and stable shares of GDP. The grey bars in the figure represent the recessionary periods of the business cycle as identified by the National Bureau of Economic Research.[6]

Figure 2. Total Health Expenditures and Real Annual Growth in Per Capita GDP and Per Capita Health Care Spending

Sources: U.S. Bureau of Economic Analysis, Tables 2.4.5U, 3.17, 5.4.5U, and 5.5.5U, 7.1. See also Hartman, Kornfeld, and Catlin (2010). The recession period depicted by grey bars are from the National Bureau of Economic Research http://www.nber.org/cycles.html.

The bottom part of the figure presents the growth rates in real per capita health care spending and real per capita GDP. The growth rates, presented each quarter, reflect the annual rates over the previous year. As can be seen, real GDP growth declines markedly during recessions, but the same pattern dampened in the case of real per capita health care spending, and in some recessions there is little if any decline. The real per capita health spending growth rate averaged 4.3% and while real per capita GDP grew at an average real rate of 2%. Also evident in the figure is the growth in health care's share during the recessions when per capita spending growth exceeds per capita GDP growth and the aforementioned periods of relatively constant shares when the growth rates are similar. One final observation from this figure is that the per

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[6] National Bureau of Economic Research http://www.nber.org/cycles.html.

capita health care spending growth rates have lower variation than do the per capita GDP growth rates over the business cycle suggesting relatively constant growth in health care spending over time.[7]

Industry employment reinforces this observation. Figure 3 presents monthly employment by major industry indexed to the beginning of 1990. The yellow line depicts the health care sector's employment growth, now 95% higher than it was in January of 1990. This sector has experienced higher growth over the last 26 years compared to the other sectors. The next highest growth is in the professional and business services industries in which employment is now 88% higher than in 1990. At the other end of the spectrum is the manufacturing sector where employment is now 69% of its level in 1990. The health care sector's employment growth has been constant and virtually unaffected by the business cycle. Two other sectors less affected by the business cycle are education and government. The small business cycle effect is to be expected given that all three are funded partially or entirely through government payers or provide consumption services that are less affected by economic contractions and expansions.

Figure 3. Nonfarm Employment by Major Industry Indexed to 1990

Source: U.S. Bureau of Labor Statistics, Current Employment Statistics.
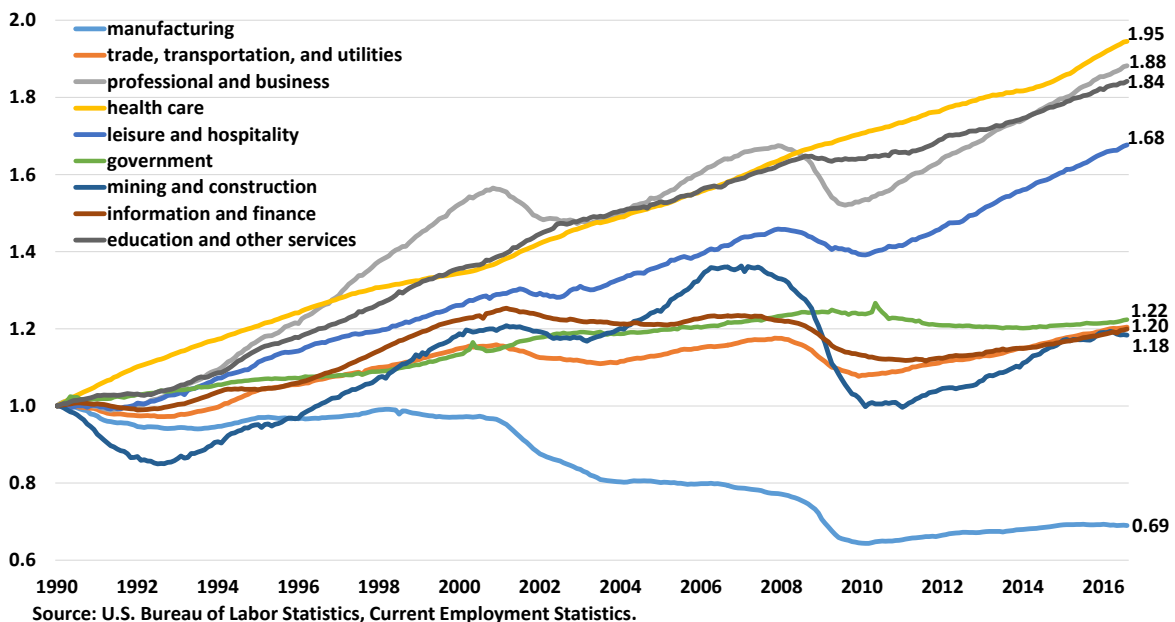
This brief description of past health care spending and employment illustrates the sector's higher relative spending growth, and the sectors constant employment growth, over the business cycle. Several pertinent facts about the present state of the health sector are discussed next before turning to some projections of the future path of health care spending.

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[7] The coefficient of variation for the real per capita health care spending series is 0.5 and is 1.1 for real per capita GDP series.

The Present

Health care providers often must work with numerous payers each time they interact with a patient. Further, patients must navigate paying numerous bills that depend the complexity of the illness or condition for which they are treated. In the aggregate, most payments to providers come from private and public third-party payers, and the largest single category of spending remains hospitalizations. Figure 4 presents a broad-brush summary of the sources of payments for personal health care expenditures and the primary expenditure categories.

As of 2014, private health insurance paid for about 34% percent of personal health care, Medicare paid 23%, and Medicaid and CHIP combined for 18%. Other third party payers and the Departments of Defense and Veterans Affair about 13%. Patients paid for the remaining 13% out of their own pockets.[8] The substantial role of third-party payers, who together pay for 87% of spending, means that most transactions between patient and provider are mediated by an outside party. Ultimately, workers and taxpayers pay for all health care consumed, but most of it indirectly through insurance premiums and tax supported public insurance.

Figure 4. Personal Health Care Expenditures
Source of Payment and Expenditure Categories
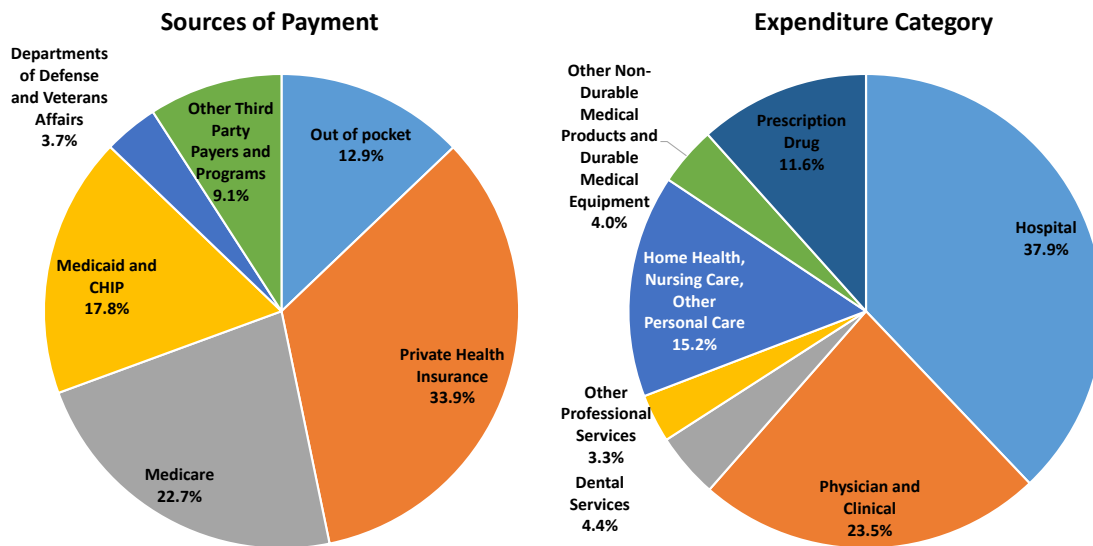
Source: Centers for Medicare and Medicaid Services, National Health Expenditure Accounts, 2014.

The right-hand pie chart indicates that payments to hospitals comprise 38% of all personal health care expenditures. Payments to physician and clinics make up 24% of spending and

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[8] This share is higher than the out-of-pocket share of all health expenditures because several categories of spending, primarily investment expenditures, are not included in the personal health care expenditures total.

spending on prescription drugs 12%. The largest of the remaining categories, at 15%, combines home health care, nursing home care, and other personal health care. So while some health care services have migrated away from the hospital setting, hospitals remain the largest expenditure category. This expenditure summary serves as a backdrop as we consider the current policy environment in which the ACA has overshadowed prospects for reform in recent years and it has produced wide variation in the forecast of future spending on the part of government payers. The reality is that the ACA's expansion of insurance coverage will influence any future reforms designed to replace it.

The ACA was passed in 2010 and its major provisions affecting the uninsured population started to take effect in 2014. The uninsured population prior to the implementation of the ACA numbered almost 42 million, over 13% of the population. The primary goal of the ACA was to reduce the percentage of the population that had no health insurance. By 2015, the uninsured percentage of the population had dropped to 9% and the number had declined to 29 million. The number of insured Americans rose by 18.3 million during the same time span. The reduction in the uninsured population resulted from mandated purchases of health insurance on state exchanges, increases in employer based insurance coverage, and the expansion of Medicaid in some states.

Some states opted to expand Medicaid coverage to adults whose income falls between 100% and 138% of the poverty level. The ACA originally required all states to expand coverage to this population by penalizing non complying states by withdrawing federal Medicaid funds. The Supreme Court struck down this provision in May of 2010. By the beginning of 2014 27 states and the District of Columbia had expanded Medicaid coverage. The ACA made the expansion attractive by federal funding of 100% of the added expenses until 2020. Then federal share is scheduled to decline to 90%. So as currently designed, Medicaid expansion is attractive to the participating states. As of July 2016, the number of expansion states and the District of Columbia had grown to 32.

Figure 5 presents the states' uninsured rates before and after the implementation of the ACA for the states that expanded coverage on the left side of the figure, and the states that declined to expand coverage on the right side of the figure. The states' uninsured rates are from the American Community Survey.[9] The expansion states shown in this figure are those states that expanded Medicaid between the January 1, 2014, and January 1, 2015.

The 2013 uninsured rate for each state is the sum of the blue and orange portions of that state's full bar while the blue portion is the 2015 uninsured rate for each state. The orange portion represents the reduction in the uninsured rate. Among all expansion states the uninsured rate was 12.8% in 2013 and had dropped to 7.3% by 2015, for a 5.5 percentage point reduction. In this group, Nevada and New Mexico had the highest uninsured rates in both 2013 and 2015. The uninsured rate dropped 4.6 percentage points from 16.9% to 12.3% across all of the non-

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[9] Table A-1 from Barnett and Vornovitsky (2016).

expansion states. Among non-expansion states, Texas had the highest uninsured rates in both 2013 and 2015, but dropped 5 percentage points from 22.1% to 17.1%. Florida had the second highest uninsured rate in 2013 at 20%, and by 2015 it was down to 13.3%.

## Figure 5. Percentage Uninsured 2013 and 2015
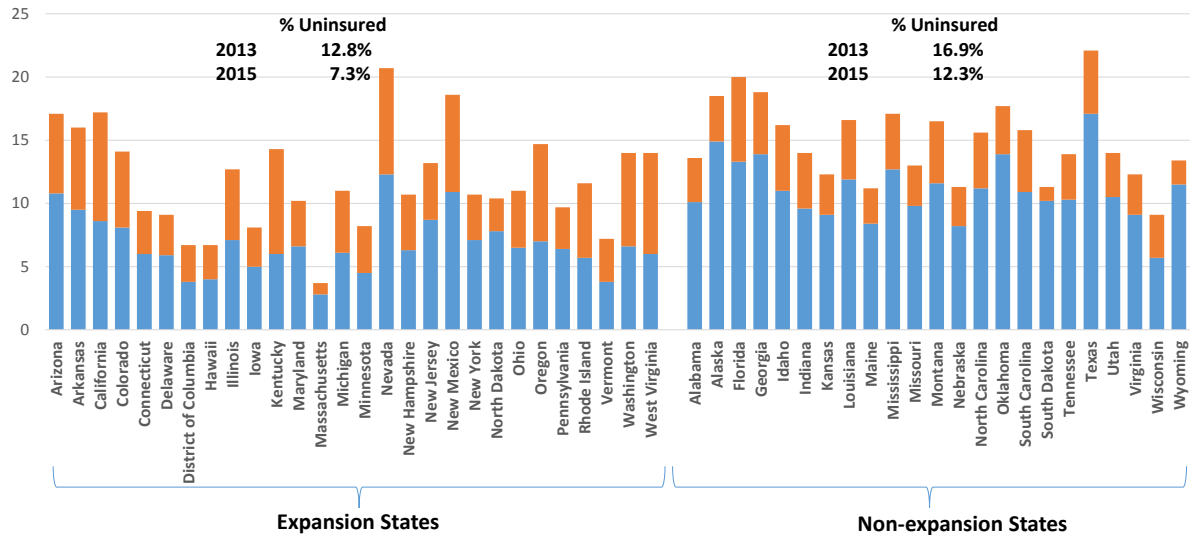
From Jessica C. Barnett and Marina S. Vornovitsky, "Health Insurance Coverage in the United States: 2015" Current Population Reports, U.S. Census Bureau, P60-257, September 2016. Data from the 2013 and 2015 American Community Surveys. A state is identified as an expansion state if it expanded Medicaid eligibility between 01/01/14 and 01/01/15.

Both the Medicaid expansion and non-expansion states saw a decline in the percentage of uninsured. Some of this general decline in the uninsured rate was a consequence of the ongoing recovery and the resulting increased enrollment in employer based plans. Some of the decline is due to increased Medicare enrollment. Plans available on the exchanges and the expansion of Medicaid account for the remainder.

To see how Medicaid expansion affected the rate of uninsured Figure 6 shows the percentage increase in Medicaid and CHIP enrollment for both expansion and non-expansion states for the July-September 2013 to July 2016. Here the set of expansion states is increased to include those that had accepted the new Medicaid funding as of July 2016. The states that have expanded Medicaid, in addition to those depicted in Figure 5, are Alaska, Indiana, Louisiana, and Montana.[10] In the expansion states, Medicaid enrollment grew by over 35% during the ACA's first three years of implementation. This increase represents an increase of 13 million enrollees. In the non-expansion states, enrollment grew by 2.3 million, or 12%. Altogether, the increase in Medicaid and CHIP enrollment was 15.3 million.

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[10] Connecticut and Maine, an expansion and a non-expansion state, respectively, did not report enrollment data for July-September 2013 and are not included in the figure or in the respective totals and percentages.

Figure 6. Percentage Increase in Medicaid and CHIP Enrollment
July-September 2013 and July 2016
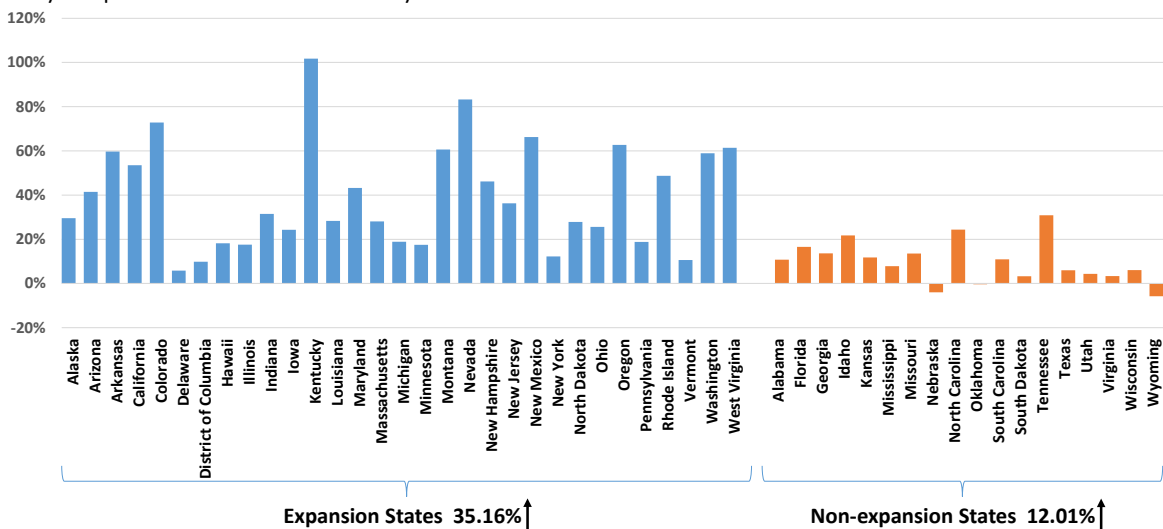
From "Medicaid and CHIP: July 2016 Monthly Applications, Eligibility Determinations and Enrollment Report, Centers for Medicare and Medicaid Services, September 27, 2016. Connecticut, an expansion state, and Maine, a non-expansion state, did not report enrollment data for July-September 2013.

The percentages in Figure 6 are based on increases in both Medicaid and CHIP and extend to July of this year. For the period ending in December of 2015, the increase was also 15.3 million, again with 13 million of the total from the expansion states at that time. Also, at least 6 million of the increased enrollment were the newly eligible adults in the expansion states or about half of the increase in the expansion states. And the newly eligible accounted for at least 40% of the increase in Medicaid enrollees with the remainder coming from enrollment of individuals who were already eligible for the program. As this brief look at the change in insurance coverage over the past few years indicates, any proposed replacement of the ACA will have to deal with a large number of new enrollees.

The Future

How rapidly will health care spending grow in future? The factors mentioned in the introduction will continue to produce growth rates in excess of GDP growth for years to come. However, just as the change in the administration eight year ago ushered in dramatic changes to the health care sector, the new administration has the potential to usher in its own set of changes that direct the path of future spending. Forecasting health care spending when there is policy uncertainty is also implicitly uncertain, but as the past history reveals, the health care sector's growth has been less variable than the economy as a whole.
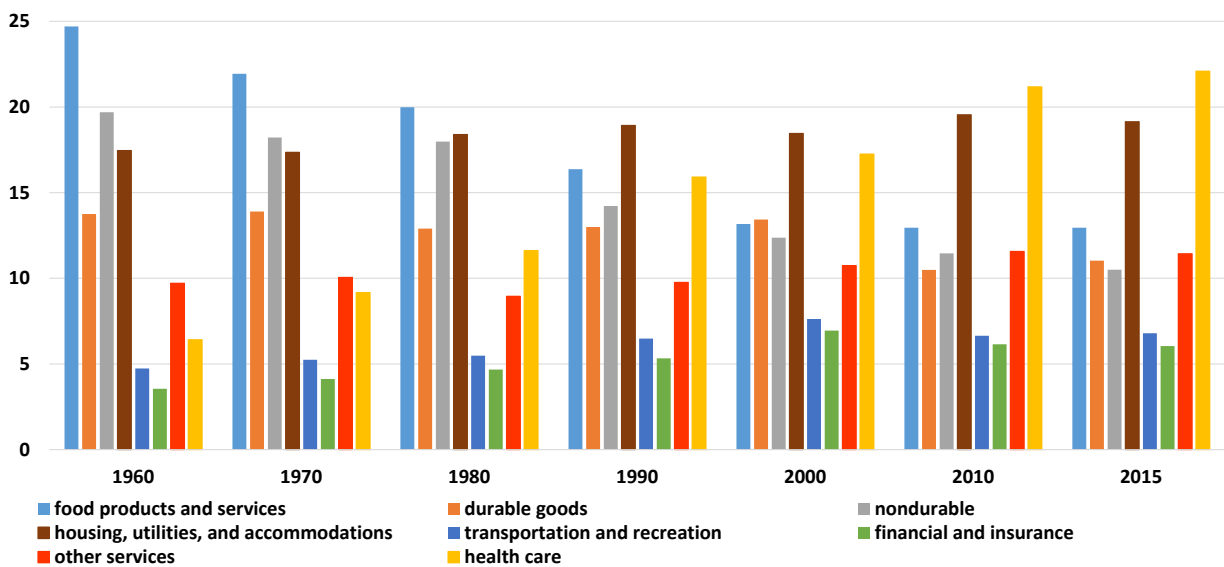
Most forecasts of health care spending begin by discussing the rate by which per capita health care spending growth has exceeded and is expected to exceed per capita GDP growth. We have already seen evidence of this excess cost growth in Figure 2. Policy changes have certainly affected the levels of insurance coverage and the growth rates during the transition periods, but

the general trend in the excess cost growth rate has long guided the forecast of future spending levels.

By itself, without adding in excess cost growth, population aging will increase real spending by 10% over the next two decades. The share of spending paid by patients is expected to decline on net due to increased insurance coverage through the expansion of Medicaid and exchange purchased insurance. This will increase spending growth as newly covered enrollees respond to the lower implicit price of health care. However, the timing and duration of this effect is now uncertain with the change in the administration. Rising real incomes in the future will lead to both greater health care spending and spending on all other goods, but with increasing allocations toward health care. Further, new expensive technologies will continue to be produced in response to the third-party payment mechanism and rising incomes.

Other factors suggest that the excess cost growth rate may decline. For example, many observers point out that new technologies have increased health care productivity. Diagnostics, lab work results, and doctor/patient consultations are now effectively communicated through digital media. Pharmaceuticals have replaced more expensive procedures. Many surgeries are now less invasive than in the past and are conducted on an outpatient basis. But these observations could be made about other consumer goods as well. Today's automobiles are a far cry from the autos of just a few decades ago: they are safer, longer lasting, more efficient, faster, and handle better. So, what we consume when we buy a car is quite different than in the past; we're buying more quality and advanced technology. The same is true for health care. So, labor saving technological advances in health care do not necessarily translate into lower relative health care spending growth.

Figure 7. Shares of Personal Consumption Expenditures

Source: U.S. Bureau of Economic Analysis, Table 2.4.5 Personal Consumption Expenditures by Type of Product.

Often forecasts of health care spending focus solely on health care consumption, but it is critical to take into account how other consumption shares have changed over time as we consider implications for the future. Figure 7 illustrates this dynamic. Health care expenditures grew from 6% to over 22% of personal consumption expenditures between 1960 and 2015. During the same period, food products and services fell from about 25% to 13%. Other sectors' shares have also declined through time with nondurable goods falling from almost 20% to 11%, and durable goods falling from 14% to 11%. The share of consumption allocated to the other sectors has remained more or less static through time. The point here is that thinking about the future of the health care sector cannot be done in isolation. Other consumption must also rise as income rises, though shares of consumption can change.

Both the CBO and the CMS make long range forecasts of health care spending, primarily to identify the growth in federal Medicare and Medicaid spending. In *The 2016 Long-Term Budget Outlook*, the CBO reports slower per capita spending growth for Medicare and Medicaid when compared to private health insurance. Estimates of the historical excess cost growth rates typically take into account changing demographics such as age and sex. In Medicare's case, the excess cost growth rate was 1.4% between 1985 and 2014. Over the same time period the excess cost growth rate for Medicaid beneficiaries was 1%. The CBO reports a higher excess cost growth rate in excess of 2% for individuals covered by private insurance. Due to limited data availability the latter estimate was based on the years 1988 to 2014.[11]

Each of these estimates are used to frame the CBO's forecast of future Medicare, Medicaid, and private health insurance premiums. The CBO uses a detailed projection of the first 10 years of its forecast and after that the excess cost growth rates converge to about 1% by 2046. So in the long run the CBO assumes that per capita health care spending will exceed per capita GDP by 1%. By 2046 the CBO projects that Medicaid, CHIP, and the subsidies for the insurance purchased on the state exchanges will come to 3.1% of GDP up from 2.3% in 2016. Over the next 30 years Medicare spending is projected to grow from 3.8% of GDP this year to 6.9% by 2046.

Each year the actuaries at CMS are responsible for producing the long-run forecasts of Medicare spending that appear in the Trustee Report. For many years now, the actuaries have made two forecasts of Medicare spending: one assumes the current law remains in place and one assumes that certain provisions of the current law are modified over time. Prior to the passage of the ACA the two forecasts were delineated by the degree to which the sustainable growth rate (SGR) for physician reimbursements was adhered to. The baseline forecast assumed that the SGR effectively constrained Part B spending. The alternative forecast assumed that the then current SGR was overridden and always higher than the baseline. In general, the baseline forecasts assume the persistence of current law and the alternative forecasts allow for likely changes in the program over time.

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[11] See CBO, *The 2016 Long-Term Budget Outlook*, p. 39.

The contrast between the current law assumption and the less restrictive alternative can be seen in comparing the pre-ACA baseline and alternative forecasts for 2009 in Figure 8. In this year, the difference between the two forecasts was only due to the SGR assumption which reduced the baseline relative to the alternative. From 2010 to 2014, the Trustees Reports' baseline forecasts assumed that the SGR effectively constrained Part B spending *and* that the ACA's productivity adjustment effectively controlled Part A spending. The productivity adjustment basically reduces annual updates in payment rates to hospitals and other providers, primarily paid through the Hospital Insurance (HI) component of Medicare (Part A), by the growth in productivity. The end result of this adjustment, if successful, would eliminate the excess cost growth in Medicare and the unfunded obligation in the HI portion of the program. However, this adjustment is similar in practice to the SGR and as its restrictions to payment rates begin to bind, legislative adjustments like the many adjustments to the SGR in the past will likely follow.

Figure 8. Medicare Spending as a Percentage of GDP, Baseline and Alternative Forecasts, 2009-2016 Medicare Trustees' Reports
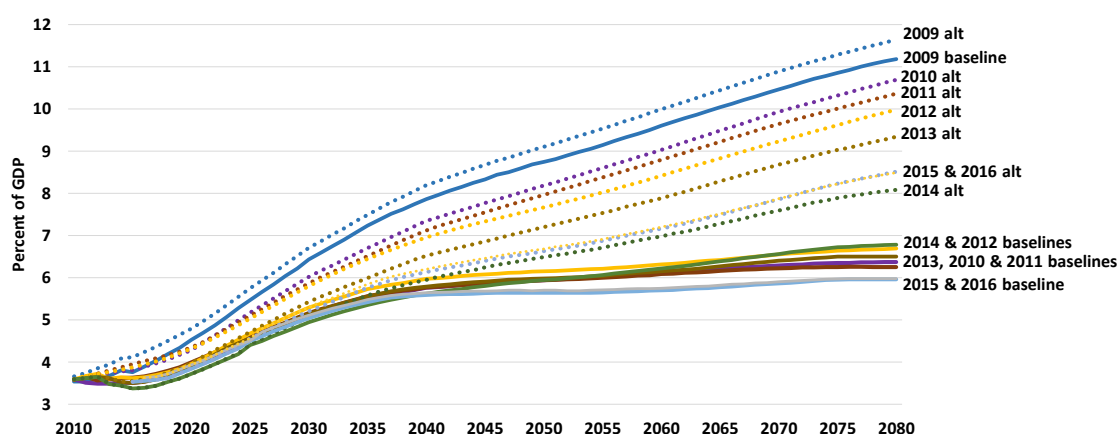
Notes: Medicare Trustees Reports and CMS Office of the Actuary Illustrative Alternative Projections, 2009-2016.

For the past two Trustee's Reports the baseline forecast again assumes that the ACA's productivity adjustment provision remains in place in the long run. It also assumes that the SGR's replacement, the Medicare Access and CHIP Reauthorization Act (MACRA) of 2015, is effective in the long run at constraining payments to physicians under Part B. While the MACRA has relieved some of the constant concerns related to the SGR, in the near-term, the Trustees project that the physician payment rates under the MACRA will be lower than under the replaced SGR by 2048.[12]

The contrast between the baseline and alternative pre-ACA forecasts from 2009 and the two from 2010 indicate the significant effects of the ACA's provisions on forecasts of the program's

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[12] See *The 2016 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds*, p. 2. (Referred to in the text as the Medicare Trustees Report).

size. The 2010 baseline forecast share of GDP in 2046 dropped to 5.9% from the 8.4% estimated in the 2009 baseline forecast, or by 28%! The alternative forecast dropped from 8.8% to 7.9% in 2046 based on the 2009 and 2010 forecasts. In the most recent baseline forecast from the 2016 Trustees Report Medicare spending is estimated to be 5.7% of GDP in 2046 while the alternate forecasts spending of 6.5% in that year. So, the alternative estimate from the Trustees for 2046 is lower than the baseline from the CBO.

A few more observations can be made from Figure 8. First, the alternative forecasts, often viewed as more realistic, have generally declined with each forecast year, and second, the baseline forecast were similar for each forecast year from 2010 to 2014. The last two for 2015 and 2016, which incorporate the provisions in the MACRA, are even lower than the other post-ACA baseline forecasts. These forecasts illustrate how widely future spending may vary under different policy regimes.

As these estimates of Medicare's future spending illustrate, adherence to current law provisions produce significantly lower forecasts than forecasts that allow for the gradual phase-out of the more restrictive, and probably unrealistic, legislative provisions. While public programs pay for almost half of the health care spending bill, their payments for services are less than private payers. Shatto and Clemens (2016) report that for inpatient hospital services Medicare and Medicaid currently pay about 60% of the prices paid by private insurers, and that in the case of physician services, Medicare pays about 80%. Under current law Medicaid will soon pay only 60% of the prices paid by private payers. These payment rates are often seen as responsible for some of the current access to care issues facing the programs' beneficiaries. Overtime, these lower rates will put pressure on legislators to consider payment updates.
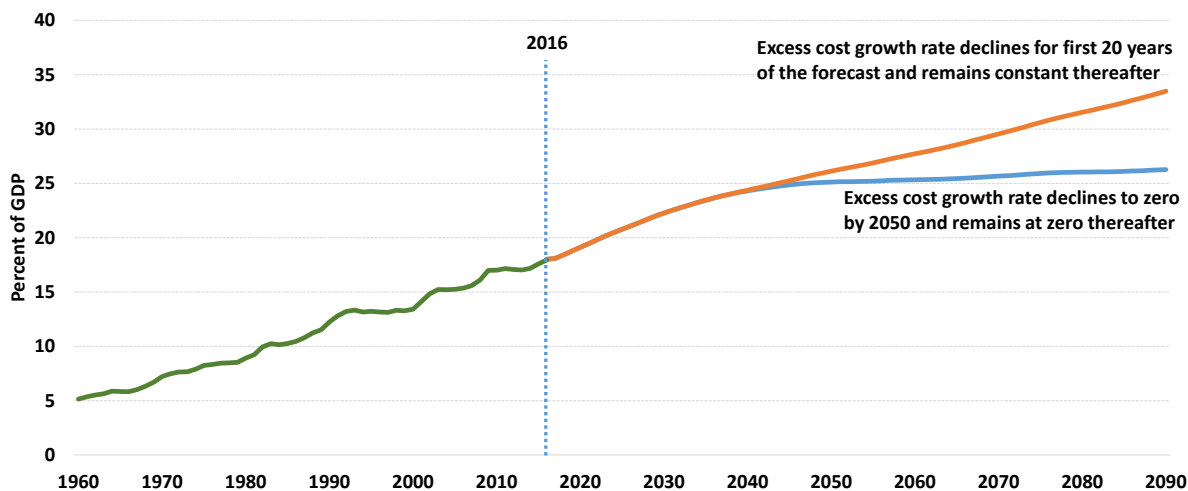
Before discussing health care market reforms, we now turn to illustrative forecasts of future health care spending. As the forecasts of Medicare spending illustrate, the assumptions about the excess cost growth rate and the timing of changes in the rate produces wide forecast variation. The CMS produces annual long-run estimates of aggregate health care spending. The CMS makes two forecasts: one assumes that the current law baseline forecast for Medicare holds and the other assumes the alternative forecast for Medicare holds. By 2040, total health care spending reaches 25% of GDP based on the latter forecast and to 35.3% by 2090 based on this forecast.[13]

Figure 9 presents two illustrative forecasts of national health expenditures as a percent of GDP based on two simple assumptions about the excess cost growth rates during the projection period. Both forecasts include the effects of population aging separately from the excess cost growth rate assumptions. The lower forecast assumes that the excess cost growth rate declines from the post 1985 average of about 1.45% to zero by 2050 following the historical trend in excess cost growth. The higher forecast assumes that the excess cost grow rate declines at its historical rate for the next 20 years and then remains constant at about 0.6% for all future years.

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[13] See Heffler, Caldis, Smith, and Cuckler (2016) pp. 23.

Based on this higher excess cost growth assumption, total health care spending is estimated to reach 25% of GDP by 2044 and 29% in 50 years. This forecast is quite similar in the long run to a recent Centers for Medicare and Medicaid Services (CMS) forecast that assumes the Medicare expenditure constraining provisions under the ACA are not achieved.[14] These forecasts basically extrapolate based on past trends in excess cost growth.

Figure 9. Alternative Forecasts of National Health Expenditures as a Percent of GDP

With this overview of the health care sectors' past, present, and possible future path we now turn to a discussion of reform options intended to address the taxpayer financed components of health care spending.

Health Care Market Reforms and ACA Replacement Options

While it is apparent that the ACA has resulted in a significant decrease in the uninsured population it has done so at considerable cost. Further as we enter 2017, the premiums necessary for the insurance companies that remain in the exchanges have risen significantly. Thus even without full repeal, the ACA will require considerable adjustments if it is to even maintain the increased proportion of the population covered by health insurance.

Suppose the ACA is repealed and replaced with an alternative that reduces the public sector's involvement in the health care sector. That alternative must be designed to actually limit the taxpayer burden of publically provided health care. At the same time any alternative must limit its effect on the currently insured population and perhaps even result in an increase in the

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[14] See Chart 5 in Heffler, Caldis, Smith, and Cuckler (2016).

share of the population that is insured.

Given the breadth of the ACA, any alternative must deal with all aspects of the health insurance market. The ultimate goal would be to give all access to health insurance without requiring that they obtain it. That said, however, the reason that some would not opt to be insured should not be because they are not on an equal playing field with all others. As a result any replacement of the ACA must address employer-based insurance vis-à-vis self-employed insurance, Medicare and Medicaid-CHIP. Most of the post-ACA newly insured are in the exchanges or part of the ACA Medicaid expansion. Any transition to the reformed system must accommodate these newly insured in some way. Below we consider each of these segments of the insured population in outlining a total reform package.

Employer-Provided Health Insurance

Employer-provided health insurance dominates the health insurance market for working-age individuals and their families. This dominance is the result of the tax treatment of employer-provided insurance. First, the employer portion of covered health care costs are expensed for tax purposes. Second, worker contributions to the purchase of employer-provided health insurance are excluded from an individual's taxable income.

Employer-provided health insurance typically includes all employees and their eligible family members regardless of health status. Thus, it forms an insurance pool that avoids the adverse selection problem that is faced by independent health insurance providers. However, the tax exclusion of employer-provided health insurance premiums raises a range of issues.

First, the tax exclusion is essentially a health insurance price subsidy favoring consumption of health insurance (and hence healthcare spending) over other consumption. It does this by encouraging both the firms and its employees to expand what is covered in the tax exempt health insurance package. Firms see a tax exempt fringe benefit as cheaper than wage increases of comparable value. Employees favor an expansion of what is included because for them there is no difference between wages and fringes.

Second, the tax exclusion only applies to firm supplied health insurance. Thus, it does not treat all citizens the same. In one sense the tax code is different for the self-employed and those employed by a firm that used its health insurance fringe benefit to attract workers. In particular self-employed workers must use after-tax income to purchase health insurance while those with firm supplied health insurance are buying it with before-tax income.

Third, because the tax benefit depends on an individual's marginal tax rate, the implicit health care subsidy is larger for higher income workers. This differential pricing creates conflict among a firm's workers when management considers changing the comprehensiveness of the health care coverage. Many firms have addressed this differential value issue by out-sourcing the services provided by lower paid workers.

If we believe that individuals will under-purchase health insurance especially when many emergency rooms are required to treat patients regardless of ability to pay, then all health insurance should be subsidized to some extent. This can be achieved by allowing some or all of health care insurance expenditures to be done with pre-tax income. Such a general extension of the tax treatment of health insurance expenditures levels the playing field in that all can get the same opportunity to purchase health insurance whether or not they are employed by a firm that provides health insurance.

One way to accomplish this leveling is to remove the tax exemption for employer provided health insurance while simultaneously providing all citizens with a health insurance tax credit that increases with age. For the population with firm-provided health insurance the actuarial value of the insurance premiums would be taxable income. This taxable income would be offset by a universal tax credit. The level of health insurance that the tax credit would buy places a tax exempt limit on firm supplied health insurance. At the same time employees could be given the option of taking this actuarial value as wages and seek out health insurance in the marketplace.

Replacing health insurance tax exclusion with a welfare-equivalent fixed amount tax credit would accomplish two goals of reform. First, it would eliminate the efficiency loss associated with the price distortion that favors health care expenditures as opposed to non-health care consumption. Second, it eliminates the favoritism the current system bestows on higher wage earners and hired workers (as opposed to lower wage earners and self-employed workers), while at the same time maintain the incentive to purchase health insurance. Perhaps the most significant benefits brought about by such a reform are that government would enjoy considerable cost savings and that spending on health insurance would fall significantly.[15]

Totally replacing the current health insurance tax exclusion with an equivalent tax credit is at one end of the spectrum of reform options. Employer-based insurance could also be reformed by limiting the tax exclusion to a prescribed level. Retaining employer-based health insurance preserves the risk pools that address the adverse selection problems that exist in individualized markets. The limit on the tax exclusion could be set equal to the premium necessary to purchase higher cost-sharing plans so that the reform reduces tax expenditures.

Because employer-provided health insurance is the standard to which all publically-provided health insurance programs are compared, a limit on the tax exclusion will also help control the expense of public insurance. Limiting the tax exclusion could also be a component of a broader tax reform in which taxpayers choose the type of consumption (for example, health insurance, housing, etc.) they wish to tax preference up to a prescribed limit.

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[15] According to a separate paper by the authors, when the tax exclusion is replaced with a tax credit, government tax expenditures would fall by 38% and health insurance spending would fall by 77%. See Liu, Rettenmaier and Saving (2011).

Medicare

Rettenmaier and Saving (2015) outline four options to reform Medicare aimed at limiting the program's growth. The four options are summarized below.

Option 1 accomplishes federal expenditure cost control by covering all the excess cost growth through means-tested premiums. Essentially this leaves current Medicare just as it is except for the fact that premium increases would replace the general revenue transfers to Medicare that are projected to be necessary due to excess cost growth. Premiums could be means-tested to control the burden on low income retirees.

Option 2 replaces the premium increases under Option 1 with increases in deductibles and copayment rates. The higher cost sharing requirements could be moderated for lower income retirees by issuing Supplemental Medical Assistance Payment (SMAP) cards, the value of which is related to the income of the recipient. The larger deductibles and copayment rates have the potential of increasing the role of markets as Medicare beneficiaries face a larger share of the health care they consume. Implementing additional tax preferred savings plans for retirement health care could address the cost sharing requirements.

Option 3 this reform controls per-capita federal Medicare expenditures by decreasing the reimbursement rates for allowable procedures. While this might seem similar to the ACA's assumed lower reimbursement to providers, the concept is very different. Here, beneficiaries pay the difference between the market price of a procedure and the Medicare reimbursement rate. Just as in Option 2 the means-testing component is accomplished by income adjusting the size of SMAP account contributions.

Option 4 represents the most extreme departure from traditional Medicare although it is a variant of many reform proposals suggested by Congress. In this reform, beneficiaries get what is essentially a premium support payment that can only be spent on health. The total of the premium support payment can be used to buy health insurance. Here the CMS plays no role other than determining the size of the payment in a way similar to the current methodology for Medicare Advantage's patient specific risk adjusted payments from CMS. The means-testing component would augment the support of lower income retirees in the same magnitude as in the other options.

These four reform options can accomplish the goal of bringing the more realistic Trustee alternative forecast of federal Medicare expenditure down to the level of the Trustees' baseline forecast. In all four reforms, beneficiaries are increasingly more responsible for funding their retirement health care expenditures. An analysis of lifetime benefits, taxes, and premiums shows that the current financing arrangement distributes much of the program's financing burden on higher earning workers and on subsequent generations (Rettenmaier and Saving (2015)). The program's generational equity can be improved if future beneficiaries – current workers – prepay

some of their retirement health care through savings options that are dedicated to retirement health care spending.

Medicaid

Just as health care spending in general, Medicaid spending has grown considerably faster than the growth in GDP. Further the federal share of Medicaid spending has grown even faster than total Medicaid. The faster-than-GDP growth in Medicaid and its federal component are mainly attributable to the increased share of Medicaid beneficiaries in the population, from about 13% of the population in 1995 to over 20% in 2014. Moreover the ACA with the relaxation of eligibility requirements has further increased the scale of the Medicaid program.

To contain the growth in the federal component of Medicaid and to allow the states more flexibility to adjust to their own situations and to innovate, the current funding formula should be replaced with block grants to the states. The states would initially receive a block grant in the amount they receive currently. But because the states responded differently to the Medicaid expansion subsidy contained in the ACA the initial distribution of block grants would gradually change to bring all states back to the same treatment. Further the future growth in federal Medicaid per-capita spending should be indexed to the nation's per-capita GDP growth. Such indexation will incorporate both price level changes and population growth.

The block grant funding system not only makes the growth in Medicaid's federal share more manageable, but also facilitates moving the Medicaid program from a "top down" set of rules and requirements to a "bottom up" system where those in the trenches are free to innovate. The benefit of individual state innovation is that when it succeeds it can be adopted by other states and when it fails to achieve its goals the innovator is free to abandon the idea. A "top down" system does not allow either to occur.

The initial level of the block grant to each state could be set at the amount a state currently receives from the federal government. However, the share of the block grant to a state in the federal Medicaid budget could gradually adjust to address the disparities in current Medicaid payments per individual below the poverty threshold.

The current federal Medical assistance percentage (FMAP) system of determining the federal share of state Medicaid costs provides higher federal payments as a percent of total spending for lower income states. For example, for a lower income state like Mississippi the federal government paid almost 74% of the expenditures for conventional (spending on pre-ACA eligible enrollees) Medicaid spending in 2015, but in high income states, like New York and twelve others, the federal contribution is 50% of conventional spending. Though the FMAP system results in the federal government paying for larger shares of the total Medicaid spending in low income states, it is also the case that many low income states have federal spending per person in poverty that is lower than many high income states.

Table 1 presents average federal and state Medicaid spending per enrollee and per person below 100% poverty subdivided between expansion and non-expansion states. Spending per enrollee is about 14% higher in expansion states than in non-expansion states, but when

spending is denominated by the number of persons in poverty the average in the expansion states is 77% higher. In 2015, federal spending per person below the poverty line in the expansion states was $8,941 but was only $5,053 in the non-expansion states. These federal spending differences resulted from the fact that states have had leeway in determining eligibility, even before the passage of the ACA. Even before the passage of the ACA the ratios of Medicaid enrollees to the number of individuals in poverty differed across states. By 2015, there were 1.9 Medicaid enrollees per person in poverty in the expansion states, but 1.2 enrollees per person in poverty in the non-expansion states. The expansion of Medicaid has also produced almost identical federal shares of Medicaid in the expansion and non-expansion states at 62%.

Table 1. Average Federal and State Medicaid Spending per Enrollee and per Person in Poverty

Estimates for 2015		
	Expansion States	Non-Expansion States
Average Federal Spending per Enrollee	4,753	4,192
Average State Spending per Enrollee	2,881	2,532
Average Total Spending per Enrollee	7,634	6,724
Average Federal Spending per Person in Poverty	8,941	5,053
Average State Spending per Person in Poverty	5,420	3,053
Average Total Spending per Person in Poverty	14,361	8,106
Total Enrollees	49,770,443	23,742,631
Total Number in Poverty	26,457,505	19,695,572
Average Federal % of Medicaid Spending	62.26	62.34
Average Federal Medical Assistance Payment %	55.63	62.11

Enrollment from "Total Medicaid Enrollees – VIII Group Break Out Report," June, 2015, and California and North Dakota enrollments from "Medicaid and CHIP: June 2015 Monthly Applications, Eligibility Determinations and Enrollment Report," Centers for Medicare and Medicaid Services, August 31, 2015. Poverty counts for 2015 from "Poverty: 2014 and 2015" American Community Survey Briefs, September 2016. Expansion states as of June 2015. State Medicaid spending in 2015 from Bureau of Economic Analysis, SA35 Personal Transfer Receipts.

The large differences in the states' responses to the current incentives in Medicaid can be reduced through time by adjusting the federal commitment to a state to achieve more equal outcome. In particular, basing the total amount of the block grant on the number and composition of residents at or below the poverty level in the state, the price of health insurance

in the state and the average income in the state can reduce the current differences in federal payments per person at or below the poverty level.[16]

Newly Insured Through the Exchanges and Through Medicaid Expansion

The ACA has induced previously non-insured individuals to acquire health insurance through the exchanges, by taking part in the Medicaid expansion as a newly eligible enrollee, or by enrolling in Medicaid under the pre-ACA eligibility requirements. Any successful replacement of ACA must adequately and fairly deal with these newly insured. Anything done to help these individuals transition to the new system must be made available to all. The costs saved by the government subsidies on exchanges and Medicaid expansion after ACA is repealed could be used for those directly affected. However, whatever method is taken to make the transition less costly for some, must ultimately apply to all. Risk-adjusted tax credits for the purchase of health insurance offers a way to take care of those losing their previous subsidy while at the same time contribute to leveling the field for all. These tax credits would encourage all to purchase health insurance in the marketplace.

As a result of the limited risk-adjustment allowed by the ACA, the exchanges failed to attract enough low cost (generally young) participants into the state pools that would cover the groups' cost. The legal restriction on the range of age-adjusted premiums resulted in premiums that were significantly below cost for high risk subscribers and significantly above cost for low risk subscribers. As a result the exchanges suffered from extreme adverse selection.

To alleviate this problem requires at least two changes to the requirements that were imposed by the ACA. First, insurance providers must be allowed to more fully risk-adjust premiums. Second, higher cost enrollees must be equipped to pay the real cost of their insurance. In this case, tax credits based on health care status would ensure that the high cost enrollees have the resources necessary to buy insurance in the general marketplace.

Conclusion

The way health care consumption is financed and regulated will continue to be debated. The ACA has expanded insurance coverage through Medicaid expansion, subsidies, and mandates. As a result health care spending will continue to grow as a share of the economy. Moreover, under the ACA an increasing share of the spending will be paid for through direct government spending and tax incentives.

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[16] For example the target block grant in each state could be identified as $BG_i = n_{ij} \bullet p_{ij} \bullet fmap_i$. Where BG_i is the block grant amount in state i, n_{ij} is the number of people in poverty of in category j in state i, p_{ij} is the premium for individuals in category j in state i, and $FMAP_i$ is the FMAP in state i. The categories can be thought of as the groups that are required to be covered by Medicaid and could be further adjusted by age. The premiums by category and state would follow the health care premiums paid on behalf of federal employees and postal workers. For dual eligible aged individuals, the premium would be consistent with the Medigap insurance available in the state.

Limiting government spending on health care to the growth in the economy is the implicit goal of most recent proposals regardless of the political leaning of the group making the proposal. The difference is that the paths to limiting government spending diverge significantly.

One route continues to regulate total spending through mechanisms such as the ACA's provisions to constrain Medicare's payments to hospitals. Such constraints will either be overridden, as was the SGR, or if effective will result in lower spending on behalf of program beneficiaries leading to lower quality and restricted access. The ACA's expansion of insurance coverage through the exchanges and through the expansion of Medicaid has relied on mandates and subsidies and the insurance package sold on the exchanges is highly regulated.

An alternative to the regulated route is increasing consumers' direct role in financing the care they receive. But to also reduce the growth rate in federal and state spending on health care other reforms must be considered. These include limiting tax expenditures, increasing cost sharing, and in the case of Medicare, increasing means-testing. Risk-adjusted tax credits for the newly insured and state innovation in Medicaid are also necessary in replacing the ACA. Both paths provoke strong opposition, but the latter path brings more market forces to bear on limiting taxpayer funded health care spending growth and on allocating resources more efficiently.

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Appendix

The table below lists the National Income and Product Account Tables and line numbers used to calculate total health expenditures series as presented in Hartman, Kornfeld, and Catlin (2010) and used throughout the present study. With the exception of the annual values for Federal and State and local health consumption and investment expenditures from Table 3.17, all of the series in the table are available on a quarterly basis. The annual values from Table 3.17 are available from 1960 to 2015.

Table A-1: Components of Health Care Expenditures from the Bureau Analysis National Income and Product Account Tables

Table and Line Description	Table and Line Number
Personal Consumption Expenditures by Type of Product	
Therapeutic appliances and equipment	Table 2.4.5U, line 64
Pharmaceutical and other medical products	Table 2.4.5U, line 119
Health Care	Table 2.4.5U, line 168
Net Health Insurance	Table 2.4.5U, line 269
Health, gross output – Health services to households	Table 2.4.5U, line 338 - less line 351
Selected Government Current and Capital Expenditures by Function	
Federal Health Consumption Expenditures + Federal Gross Health Investment	Table 3.17, line 17 + line 116
State and Local Net Health Consumption Expenditures + State and Local Gross Health Investment	Table 3.17, line 26 + line 125
Private Fixed Investment in Structures, Health Care	Table 5.4.5U, line 5
Private Fixed Investment in Equipment, Medical equipment and instruments	Table 5.5.5U, line 6

Source: U.S. Bureau of Economic Analysis, Tables 2.4.5U, 3.17, 5.4.5U, and 5.5.5U. See Hartman, Kornfeld, and Catlin (2010).

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