Medicare's Role in the Recent Health Care Spending Slowdown

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Background

The unusually slow growth in U.S. health care spending in recent years has prompted an ongoing debate over causes and implications.[1] One group of analysts—the "recessionists"—point to the Great Recession and its aftermath as the key factor behind the slowdown.[2] Another group of analysts—the "structuralists"—highlight the role of fundamental changes in the health care sector, including a shift to "value-based payment" and slower development of costly new technologies.[3,4] Other analysts blend the two viewpoints, arguing that the Great Recession can explain much of the slowdown but that other, less transient, factors also appear to be at work.[5] Whereas the recessionists warn that rapid growth in health care spending will resume as the economy recovers and as coverage expands, the structuralists offer a rosier scenario in which slower growth continues into the future.

This paper focuses on the Medicare program and its role in the slowdown in overall health care spending. The goals are to quantify Medicare's role in the overall slowdown, identify the factors behind Medicare spending trends, and discuss implications for future trends. When analyzing trends in overall growth in health care spending, Medicare deserves special attention for three reasons.

1. *Size.* In 2013, spending on services covered under the Medicare program represented one-quarter of total national health expenditures.[6] Because of its sheer size, trends in the Medicare program will have a direct, and economically significant, impact on overall spending trends.
2. *Change.* The Medicare program has undergone a series of fairly major changes in recent years, which make it plausible that spending trends might have diverged from historical norms. The most significant of these changes are reductions in provider payments in the Affordable Care Act (ACA) and the Budget Control Act (BCA), and strengthened program integrity efforts.
3. *Policy.* In most of the rest of the U.S. health care system, decision making is diffused among employers, private health plans, state governments, and so on. In contrast, federal policy makers in the Congress and the Administration exert fairly direct control over key aspects of the Medicare program. We should not necessarily expect spending trends in Medicare to follow those of the rest of the health care system.

Data and Methods for Quantifying the Slowdown

We take three approaches to measuring trends in health care spending, each offering a somewhat different perspective:

- spending as a share of gross domestic product (GDP),
- growth in real spending per person, and
- a "growth residual," meaning the difference between actual growth in real spending per person and a predicted rate of growth.

In each case, we measure the rate of growth both in overall spending and in the Medicare program.[7] For overall spending we measure trends through 2013, which is the most recent year for which reliable data are available. We measure Medicare spending through 2014, with the 2014 spending amount equal to the 2013 amount inflated by the year-over-year increase reported

in the Monthly Treasury Statement.[8] We also compare average annual rates of growth between the 1970-2007 period, which we treat as the historical benchmark, and the more recent period (2008-2013 for overall spending, and 2008-2014 for Medicare spending). Those more recent periods incorporate the effects of the Great Recession, and major changes in Medicare policy.

"Medicare spending" equals benefit payments by the program plus the costs of administration as reported in the National Health Expenditures (NHE). Overall health spending equals total NHE.[9] We use historical GDP data from the Bureau of Economic Analysis (BEA) for the years 1965 through 2013,[10] and we estimate GDP in 2014 using projected growth from the Congressional Budget Office (CBO).[11] The implicit GDP price deflator is used to deflate growth in nominal health care spending.[12]

To calculate the growth residuals, we regress annual growth in real spending per person in year t on growth in real GDP per capita in years t, t-1, etc. through t-5. When calculating the overall growth residual, we include the years 1970 through 2013. When calculating the Medicare growth residual, we use the years 1970 through 2014, excluding 2006—Medicare spending growth in that year was exceptionally high due to the introduction of the Medicare Part D prescription drug benefit.

Findings

Both Medicare spending and overall spending as a share of GDP reached a plateau beginning in 2009 (see Figure 1). Each year since 2009, overall health care spending has been 17.4%, and Medicare spending has been 3.5% of GDP. That type of plateau is not unprecedented—overall health spending as a share of GDP remained more or less constant during the managed care revolution of the mid- and late-1990s, and Medicare as a share of GDP actually fell in the late 1990s due to the Balanced Budget Act (BBA).[13]

Annual real growth in overall real health spending per capita has been below historical norms since around 2005. The 5-year average annual rate of growth historically ranged from 3% to 6% (see solid blue line in Figure 2), but has in recent years dropped to around 2%. More striking is the deceleration in Medicare spending growth since 2009. Historically, real Medicare spending per beneficiary has grown at an annual rate between 2% and 8% (see dashed red line in Figure 2). In 2010 and 2011, however, growth in real Medicare spending per beneficiary fell to around 0%, and then fell below 0% from 2012 through 2014. Declines in real Medicare spending per beneficiary have only occurred once before, in 1998-9 during the immediate aftermath of the BBA.

Figure 3 illustrates the 6-year moving average growth in real GDP per capita (thin black line), and the predicted real growth in overall health spending per capita (solid blue line).[14] Predicted growth in real health care spending closely follows the trends in the overall economy, rising during the boom years of the 1980s and 1990s and falling since 2005. In recent years, the actual rate of growth in overall health spending per capita (blue dots) has been lower than historical norms, but that is consistent with the predicted values from the GDP growth model. The implication is that the slowdown in overall health spending can be largely explained by the Great Recession.

As shown in Figure 4, real growth in Medicare spending per beneficiary is much more erratic than growth in overall spending, and predicted growth does not closely follow real GDP growth.[15] Compared to overall spending trends, Medicare appears to be much more heavily driven by federal policy making, and less by the overall economy.

One way to characterize the recent Medicare spending slowdown is by comparing actual and predicted (using the GDP growth model) rates of real growth per beneficiary during the recent period (2008-2014) versus a long-run historical benchmark (1970-2007). Over the historical period, average actual real growth exceeded predicted real growth (5.0% versus 4.6%), whereas in the recent period actual real growth has been far below the predicted real growth (0.3% versus 2.5%) (see Figure 5). The implication is that real Medicare spending growth has slowed sharply in recent years, and that the slowdown is much larger than would be expected based just on slow economic growth.

Why Did Medicare Spending Growth Slow Down?

One way to characterize the magnitude of the recent Medicare spending slowdown is to compare actual Medicare spending levels with hypothetical levels calculated using predicted growth rates. Actual Medicare spending in 2007 was $433 billion. If Medicare spending had grown from 2008 through 2014 at the rates predicted by the Medicare GDP growth model, Medicare spending would have grown to $698 billion in 2014 (see Table 1). Actual Medicare spending in 2014 was $600 billion—that difference of $98 billion represents the magnitude of the Medicare spending slowdown in 2014.

Nearly all of the $98 billion slowdown in Medicare spending in 2014 can be explained by recent policy changes in that program (see Table 2).[16] These policy changes fall into two broad categories:

1. *Price cuts.* The ACA included a wide range of changes to Medicare's provider payment systems. One of the most important, but overlooked, provisions in the ACA is a "productivity adjustment"—that provision permanently lowered Medicare's default rate of increase in payment rates for all providers except physicians. The downward adjustment is equal to the long-run economy-wide rate of growth in total factor productivity.[17] The ACA also reduced Medicare's premium payments to private plans in the Medicare Advantage program. On top of the price cuts in the ACA, the BCA requires that Medicare's payment rates be reduced by 2 percent across the board for as long as the sequester remains in place,[18] and the American Taxpayer Relief Act required that the Centers for Medicare & Medicaid Services (CMS) reduce payments to hospitals. Based on CBO's estimates, the direct effect of the fee-for-service price cuts is a reduction of $37 billion in Medicare spending in 2014. We estimate that price cuts of that magnitude would reduce Medicare spending by a further $17 billion in 2014, because providers will reduce their output of services.[19]

2. *Program integrity and performance incentives.* The ACA strengthened CMS's "program integrity" (i.e. anti-fraud) capabilities, broadened the application of competitive bidding for durable medical equipment, required CMS to penalize hospitals with high readmission rates, and implemented several other "value-based purchasing" programs. Some significant payment reforms have not yet taken effect, such as the value-based payment modifier for physicians. Together, we estimate that these provisions reduced Medicare spending by $20 billion in 2014, although this estimate is highly uncertain.

The recent declines in real Medicare spending per beneficiary should not be expected to continue indefinitely, for at least three reasons. First, the Medicare policy changes that have slowed growth in recent years are a mix of permanent deflections of trend (e.g. the productivity adjustments) and shifts in levels (e.g. the sequester). The implementation of downward level shifts will reduce growth during the phase-in period, but not necessarily thereafter.[20] Second, the sequester is, technically, temporary, although its end date has already been extended by two years to pay for an increase in Medicare physician fees.[21] Third, some of the recent slow growth in Medicare spending per beneficiary reflects the "baby boomer" generation aging into the program, which shifts the beneficiary population to be relatively younger and healthier.

Medicare's Role in the Overall Slowdown

During the recent period (2008-2013), the rate of growth in overall health spending has been 0.5 percentage points below the level predicted by the GDP growth model (1.6% versus 2.1%) (see Figure 6). We interpret that 0.5 percentage point difference as the slowdown above and beyond the Great Recession. One important question is how much of that slowdown in overall spending can be explained by the sharp, policy-driven slowdown in Medicare. To address that question, we calculate a "hypothetical without Medicare slowdown" level of NHE in 2013, using a method similar to the one used to quantify the magnitude of the Medicare spending slowdown. Whereas actual Medicare spending grew from $433 billion in 2007 to $586 billion in 2013, Medicare spending would have grown to $656 billion in 2013 if rates of growth per beneficiary had equaled predicted values. When that difference in Medicare spending is added to overall NHE, plus an additional 25% to represent hypothetical beneficiary cost sharing,[22] the result is a hypothetical rate of growth in overall NHE from 2008-2013 of 2.2%. That hypothetical growth rate is slightly higher than the actual rate of growth of 2.1%. The implication is that all of the excess slowdown in overall spending—i.e. growth below the level predicted by the GDP growth model—is attributable to the Medicare spending slowdown.

Discussion

The findings in this analysis provide some support both for the recessionists and the structuralists. This analysis confirms, as the recessionists have pointed out, that the Great Recession can explain, at least in a statistical sense, most of the recent slowdown in overall health spending. But, the recent sharp slowdown in Medicare spending growth cannot be explained by the Great Recession, and can, instead, be tied to permanent, structural changes in that program.

The CMS Office of the Actuary has pointed out that Medicare's payment rates under the ACA are currently significantly below private payers' rates, and that the productivity adjustments in the ACA will tend to widen that gap.[23] That payment rate gap is key to thinking about the sustainability of the recent slow growth in Medicare spending and overall spending. The future sustainability of slow growth in Medicare spending will depend both on whether the structural changes to the program are economically viable—i.e. can providers increase productivity at the required rate—and whether they are politically viable. Evidence on the economic viability of continued Medicare price cuts is mixed,[24,25] and the rationale for continued price cuts will undoubtedly be challenged by providers.

[1] Evans, M. 2014. "Revised federal data show U.S. healthcare spending growth hit 53-year low in 2013." Modern Healthcare, December 3, Online: http://www.modernhealthcare.com/article/20141203/NEWS/312039993.

[2] Dranove, D., C. Garthwaite, and C. Ody. 2014. "Health Spending Slowdown Is Mostly Due To Economic Factors, Not Structural Change In The Health Care Sector." Health Affairs 33(8), 1399-406, Online: http://content.healthaffairs.org/content/33/8/1399.full.pdf.

[3] Furman, J., and M. Fiedler. 2014. "New Report Shows that Slow Health Care Spending Growth Continued in 2013, While Near-Term Trends Remain Encouraging." The White House Blog, September 3, Online: http://www.whitehouse.gov/blog/2014/09/03/new-report-shows-slow-health-care-spending-growth-continued-2013-while-near-term-tre.

[4] Cutler, D. M., and N. R. Sahni. 2013. "If Slow Rate Of Health Care Spending Growth Persists, Projections May Be Off By $770 Billion." Health Affairs 32(5), 841-50, Online: http://content.healthaffairs.org/content/32/5/841.full.pdf.

[5] Levitt, L., G. Claxton, C. Roehrig, and T. Getzen. 2013. "Assessing the Effects of the Economy on the Recent Slowdown in Health Spending." April 22, Online: http://kff.org/health-costs/issue-brief/assessing-the-effects-of-the-economy-on-the-recent-slowdown-in-health-spending-2/.

[6] National health expenditures totaled $2.9 trillion in 2013 (Hartman, M., A. B. Martin, D. Lassman, and A. Catlin. 2014. "National Health Spending In 2013: Growth Slows, Remains In Step With The Overall Economy." Health Affairs, Online: http://content.healthaffairs.org/content/early/2014/11/25/hlthaff.2014.1107.full.pdf.). Medicare gross outlays (i.e. payments by the program for covered services) in that year were around $600 billion and cost sharing for covered services was around $150 billion (Congressional Budget Office. 2014. "Congressional Budget Office's April 2014 Medicare Baseline." Online: http://www.cbo.gov/sites/default/files/cbofiles/attachments/44205-2014-04-Medicare.pdf.). Total spending on Medicare-covered services was around $750 billion, which is over one-quarter of total spending.

[7] In general, spending growth in year *t* equals spending in year *t* divided by spending in year *t-1* minus 1.

[8] U.S. Department of the Treasury. 2014. "Monthly Treasury Statement of Receipts and Outlays of the United States Government for Fiscal Year 2014 Through September 30, 2014, and Other Periods ", Online: http://www.fiscal.treasury.gov/fsreports/rpt/mthTreasStmt/mts0914.pdf.

[9] Centers for Medicare & Medicaid Services. 2014. "National Health Expenditures by type of service and source of funds, CY 1960-2013." Online: http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/NHE2013.zip.

[10] Bureau of Economic Analysis. 2014. "Table 1.1.5. Gross Domestic Product." November 25, Online: http://www.bea.gov/iTable/iTableHtml.cfm?reqid=9&step=3&isuri=1&904=1929&903=5&906=A&905=1000&910=X&911=0#.VIm-sx3utSk.gmail.

[11] Congressional Budget Office. 2014. "An Update to the Budget and Economic Outlook: 2014 to 2024." August, Online: http://www.cbo.gov/sites/default/files/cbofiles/attachments/45653-OutlookUpdate_2014_Aug.pdf.

[12] Bureau of Economic Analysis. 2014. "Table 1.1.4. Price Indexes for Gross Domestic Product." December 12, Online: http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=3&isuri=1&904=1929&903=4&906=a&905=2014&910=x&911=1.

[13] White, C. 2008. "Why Did Medicare Spending Growth Slow Down?" Health Affairs 27(3), 793-802, Online: http://content.healthaffairs.org/cgi/content/abstract/27/3/793.

[14] The estimated coefficients from the overall GDP growth model (r-squared = 0.665) are:

Parameter	Estimate	Standard Error	t Value	Pr > |t|
Intercept	0.014671	0.00373	3.93	0.0003
GDP_rgro_percap_t	0.258678	0.085081	3.04	0.0041
GDP_rgro_percap_tm1	0.13374	0.088171	1.52	0.1368
GDP_rgro_percap_tm2	0.096792	0.088503	1.09	0.2803
GDP_rgro_percap_tm3	0.260571	0.08846	2.95	0.0052
GDP_rgro_percap_tm4	0.41288	0.085959	4.8	<.0001
GDP_rgro_percap_tm5	0.22224	0.081049	2.74	0.0089

[15] The estimated coefficients from the Medicare GDP growth model (r-squared = 0.180) are:

Parameter	Estimate	Standard Error	t Value	Pr > |t|
Intercept	0.018955	0.013272	1.43	0.1612
GDP_rgro_percap_t	0.07587	0.298842	0.25	0.8009
GDP_rgro_percap_tm1	-0.12043	0.310196	-0.39	0.6999
GDP_rgro_percap_tm2	0.23133	0.305457	0.76	0.4534
GDP_rgro_percap_tm3	0.490083	0.303492	1.61	0.1144
GDP_rgro_percap_tm4	0.15296	0.30087	0.51	0.614
GDP_rgro_percap_tm5	0.412849	0.28676	1.44	0.1579

[16] White, C., J. Cubanski, and T. Neuman. 2014. "How Much of the Medicare Spending Slowdown Can be Explained? Insights and Analysis from 2014." Kaiser Family Foundation, December 17, Online: http://kff.org/medicare/issue-brief/how-much-of-the-medicare-spending-slowdown-can-be-explained-insights-and-analysis-from-2014.

[17] Congressional Research Service. 2011. "Medicare Provisions in the Patient Protection and Affordable Care Act (PPACA): Summary and Timeline ", January 24, R41196, Online: https://paulryan.house.gov/uploadedfiles/r41196.pdf.

[18] Congressional Research Service. 2011. "The Budget Control Act of 2011." August 19, R41965, Online: http://fas.org/sgp/crs/misc/R41965.pdf.

[19] White, C., and T. Yee. 2013. "When Medicare Cuts Hospital Prices, Seniors Use Less Inpatient Care." Health Affairs 32(10), 1789–95, Online: http://content.healthaffairs.org/content/32/10/1789.abstract.

[20] Committee for a Responsible Federal Budget. 2014. "Temporary Effects Driving Medicare's Slow Growth in 2014." May 13, Online: http://crfb.org/blogs/temporary-effects-driving-medicares-slow-growth-2014.

[21] See H.J. Res. 59, the Bipartisan Budget Act of 2013 (http://www.gpo.gov/fdsys/pkg/BILLS-113hjres59enr/pdf/BILLS-113hjres59enr.pdf).
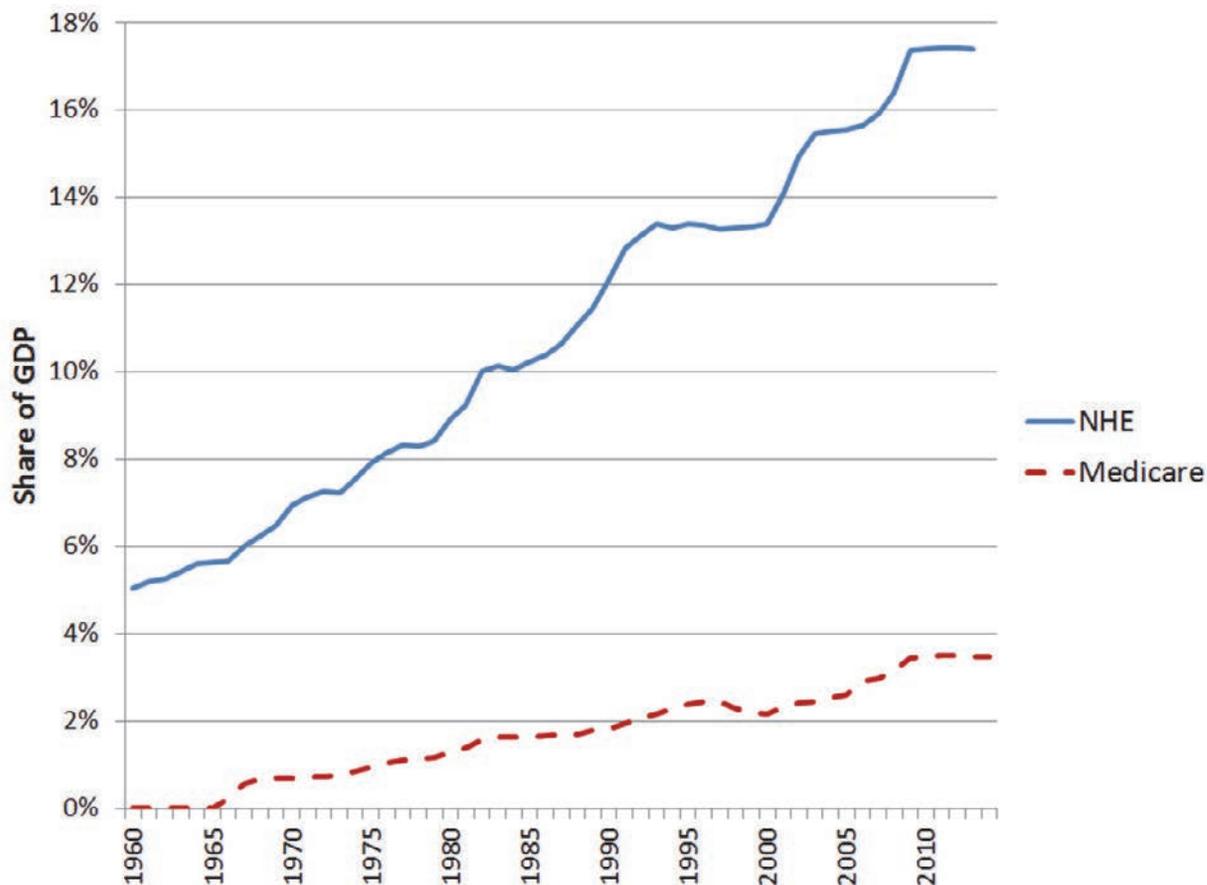
[22] The actuarial value of Medicare is 80% (McArdle, F., I. Stark, Z. Levinson, and T. Neuman. 2012. "How Does the Benefit Value of Medicare Compare to the Benefit Value of Typical Large Employer Plans?: A 2012 Update." April 4, Online: http://kaiserfamilyfoundation.files.wordpress.com/2013/01/7768-02.pdf), which implies that beneficiary cost sharing equals 25% of Medicare spending (i.e. 0.2/[1-0.2]).

[23] Shatto, J. D., and M. K. Clemens. 2014. "Projected Medicare Expenditures under Current Law, the Projected Baseline, and an Illustrative Alternative Scenario." August 28, Online: http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/2014TRAlternativeScenario.pdf.

[24] Cylus, J. D., and B. A. Dickensheets. 2007. "Hospital Multifactor Productivity: A Presentation and Analysis of Two Methodologies." Health Care Financing Review 29(2), 49-64.

[25] White, C., and V. Y. Wu. 2014. "How Do Hospitals Cope with Sustained Slow Growth in Medicare Prices?" Health Services Research 49(1), 11-31, Online: http://onlinelibrary.wiley.com/doi/10.1111/1475-6773.12101/abstract.

Figure 1. Health Care Spending as a Share of Gross Domestic Product, Total National Health Expenditures (NHE) and Medicare

Notes: Medicare spending includes benefit payments and administration. Medicare's share of GDP is shown through 2014, whereas NHE as a share of GDP is only shown through 2013. GDP in 2014 is projected by growing the 2013 GDP using CBO's projected

annual growth rate (Congressional Budget Office. 2014. "An Update to the Budget and Economic Outlook: 2014 to 2024." August, Online: http://www.cbo.gov/sites/default/files/cbofiles/attachments/45653-OutlookUpdate_2014_Aug.pdf). Medicare spending in 2014 is projected by growing the 2013 total using the actual growth in Medicare outlays from federal fiscal 2013 to 2014 (U.S. Department of the Treasury. 2014. "Monthly Treasury Statement of Receipts and Outlays of the United States Government for Fiscal Year 2014 Through September 30, 2014, and Other Periods ", Online: http://www.fiscal.treasury.gov/fsreports/rpt/mthTreasStmt/mts0914.pdf.).
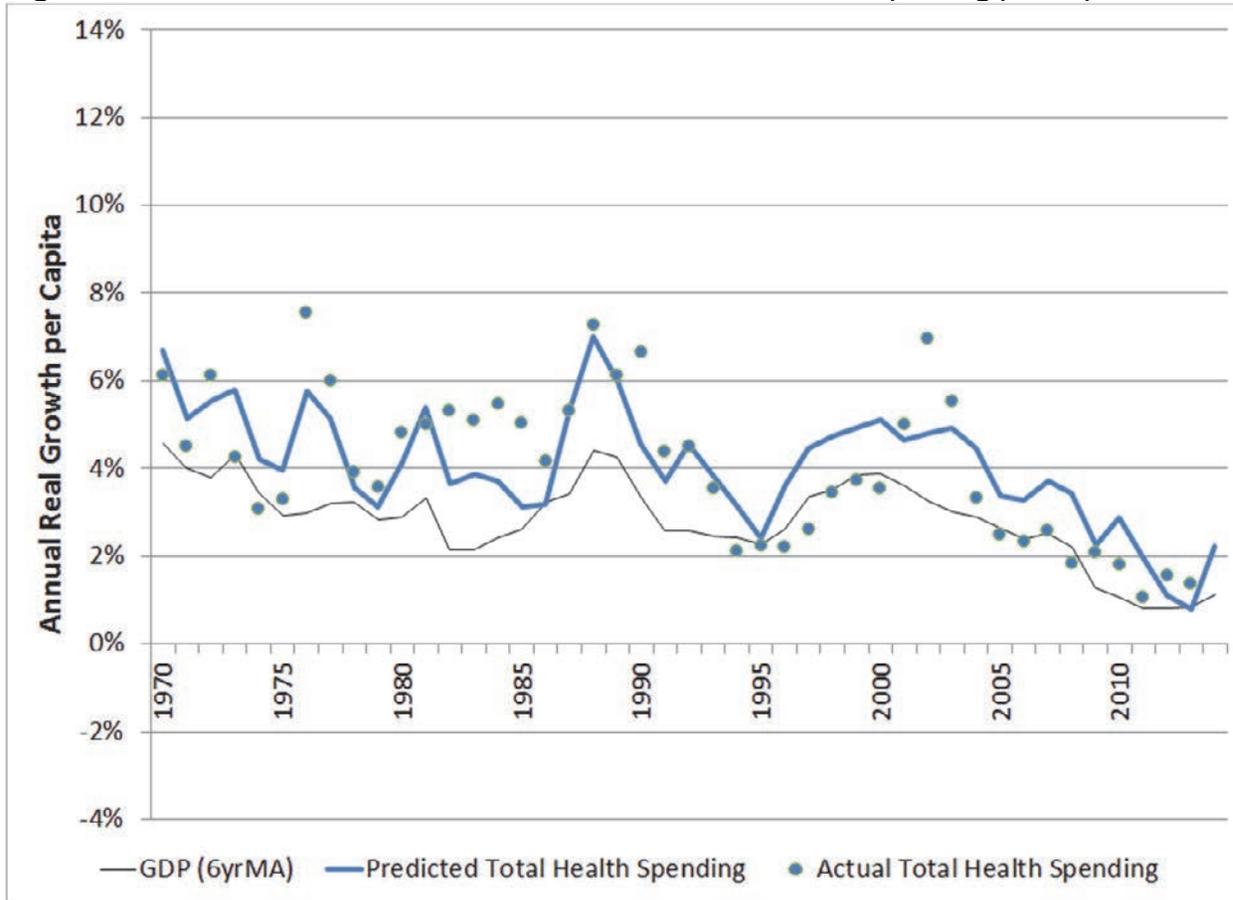
Figure 2. Annual Growth in Real Health Care Spending per Capita, Total and Medicare (annual growth rates and 5-year moving average annual growth rates)
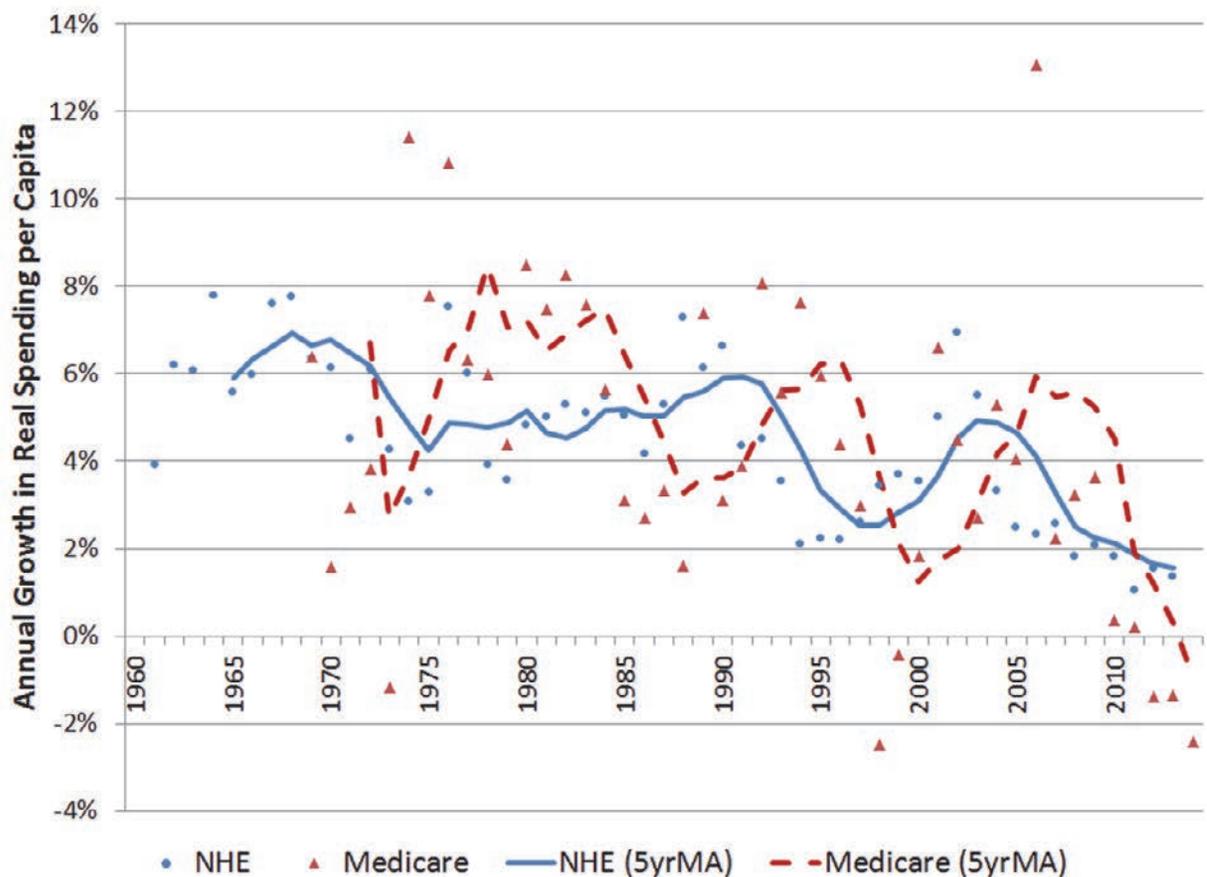
Source: Author's analysis of the National Health Expenditures. Health spending is deflated using the implicit GDP deflator (Bureau of Economic Analysis. 2014. "Table 1.1.4. Price Indexes for Gross Domestic Product." December 12, Online: http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=3&isuri=1&904=1929&903=4&906=a&905=2014&910=x &911=1).

Notes: "5yrMA" represents 5-year moving averages. Real growth in Medicare spending per beneficiary in 1968 was 18.7%--that value is not shown because it exceeds the maximum of the vertical axis.
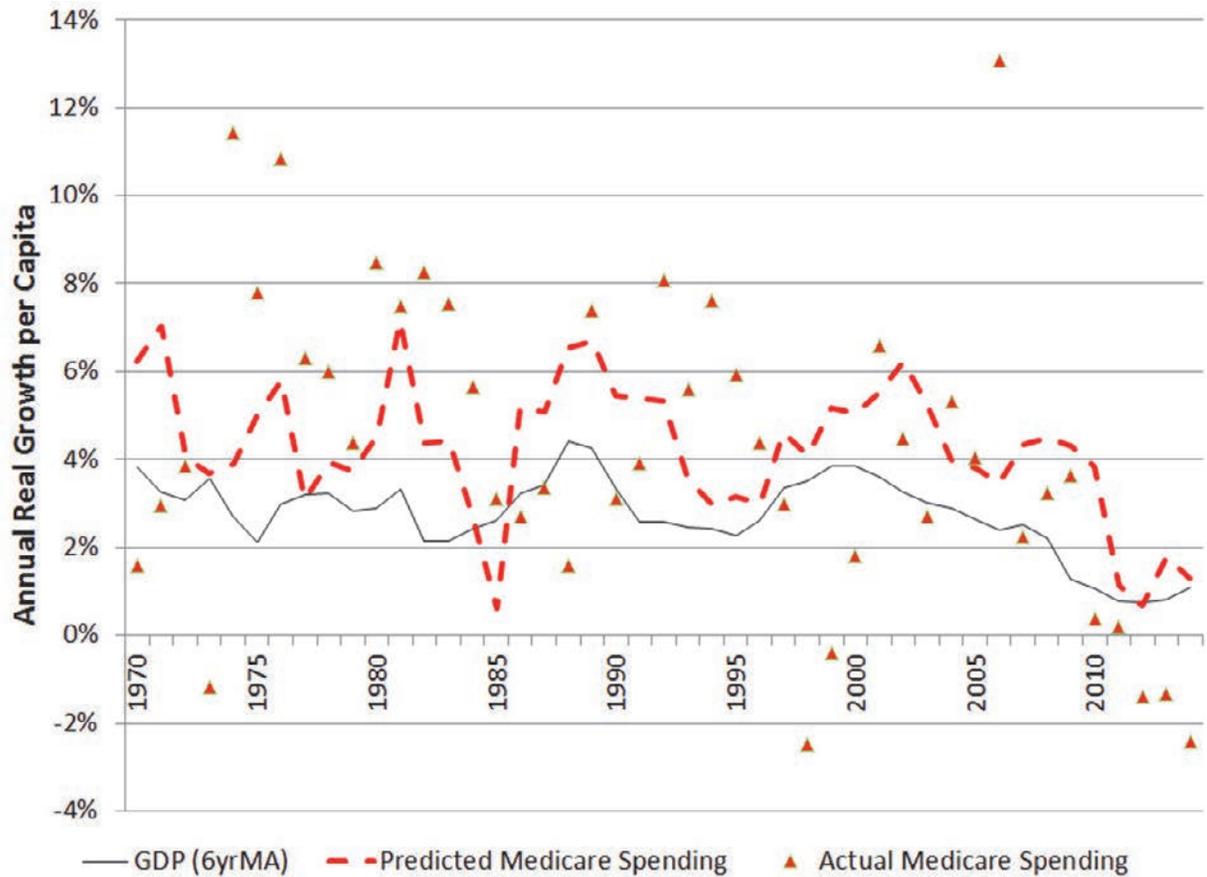
Figure 3. Predicted and Actual Annual Growth in Real Health Care Spending per Capita

Source: Author's analysis.
Notes: To calculate predicted values and residuals, annual growth in real health care spending per capita is regressed on annual growth in real GDP per capita for the current year and for each of the five previous years.
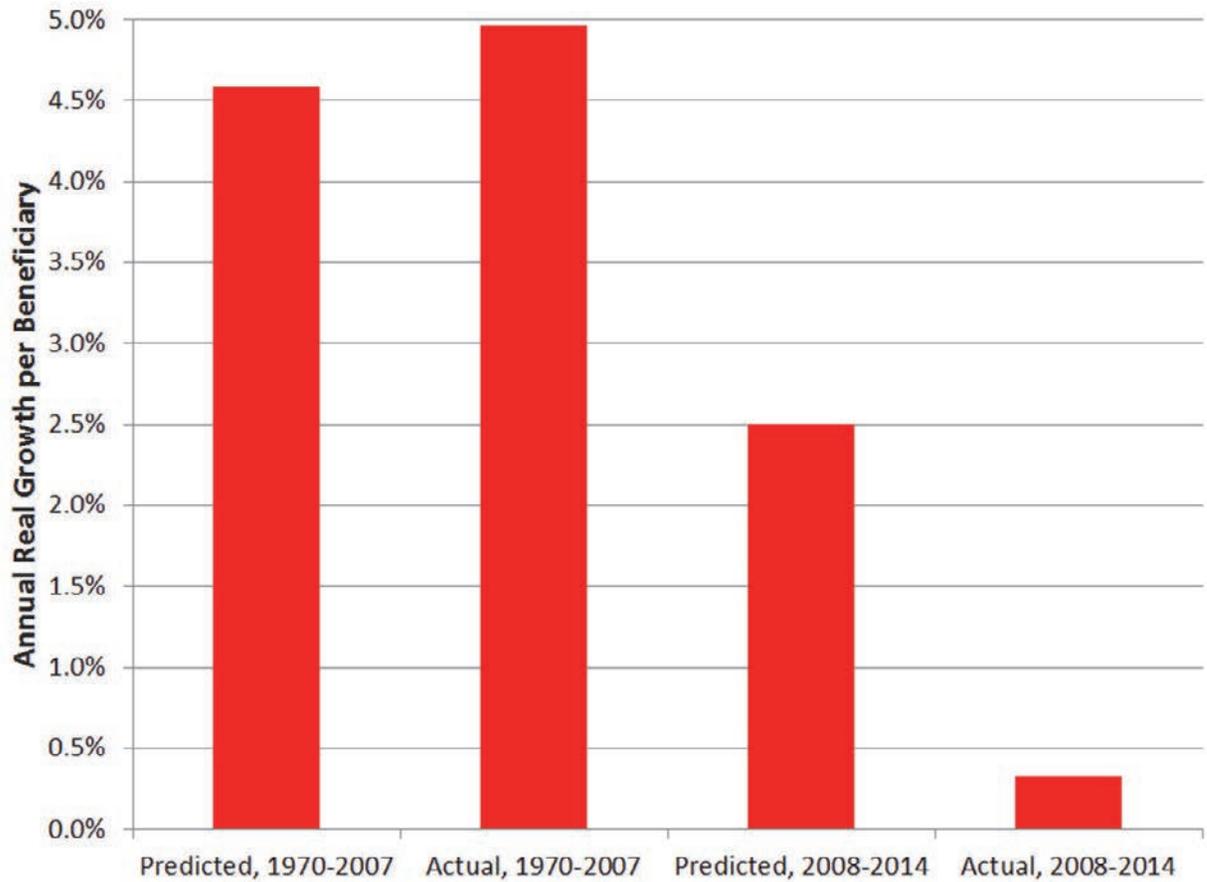
Figure 4. Predicted and Actual Annual Growth in Real Medicare Spending per Beneficiary

Source: Author's analysis.
Notes: To calculate predicted values and residuals, annual growth in real health care spending per capita is regressed on annual growth in real GDP per capita for the current year and for each of the five previous years.
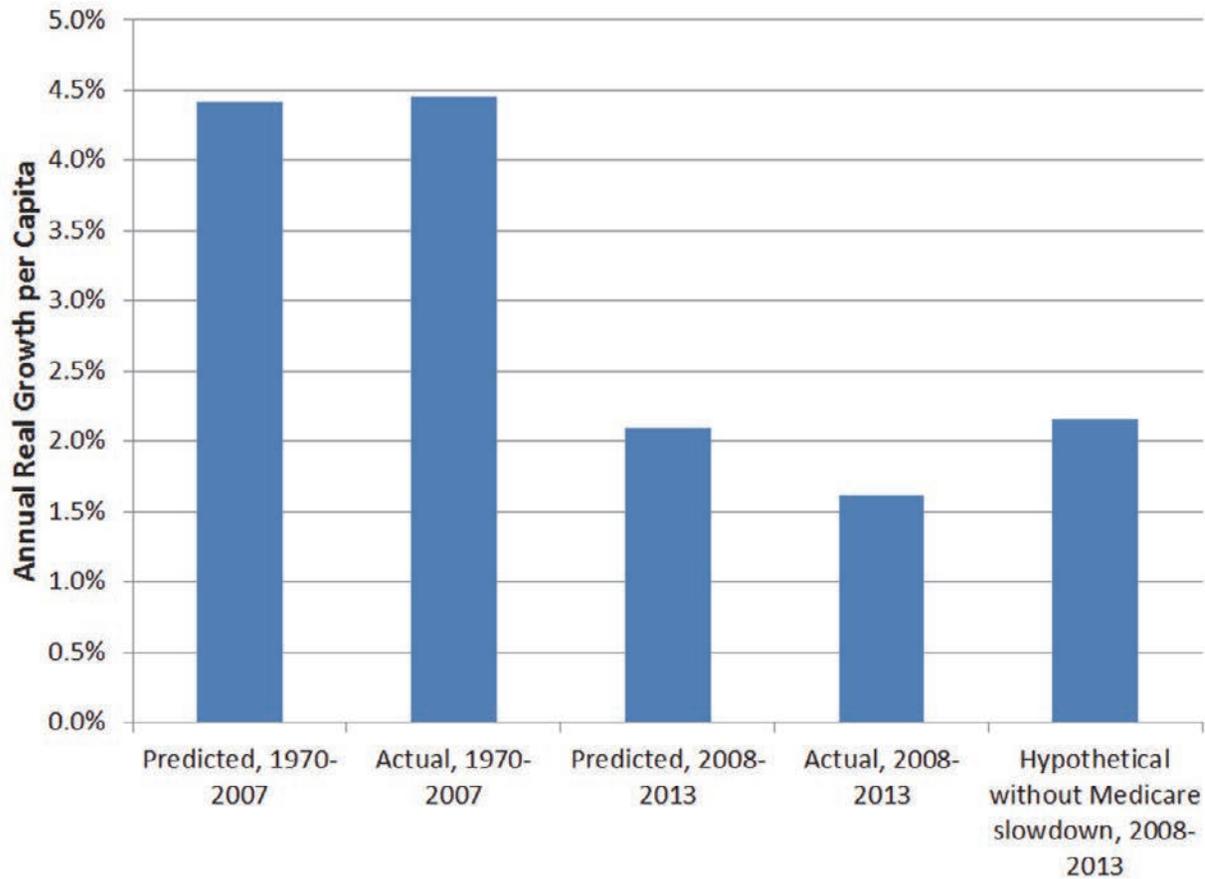
Figure 5. Predicted and Actual Annual Growth in Real Medicare Spending per Beneficiary, 1970-2007 and 2008-2014

Source: Author's analysis.
Notes: To calculate predicted values and residuals, annual growth in real Medicare spending per beneficiary is regressed on annual growth in real GDP per capita for the current year and for each of the five previous years. The year 2006 is excluded because Medicare spending growth was exceptionally high in that year due to the introduction of the Part D prescription drug benefit.

Figure 6. Predicted and Actual Annual Growth in Real Health Spending per Capita, 1970-2007 and 2008-2013

Source: Author's analysis.
Notes: To calculate predicted values and residuals, annual growth in real Medicare spending per beneficiary is regressed on annual growth in real GDP per capita for the current year and for each of the five previous years. The year 2006 is excluded because Medicare spending growth was exceptionally high in that year due to the introduction of the Part D prescription drug benefit.

Table 1. Magnitude of Medicare Spending Slowdown in 2014

	Amount ($ billions)
Predicted Medicare spending	698
Actual Medicare spending	600
Estimated slowdown (difference between actual and predicted)	-98

Source: Author's analysis.

Notes: Predicted Medicare spending in 2014 is calculated using actual Medicare spending per beneficiary in 2007, actual growth in the number of beneficiaries, actual inflation, and predicted rates of growth in real spending per beneficiary based on a regression model.

Table 2. Policy Changes Accounting for the Medicare Spending Slowdown in 2014

	Estimated amount ($ billions)	Notes
Price cuts		
• direct effects of fee-for-service price cuts		
o Affordable Care Act (ACA)	-24	Includes productivity adjustments for all providers other than physicians, and targeted price cuts for specific types of providers.
o the sequester in the Budget Control Act (BCA)	-11	Reflects an across-the-board reduction of 2 percent in the prices that Medicare pays in the fee-for-service program.
o American Taxpayer Relief Act of 2012 (ATRA)	-2	Reflects a downward adjustment to hospital prices to recoup increased spending in previous years due to "coding creep."
• estimated volume response	-17	Equals sum of direct effects of price cuts multiplied by estimated elasticity of inpatient hospital volume with respect to the Medicare price (-0.46).
• Medicare Advantage cuts in the ACA	-16	Reflects lower benchmarks.
Program integrity and performance incentives	-20	Includes competitive bidding for durable medical equipment, a reduction in hospital readmission rates due to new penalties, a reduction in utilization of home health care services due to increased program integrity, and increased recoveries from providers due to increased program integrity.
Sum of estimated effects of all policy changes	-90	
Estimated slowdown	-98	
Unexplained	-8	

Source: Author's analysis. All estimated effects, except the estimated volume response, are taken from White, C., J. Cubanski, and T. Neuman. 2014. "How Much of the Medicare Spending Slowdown Can be Explained? Insights and Analysis from 2014." Kaiser Family Foundation, December 17, Online: http://kff.org/medicare/issue-brief/how-much-of-the-medicare-spending-slowdown-can-be-explained-insights-and-analysis-from-2014. The estimated volume response equals the sum of the direct effects of fee-for-service price cuts (i.e. $37 billion) multiplied by the estimated volume response.

Notes: Predicted Medicare spending in 2014 is calculated using actual Medicare spending per beneficiary in 2007, actual growth in the number of beneficiaries, actual inflation, and predicted rates of growth in real spending per beneficiary based on a regression model.