Policy Research Perspectives

What's Behind The Recent Spending Slowdown? An Overview Of Literature That Tries To Explain It

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Introduction

Based on data from the Centers for Medicare and Medicaid Services (CMS), national health spending has grown at an annual rate under 4.0 percent in each of the years from 2009 to 2012 (Martin et al., 2014). This pattern marks a striking departure from historical trends. In fact, in only one other year has the growth rate been even under 5.0 percent—and that occurred in 2008 (CMS, 2014). It is not surprising, then, that there has been much discussion about how much of the slowdown in spending growth can be credited to the recent recession, what else might have caused it, and whether the slowed growth will continue into the future.

While the CMS data are the standard for measuring historical health spending and growth, they can't speak to what is happening in "real time" because they are released with a more than one-year lag. Monthly data, available in near real time from the Altarum Institute, suggest an acceleration in spending growth that began at the end of the first quarter of 2013. Almost overnight, the discussion about spending has taken on a new tone…"is the slowed growth over?"

This Policy Research Perspective (PRP) provides an overview of annual and monthly health spending data. The PRP also summarizes research that examines the recent slowdown in spending growth. Some of the research looks at spending in the aggregate while other work focuses on spending in the privately insured, Medicare and Medicaid populations in order to better understand the reasons for the recent deceleration. While growth slowed in many spending categories, the causes were not always the same. Finally, the PRP concludes with an overview of health spending projections for the next 10 years, which were released by CMS in September 2014.

Review of annual spending data

Estimates from CMS (Martin et al., 2014) showed that health spending grew at an annual rate of 3.7 percent in 2012. Estimates for the three years prior to that were also under 4 percent, and that for 2008 was 4.7 percent. As Figure 1 illustrates, these were the five lowest rates of growth in the over 50 year history of this data. Notably, the deceleration in spending growth started in 2003, five years prior to the great recession, which ran from December 2007 through June 2009.

On a per-capita basis, health spending growth has also slowed. Using this measure, annual growth was under 3 percent in each of the last five years (Figure 1). As with aggregate spending, per-capita growth also started slowing prior to the recession.

In each of the last three years, health spending has grown more slowly than GDP. This has allowed for a decline in spending as a percentage of GDP. This percentage fell from 17.4 percent in 2009 and 2010 to 17.3 percent in 2011 and 17.2 percent in 2012. While these are only small changes, they are noteworthy because this measure has decreased on only a handful of other occasions (Figure 2).

Figure 3 shows spending growth by type of service over the twenty year period from 1992 to 2012. Spending growth on hospital services and on physician and clinical services accelerated from the mid-1990s to the early 2000s but decelerated after that. Both growth rates went from highs of around 8 percent to lows under 4 percent. Together, those two categories account for almost 60 percent of national health spending. The growth rate for spending on prescription drugs declined almost continuously since the late 1990s, from a one-time high of over 18 percent to lows of less than 2 percent. In four of the last five years growth rates have been under 4 percent. Rates this low have not been seen since the early 1960s (Centers for Medicare and Medicaid Services, 2014).

Medicare data also illustrate just how widespread the slowdown was. Per beneficiary spending slowed in every major service category, for high and low cost beneficiaries, in high and low cost states, and in rural and urban areas (Levine and Buntin, 2013). In addition, there was a decrease in the average annual growth rate for volume per beneficiary in each of the major service categories.

Reasons for the slowdown in growth

Some analyses of the reasons behind the slowdown are heavy on conjecture (even if well informed and thought out) and short on empirical analysis. This is due to how spending growth is modelled. Generally, macro models of health spending growth include very few explanatory variables. Most consist only of several years of data on GDP growth and inflation. A model's ability to explain spending growth depends on its lag structure (how many years of past data are included). Economists often have different estimates of how much of health spending growth is accounted for by the economy because their models include a different number of lags (Chandra, Holmes and Skinner, 2013). Although these models provide estimates of how much of health spending growth is due to economic growth, they don't shed light on what factors drive the *remainder* of health spending growth—that not accounted for by the economy—because there are no other variables in those models.

Fuchs (2013) illustrates how closely health spending and GDP growth tracked over the 1950 to 2011 period. Real GDP per capita grew at an average annual rate of 2.0 percent over that period. Real per-capita health care spending grew an average of 2.4 percentage points faster than that (4.4 percent per year). In most years, predicted health spending growth (actual GDP growth plus the average gap of 2.4 percentage points) was very close to actual spending growth. The one exception is during the emergence of managed care in the mid-1990s. Then, although GDP growth was accelerating, growth in real per-capita health spending remained under 3.0 percent per year. Fuchs notes that the introduction of managed care seems to have affected the long term relationship between GDP growth and spending growth. Between 1950 and 1995 real health spending per capita grew an average of 2.6 percent faster than GDP each year. Between 1995 and 2011, the difference was only 1.7 percentage points.

Cutler and Sahni (2013) examined the relationship between GDP growth and spending growth by looking at how CMS' pre-recessionary forecast for the 2003 to 2012 period compared to actual spending. CMS initially forecast that real per-capita health care spending would grow by an average of 3.9 percent per year. Actual growth was only 1.9 percent, 2 percentage points below that predicted. Using a macroeconomic model, Cutler and Sahni concluded that the 2007 to 2009 recession accounted for 37 percent of that slowdown.

In contrast to Cutler and Sahni's (2013) estimate of 37 percent, The Kaiser Family Foundation (2013) attributed 77 percent of the decline in health spending growth to "changes in the broader economy." The more than two-fold difference in the estimates—37 percent explained and 77 percent explained—rests in how they are constructed and probably overstates the level of disagreement of the two sets of authors (Kane, 2013). Both concluded that a sizable portion of the recent slowdown was not accounted for by models that only incorporate GDP and inflation. Indeed, as shown in Figure 1, much of the slowdown preceded the start of the recession, suggesting that something beyond slowed economic growth was at work.

One factor mentioned by a number of authors is a change in insurance mix. Cutler and Sahni (2013) attributed a small amount of the slowdown, only 3 percent, to a greater than anticipated shift away from private health insurance. Holahan and McMorrow (2013) places greater emphasis on a shift in health insurance coverage from high to lower paying payers but doesn't provide a specific estimate for the impact of this shift. Based on data from the Current Population Survey (CPS), the authors estimate that coverage among non-elderly adults fell by 5.0 percentage points, from 83.5 percent to 78.6 percent, over the 2000 to 2011 period. At the same time, private health insurance coverage decreased by 10.6 percentage points and Medicaid coverage increased by 4.0 percentage points.

In addition to the direct effect of the coverage shift on spending growth, the Urban Institute suggests that the shift to lower paying payers, and the decrease in the percentage of the population with health insurance, may have had an indirect effect by serving as a motivator for cost containment efforts and efficiency gains (Holahan and McMorrow, 2013). Their report references a decrease in hospital revenue growth per adjusted admission in the last decade. Taken with the slow growth in hospital expenses, the authors suggest that providers have cut costs as a response to constraints on revenue. Similarly, they cite declining physician income (from $167,000 to $158,000 from the 2001-2005 to the 2006-2010 period) as a possible motivator for cost containment (Seabury et al., 2012).

Changes in Medicare payment policy have also been credited as a reason for slowed growth. In addition to the impact of the recession (37 percent) and shift away from private health insurance (3 percent), Cutler and Sahni (2013) attribute 5 percent of the slowdown in health spending to changes in Medicare payment policies.[1] The authors attribute the remaining 55 percent of the slowdown to a combination of less rapid development of imaging technology, drugs coming off patent, fewer new blockbuster drugs, increased use of tiered formularies, increased patient cost sharing, and greater provider efficiency. That said, they don't provide estimates of the individual impact of any one of those causes.

[1] Medicare payment cuts are described in the section of this report on Medicare spending.

Despite claims to the contrary, the Affordable Care Act (ACA) is not an important cause of the recent slowdown in health spending growth. Most obviously, the start of the slowdown preceded even the passage of the ACA. Although the payment and delivery reforms present in the ACA may allow for future declines in spending growth, they cannot be credited for those observed through 2012 or even early 2013. One exception is that the ACA called for a reduction in payments to Medicare Advantage plans. In 2011, those payments were frozen at 2010 levels. In 2012, rebates were reduced. While these changes may be a small factor in reduced spending growth in those two years, especially if the private sector followed suit, they cannot account for spending growth deceleration prior to that.

A number of authors have examined recent spending trends at the program level, that is, separately for private health insurance and for the Medicaid and Medicare programs. This makes sense, as each program serves a vastly different population and has different controls over "price" (payments to providers) and "quantity" (the volume of services provided). In the sections that follow, I look at recent factors affecting spending growth in each of those three sectors of the health insurance market.

Private health insurance spending

Dranove, Garthwaite, and Ody (2014) depart from the traditional modelling framework and examine the relationship between growth in the employment to population ratio and health spending growth. Part of the reason they relied on employment and not GDP is data driven—they looked at spending growth at the metro-level (rather than nationally), and there are no correlates of GDP at that level. However, they also note that there are good theoretical reasons why health spending may be better explained by employment than by GDP. First, in this most recent recovery, the benefits of GDP growth have been concentrated among the wealthy. Health spending trends, however, may reflect the decisions of the entire population. Also, the past few years have been characterized as a "jobless recovery." The recovery in employment has lagged behind that in GDP. This suggests that measures other than GDP may be good candidates for predicting health spending.

Looking at 2007 to 2011 data, the authors estimate that for every percentage point decrease in the employment to population ratio, average health spending per privately insured patient fell by 0.84 percent. Based on this relationship and the actual change in employment, they calculate that spending growth would have been 1.8 percentage points higher if there had been no economic slowdown (no employment loss). Given the 2.6 percentage point drop in spending growth that occurred among the privately insured in their data, they conclude that the economic slowdown was responsible for approximately 70 percent of the reduction in private health spending growth.

A number of articles credit increased patient cost sharing for the slowdown in the growth of private health insurance spending (Chandra, Holmes and Skinner, 2013; Holahan and McMorrow, 2013). Although estimates of price sensitivity differ, longstanding research supports the idea that increased cost sharing leads to reductions in utilization. The percentage of covered workers in high deductible health plans (HDHPs, plans with deductibles high enough to allow pairing with a health savings account) increased from 4 percent in 2006 to 20 percent in 2013. The percentage of covered workers in plans with at least a $1000 in-network deductible for single coverage increased from 10 percent to 38 percent over that period. Although part of this increase is due to the shift toward HDHPs, it is also a result of deductible increases in HMO, PPO and POS plans. Mean deductibles

for both single and family coverage more than doubled among covered workers in HMO and POS plans; in PPO plans, the increases were 69 percent for single coverage, and 79 percent for family coverage (Kaiser Family Foundation and Health Research & Educational Trust, 2013).

Ryu, Gibson, McKellar and Chernew (2013) look at claims data from 150 large employers over the 2007 through 2011 period (the Truven Health MarketScan Commercial Claims and Encounters Research Database). They examine how spending on inpatient and outpatient services and prescription drugs responded to changes in the "generosity" of the health plans covered workers were in. Generosity was measured by average out-of-pocket amounts for emergency department visits, outpatient visits, brand name prescriptions and hospital admissions. They found that changes in benefit design that affected out-of-pocket amounts accounted for 20 percent of the slowdown in spending over that period.

Holahan and McMorrow (2013) point to decreases in real income as a reason for the decade long slowdown in health spending growth. Lower income results in less purchasing power for health care as well as for other goods. Based on data from the Current Population Survey, the authors estimated that between 2000 and 2011, real median household income fell by 9 percent and real median per-capita income by 6 percent. To the same point, 2000 to 2011 population growth among families with income below 200 percent of FPL was 32 percent, while population growth among middle and higher income families was essentially flat.

As discussed earlier, the 2000 to 2011 shift to lower paying payers, and the decrease in the percentage of the population with health insurance, may have served as a motivator for cost containment efforts and efficiency gains among hospitals, physicians and other providers of care.

Medicare spending

Levine and Buntin (2013) estimate that among elderly beneficiaries, per beneficiary Parts A and B spending growth slowed from an average annual rate of 7.1 percent over the 2000 through 2005 period to 3.8 percent over the 2007 through 2010 period, a drop of 3.2 percentage points. Although there were earlier periods during which Medicare spending growth also slowed, they were associated with major policy changes. For example, the Medicare spending slowdown that started in the early 1980s was tied to the anticipation and implementation of the inpatient prospective payment system. The Balanced Budget Act of 1997, which included provider payment changes, was a factor behind the late 1990s spending slowdown.

Some authors suggest that the recent slowdown in Medicare spending growth can also be partially attributed to changes in Medicare payment policies (White and Ginsburg, 2012). Payment rates for imaging, home health services, and durable medical equipment were reduced by the Deficit Reduction Act of 2005. Several years later, the Patients and Providers Act of 2008 substantially cut payments to Medicare Advantage Plans. Also possible is that providers have reduced their supply of Medicare services in response to the lower payment rates. This would serve to reinforce the direct impact of lower payment rates on spending. However, although some research supports this supply effect in the early 2000s (Hadley et al., 2009), it has not been examined in the current context.

Levine and Buntin (2013) show that the spending slowdown was broad in scope, and was observed in many different segments of the Medicare population. The authors examined possible reasons for the slowdown, including changes in payment policy and multiple demand-side factors that may have fed into changes in service volume. They estimated that slower growth in updated payment rates accounted for only 0.2 percentage points of the 3.2 percentage point decrease in spending growth from the 2000 through 2005 to the 2007 through 2010 periods. Thus, while there were changes in the Medicare program that included a tighter payment policy, the authors concluded that they were only a small factor behind the slowed growth. In fact, Levine and Buntin (2013) found that the negative impact of changed payment policy on spending growth was actually larger from 2000 to 2005 than from 2007 to 2010.

They estimate that changes in the age and health of beneficiaries, growth in the percentage of beneficiaries enrolled only in part A, and growth in the use of prescription drugs explained 0.3, 0.2, and 0.1 percentage points of the slowdown, respectively.[2] They did not find evidence linking the recent recession with Medicare beneficiaries' demand for health care. Thus, the authors were able to explain only about 25 percent of the decrease in spending growth (0.8 percentage points of 3.2 percentage points). Similarly, Chandra, Holmes and Skinner (2013) also found no evidence linking the recent recession with Medicare beneficiaries' demand for health care.

Levine and Buntin (2013) assessed (but did not examine empirically) how changes in the delivery of care might have contributed to the drop in Medicare FFS spending growth by examining other available data. The delivery changes to which they attribute the greatest chance of having played a role in reduced growth rates are shifts toward lower-cost sites of service and toward non-physician providers, and a provider initiated reduction in the growth of particular services. Here, they point to reductions in the growth rate of surgical discharges per beneficiary and in the growth rate of spending on hospice services as areas in which spending growth has slowed due to those reasons.

Levine and Buntin (2013) consider that providers may have initiated changes in their practice patterns in response to the public focus on cost containment and overuse in certain areas of medicine. This motivation is supported by site visits and qualitative research which suggests that "strong provider interest in payment reform and efforts to prepare for it" may have been a factor in the decrease in volume (White and Ginsberg, NEJM 2012). In addition, providers may have adjusted their practice patterns in response to the increasing share of beneficiaries enrolled in Medicare Advantage (MA).

That motivation is supported by other authors who examined the impact of the growth of the MA program on spending in the traditional fee-for-service (FFS) program (Baicker, Chernew, and Robbins, 2013). They estimate that a 10 percentage point increase in MA penetration results in a decrease in hospitalization costs for traditional enrollees between 2.5 and 4.5 percent. They also find similar effects for the privately insured population and for hospital costs overall. These "spill-over" effects are consistent with a number of explanations including that when providers' patient populations encompass various sources of insurance coverage, patterns of care converge to that of the "average patient."

[2] Increases in prescription drug utilization are associated with decreases in spending on medical services and items besides drugs.

Chandra, Holmes and Skinner (2013) argue that slowdowns in the diffusion of new technology and the rate of growth in the use of existing technology are primary causes of the slowdown in Medicare spending growth. As an example, they point to the rapid increase in the use of coronary artery bypass grafting (CABG) and angioplasty in the 1990s, followed by a decline in use in the 2000s after research suggested that for many patients stents offered only modest benefits. Even when considering the utilization of all inpatient surgical procedures among Medicare FFS enrollees, they observed a slowdown in growth. Annual per enrollee growth rates fell from 1.3 percent from 1996 through 2001, to zero growth from 2001 through 2006, and finally to growth of -3.4 percent from 2006 to 2010.

In contrast, Levine and Buntin (2013) give less merit to the technology argument. They note that although the number of applications to the U.S. Patent and Trademark Office for medical device patents declined in 2008 and 2009 after a near 10 year period of growth, this would have likely had little impact on Medicare spending growth due to the lag between filing and approval, and between approval and commercialization. However, they also acknowledge that national investment in new structures and equipment in the health sector contracted between 2007 and 2010, and that this may have contributed to a slowdown in Medicare growth. The contraction may have been due to a number of factors, including recession-related reduced access to capital.

Medicaid spending

Medicaid spending slowed from an average annual rate of 9.3 percent over the 2000 to 2005 period to 5.9 percent over the 2006 to 2011 period (Holahan and McMorrow, 2013). This was due both to a decrease in enrollment growth, from an average annual rate of 6.6 percent in the first period to 3.8 percent in the second,[3] and a decrease in spending growth per enrollee which fell from an average annual average rate of 2.5 percent to one of 2.0 percent.

Researchers credit part of the Medicaid spending slowdown to faster enrollment growth among lower-cost enrollees. Chandra, Holmes and Skinner (2013) estimate that the falling ages of beneficiaries alone would have led to a decline in utilization growth of 0.8 percent per year between 2007 and 2010. Another cause was state cost-containment efforts. Faced with lower tax revenues, states were under greater pressure to contain costs, and some reacted by tightening payment policies, expanding managed care, restricting services, and increasing community-based long term care alternatives.

The authors also note that age-adjusted utilization growth in the Medicaid program and in the privately insured population were similar (0.7 percent on an annual basis) and lower than that in the Medicare program (1.4 percent). Chandra, Holmes and Skinner (2013) attribute this difference to the cost-containment efforts mentioned above. They estimate that if age-adjusted Medicaid utilization and private utilization had grown at the Medicare rate, overall spending growth across these three programs would have been about 0.4 percentage points higher than it actually was.

[3] Despite the severity of the recent recession, annual Medicaid enrollment growth during the recession of the early 2000s exceeded that of the 2007 to 2009 recession.

Trends in spending growth January 2013 – June 2014

The health spending literature reviewed thus far has largely been based on annual data from CMS. Because the CMS data are released with an over one-year lag, the most recent annual data available are for 2012. In contrast, the Bureau of Economic Analysis provides monthly estimates for health spending and other components of GDP. They also have a quarterly series that receives wide media attention. Using the BEA monthly data and other sources, the Altarum Institute has provided a monthly report on spending, the first of which was issued in January 2013. Whereas the CMS annual estimates are available with a more than one-year lag, the monthly and quarterly estimates are close to current—they are available with an only one-to-two month lag. Although these estimates provide insight into recent spending patterns, because they are based on preliminary and sometimes incomplete data, they are measured with imprecision and are often subject to a great deal of revision. The following discussion illustrates that point.

Starting with its June 2013 Health Sector Economic Indicators report, Altarum noted slight upticks in the rate of health care spending growth in the second quarter of that year (Altarum Institute, June 2013). One year later, in May 2014, Altarum reported that spending growth had accelerated continuously, rising from 3.4 percent in March 2013 to more than twice that—7.1 percent—in March 2014 (Altarum, May 2014).[4]

Also suggesting an uptick in spending growth, BEA's "advance" estimate for Q1 2014 placed seasonally adjusted health spending at a level 2.4 percent above that for Q4 2013 (Bureau of Economic Analysis, April 2014).[5] If that rate of growth were to continue through the end of 2014, it would amount to an annual growth rate of 9.9 percent. That annualized growth rate received a good amount of press, with one New York Times reporter leading off with a simple, "It's back" in reference to spending growth (and, perhaps, a nod to the 1986 movie, *Poltergeist II*) (Lowrey, 2014).

Yet, just two months later when BEA released its revised ("third") estimate, Q1 seasonally adjusted spending was placed at 0.4 percent *below that* for Q4 2013, resulting in an annualized growth rate of -1.4 percent (Bureau of Economic Analysis, June 2014). So, in a span of less than a quarter, estimated annualized growth for 2014 fell from a positive near 10 percent to a drop of more than 1 percent. Incorporating revised BEA data, Altarum's estimates also shifted. The estimate for the increase in spending from March 2013 to March 2014 dropped from 7.1 percent to about 4.6 percent (Altarum, August 2014).

[4] The growth rates reported by Altarum are "year-over-year" changes. The March 2013 rate, for example, is an estimate of the change in spending from March 2012 to March 2013.

[5] The BEA and CMS estimates discussed here measure different things. CMS estimates are in nominal terms; those from BEA are real. The BEA estimates have a focus that is narrower in scope, and include only spending on *household consumption of health services*. They exclude spending categories such as government administration, the net cost of health insurance, spending on public health activities, and investment spending. The BEA spending measure captures roughly 70 percent of CMS' national health expenditures in dollar terms. Finally, annualized estimates based on first quarter BEA data assume that that same rate of growth will continue for the remaining three quarters of the year. The CMS annual estimates do not make that assumption. The Altarum estimates cover the same scope of services as those from CMS and are also presented in nominal terms.

The advance estimates—those which generated the near 10 percent annualized growth rate—are preliminary. In a technical note, BEA itself indicated that "The advance GDP estimate for the first quarter of 2014 is based on source data that are incomplete and subject to revision" (Bureau of Economic Analysis, April 2014b). In particular, the health spending data were not complete, and the BEA used exchange enrollments as well as other sources to prepare the spending estimates.

The advance health spending estimate was based on the expectation that the movement of the formerly uninsured into exchange plans would translate into a large increase in utilization and spending. To the contrary, individuals appeared slow to act on their newly obtained (or more generous) insurance. Some individuals, if they became newly enrolled toward the end of the Q1, may not yet have exercised any "pent up demand." Also, the advance estimate was based on data that did not yet incorporate the full effect of the 2014 winter. BEA's third estimate was based on data from the Census Bureau quarterly services survey which was not yet available when the advance estimate was released (Bureau of Economic Analysis, June 2014b).

Will the slowdown continue?

Complicating any discussion of the extent to which health spending will continue its recent pattern of historically slow growth is that the reasons for the recent slowdown—including what portion of it was due to the recession—are not fully understood. That notwithstanding, a number of authors have discussed mechanisms that are thought to have factored into recent growth patterns and that might allow for them to continue. This section reviews that literature, and concludes with a summary of spending projections for the rest of the decade and into the next.

Chandra, Holmes and Skinner (2013) examine the technology pipeline as one indicator for longer term spending growth. They note that new medical technology funding doubled between 2009 and 2013. Also, while the number of approved patents for medical device manufacturing remained steady at about 9000 per year between 2000 and 2004 and fell to about 7000 between 2005 and 2010, it increased to record levels of about 13000 per year in 2011 and 2012. While some of the fluctuation is due to internal policies at the U.S. Patent and Trademark Office (Levine and Buntin, 2013), the recent increase points to a coming upswing in the number of new technologies on the market. Supporting their contention, research suggests that technological innovation is a primary factor in long run health spending growth (Newhouse, 1992). Chandra, Holmes and Skinner (2013) explain that technology as a growth factor may be especially problematic in the U.S. because Medicare is legislated to pay for all treatments that do not cause harm and because private insurers base their coverage on that approved by Medicare.

One prominent example of a new technology likely to expand over the next decade is proton beam therapy for the treatment of prostate cancer. The cost to build a proton beam center has been estimated to range from $25 to $225 million (Brooks, 2013; Nelson, 2013). This is much higher than the fixed cost of the alternative intensity modulated therapy, placed at $1.8 to $5.4 million (Nelson, 2013). Medicare pays about twice as much for proton beam therapy. High frequency of use has allowed some facilities to generate annual revenue from proton therapy near $50 million (Brooks, 2013). Thus, despite the high cost to build, this provides health systems (or other entities) with an incentive to invest in this therapy. Indeed, the number of proton beam accelerator facilities is expected to double between 2010 and 2014. Yet, many have questioned whether this therapy is an

improvement over existing ones and a number of insurers have refused to cover it (Emanuel and Pearson, 2012). Private insurers' refusal to cover it and other new and expensive treatment methods could stem increased spending growth that would otherwise be had from new technologies.

Although the effects of economic recovery on health care spending have been slow, as the recovery continues, it will continue to boost utilization and spending in the privately insured population. In addition, increased revenues from recovery might mitigate the pressure on governments, employers, insurers and providers to engage in cost-containment efforts. Those efforts, discussed in the previous sections, include Medicaid provider payment cuts, increased patient cost sharing, and provider initiatives to practice more efficiently. Just as the recession had this "second order" effect which contributed to slowed growth, the second order effect of the recovery could contribute to increased growth.

Continued economic recovery is not expected to boost Medicare spending growth—in that population, the slowdown appears to have been largely unrelated to the recession. Levine and Buntin (2013) attribute a small portion of the decline in per-beneficiary spending growth over the 2000 to 2010 period to changes in the age and health of beneficiaries (younger, healthier). Because these changes are expected to continue, their downward pressure on growth is expected to continue as well. Regarding the other factors that might have affected Medicare spending growth, they note that it is "especially difficult" to say which of these will actually play out. Continued growth in Medicare payment rates below that of practice expenses may reduce providers' incentives to treat beneficiaries and serve to put a break on spending. Providers may also reduce their supply of services to beneficiaries in the face of increased ACA-related demand in the private and Medicaid markets. As discussed by Chandra, Holmes and Skinner (2013) it is likely that cost-increasing technologies will continue to be introduced. However, an emphasis on cost containment might shift research and development resources toward the development of technologies that have the potential to reduce the overall cost of caring for a patient.

A number of components of the ACA have the potential to affect spending growth. Most immediately, spending will increase as the newly insured consume more health care compared to when they were uninsured. This, however, is largely a "level effect" rather than one which would permanently alter the pattern of growth. ACA-related coverage growth will be concentrated in Medicaid and exchange plans. Early reports suggest that exchange plans have lower payment rates, narrower networks, and tighter utilization management than employment-based plans. CBO, which initially modeled the ACA assuming that exchange plans would closely resemble those of plans offered by employers, projected lower exchange premiums after incorporating data on exchange plans. For example, CBO's April 2014 projection for the average 2024 subsidy was 14 percent lower than that from February 2014 (CBO, 2014). It's not clear, however, whether these plan characteristics will result in spending growth for exchange enrollees that is lower when they were uninsured, or whether the characteristics will have spillover effects on spending growth for other populations (perhaps those covered by the same insurers, but under non-exchange plans).

The ACA also provided for bundled payment, value-based purchasing, and shared savings program demonstrations. While some evidence to date suggests that these payment and delivery changes can reduce spending, it is still too early to say whether they will permanently alter the spending

growth trajectory of the populations currently enrolled, or whether they can be replicated on a large scale.

In thinking about what future spending growth might look like, Chandra, Holmes and Skinner (2013) examine recent patterns of health sector employment, noting that 57 percent of health care expenditures are labor costs. If the lower spending growth is the new norm, they would expect to find a similar shift in employment growth. They do not.

CMS released national health spending projections for the 2013 to 2023 period in September 2014 (Sisko et al., 2014). As Figure 4 shows, growth projections differ across the privately insured, Medicare and Medicaid populations, especially for the near term when CMS is able to incorporate known changes in policy. Trends in program specific growth rates after 2016 are more similar to one another. They reflect trends in overall economic conditions and demographics more than policy changes, not all of which are known for that period.

CMS expects that growth will have remained low in 2013, with health spending increasing at a rate of 3.6 percent, similar to the annual rates of growth over the 2009 to 2012 period. Private insurance spending growth is expected to have remained low because of low growth in the number of jobs with health insurance. Medicare spending growth is expected to have slowed relative to that of 2012 due to sequestration and lower utilization across many services. Medicaid spending, on the other hand, is expected to have accelerated because of a temporary increase in payments to primary care providers (from a 3.3 percent growth rate in 2012 to 6.7 percent in 2013).

Growth in national health spending is projected to accelerate to 5.6 percent in 2014. If this rate of growth materializes, it will be the first time it has exceeded 5 percent since 2007. CMS reports that this reflects the impact of the estimated 9 million more Americans with health insurance. Private health insurance spending growth will accelerate from 3.3 percent in 2013 to 6.8 percent in 2014, due to both the increase in the number of persons with private health insurance (which includes exchange plans) and an increase in the amount of spending per person with private health insurance. CMS projects that Medicare spending growth will remain low in 2014 due to low payment rate increases to providers and a decline in the use of inpatient hospital services on a per-beneficiary basis. In contrast, Medicaid spending growth will accelerate to 12.8 percent due to the expansion of coverage in states that choose to insure childless adults up to 138 of the federal poverty level.

For 2015, CMS projects slower overall spending growth, at just under 5 percent, due to decelerations in Medicare and Medicaid spending. Fueled by continued enrollment growth, private health insurance spending growth will remain high. Medicare spending growth is projected to decelerate, driven mainly by lower payments to Medicare Advantage plans. Medicaid spending growth will also decelerate from to 6.7 percent in 2015 due in part to the expiration of increased payments to primary care providers.

Health spending is projected to grow at an average annual rate of 6.1 percent over the 2016 to 2023 period. While higher than the average annual rates for recent periods, this is still lower than that for the 1990 to 2008 period (7.2 percent). Spending is projected to accelerate as increases in disposable income boost the demand for health care and continued economic recovery leads to

increased private health insurance enrollment. In 2023, CMS projects that 19.3 percent of GDP will be spent on health care, up from 17.2 percent in 2012.

It's worth asking whether CMS' spending projections have changed due to the incorporation of new research or available data. Figure 5 compares the September 2014 projections (discussed above) with those from September 2013 (Cuckler et al., 2013). The two sets of projections are very close. The current annual growth rate projections are lower than those from 2013 in most years, but typically by no more than 0.3 percentage points. The exceptions are 2014 and 2015, where the current projections are about 0.5 and almost 1 percentage point lower.

The Kaiser Family Foundation (2013) projected a path for health spending growth that tracks very closely with CMS' projections from September 2013. Also consistent with CMS, Kaiser noted that although spending growth would increase over the remainder of the decade, it would not return to the double-digit increases seen in the late 1980s and early 1990s (Kaiser Family Foundation, 2013). Chandra, Holmes and Skinner (2013) project real per-capita spending growth in relation to GDP growth. They project that growth in real annual per-capita spending will exceed the growth rate in per-capita GDP by an average of 1.2 percent per year over the 2012 to 2032 period. Based on this, spending on health care would consume about 20 percent of GDP in 2023 (close to CMS' projection) and 23 percent of GDP in 2032.

Chandra, Holmes and Skinner (2013) report that their projection is similar to the estimate of GDP+1.15 percent from the 2013 Medicare Actuary Report and the estimate of GDP+1.3 percent from the Congressional Budget Office. All are lower than the historical rate of GDP+2.4 percent from 1950 through 2011 (Fuchs, 2013).

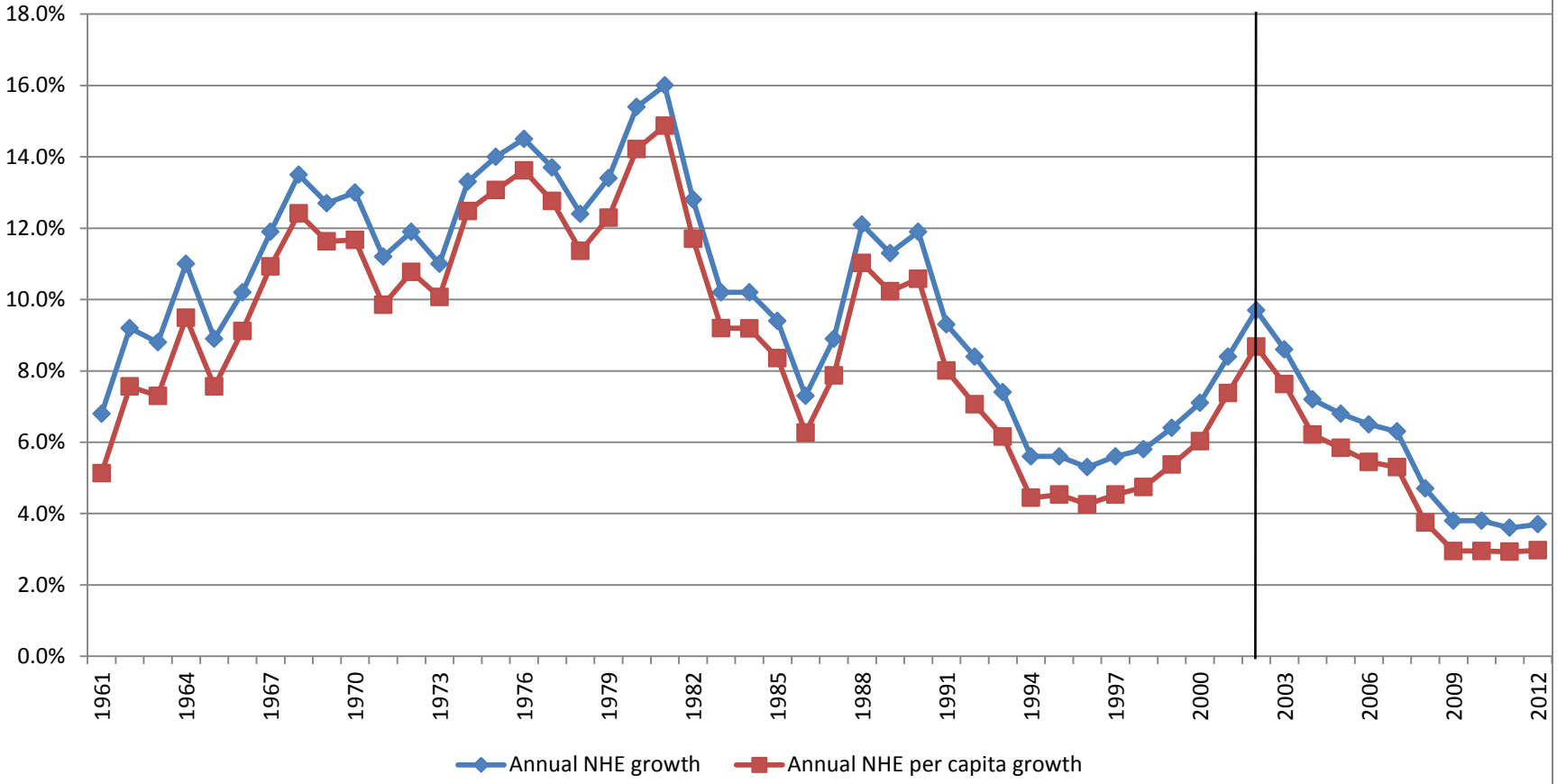
Conclusion

U.S. health care spending grew more slowly in each of the years 2008 through 2012 than in any others in the over 50 year history of the CMS data on health spending (Martin et al., 2014). Depending on methodology, authors attribute between 37 percent and 77 percent of the slowdown in spending to the recent recession (Cutler and Sahni, 2013; Dranove, Garthwaite and Ody, 2014; Kaiser Family Foundation, 2013). Notably, the deceleration in spending growth started in 2003, five years prior to the start of the great recession. While it is clear that other factors contributed to the slowdown, and despite the increasing volume of literature that tries to explain it, there still is not a wide consensus on what the most important factors were, and—importantly—*how much* of the slowdown they each explain. The macroeconomic models used to examine past spending and project future spending growth rely on few explanatory variables, typically GDP growth and inflation. The models don't shed light on what other factors drive the remainder of growth.

Factors thought to have contributed to the recent historically slow growth rates include increased patient cost sharing, decreased real income, changes in insurance mix from higher to lower paying payers, changes in Medicare payment policy, a shift in the Medicare and Medicaid populations to younger and healthier beneficiaries, and cost containment efforts on the part of providers, insurers, employers and governments as a reaction to lower revenue growth during the recession. Because the current modelling framework for spending does not incorporate those factors, it's very difficult to make defensible projections of future spending growth that incorporate them.

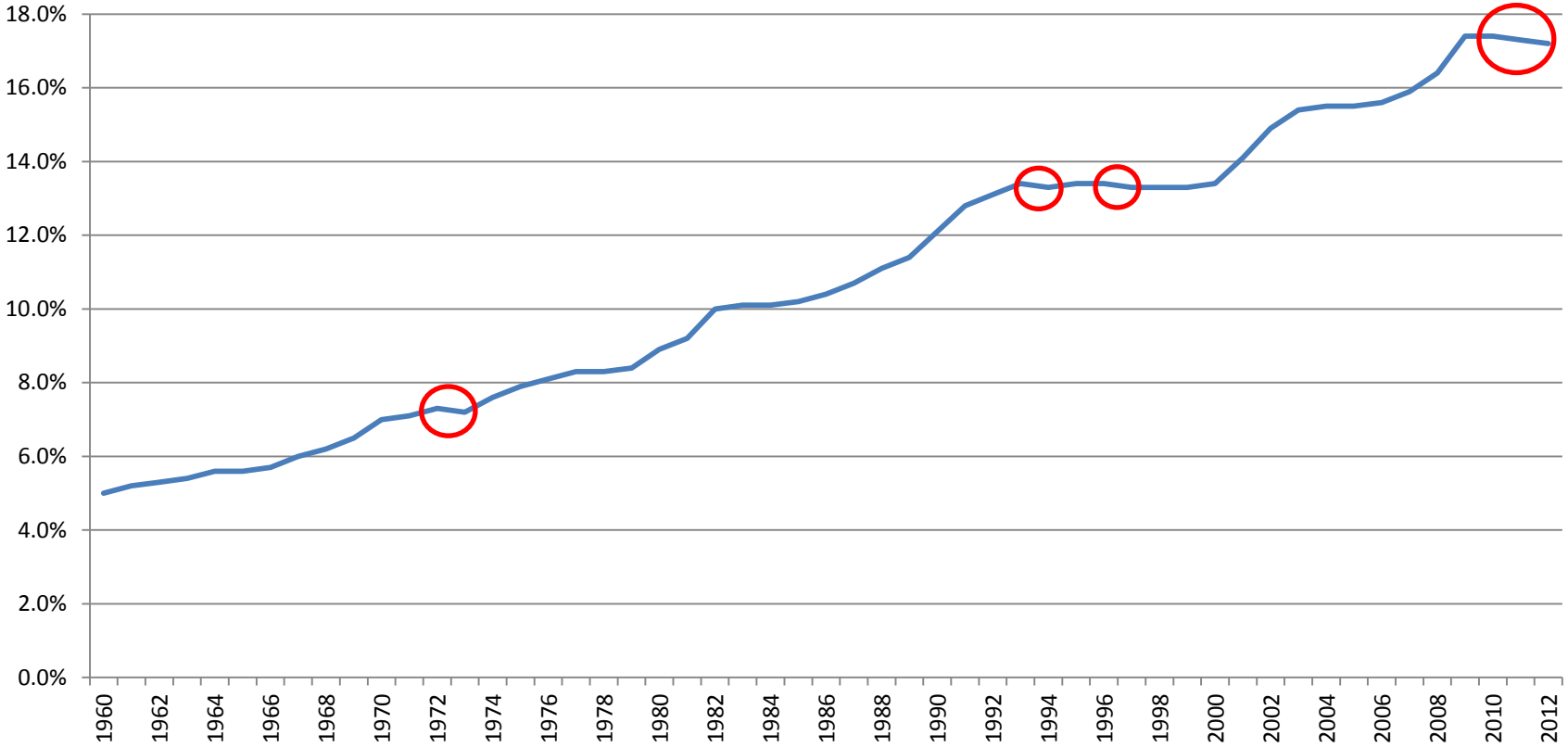
CMS projects that health spending will grow at an average annual rate of 6.1 percent over the 2016 to 2023 period (Sisko et al., 2014). While higher than the average annual rates for recent periods, this is still lower than that for the 1990 to 2008 period (7.2 percent). Factoring into CMS' estimate is a predicted increase in disposable income which will boost the demand for health care, and continued economic recovery that will lead to increased private health insurance enrollment. CMS projects that 19.3 percent of GDP will be spent on health care in 2023, up from 17.2 percent in 2012. Estimates from other authors are similar.

Figure 1. Annual Growth In National Health Care Expenditures, 1961 To 2012



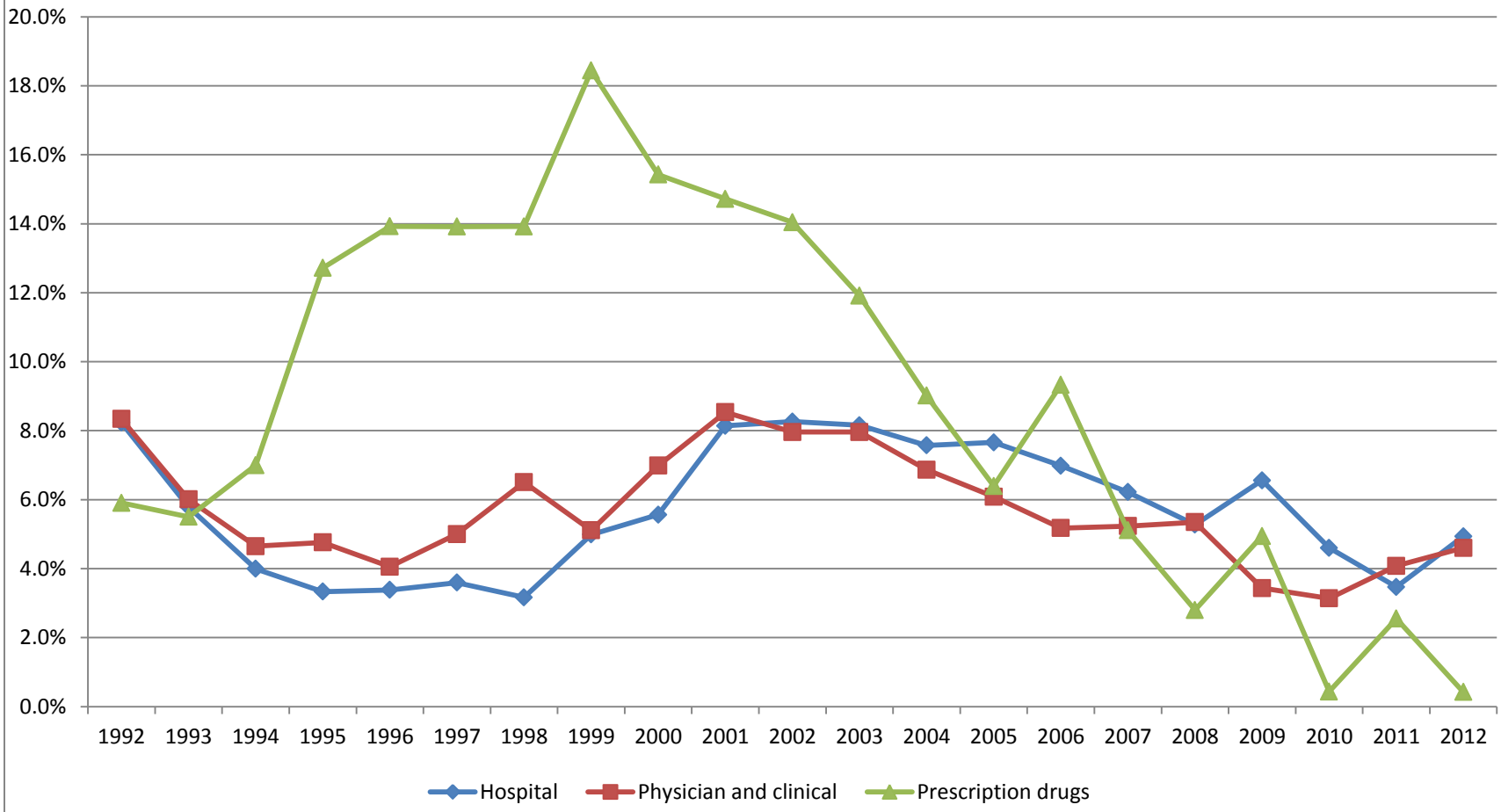
Source: Annual NHE growth rates are available at https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html under Downloads in "National Health Expenditures by type of service and source of funds, CY 1960-2012." Per-capita growth rates were provided in a personal communication from CMS staff (Martin, 2014).

Figure 2. National Health Expenditures As A Percentage Of GDP, 1960 To 2012



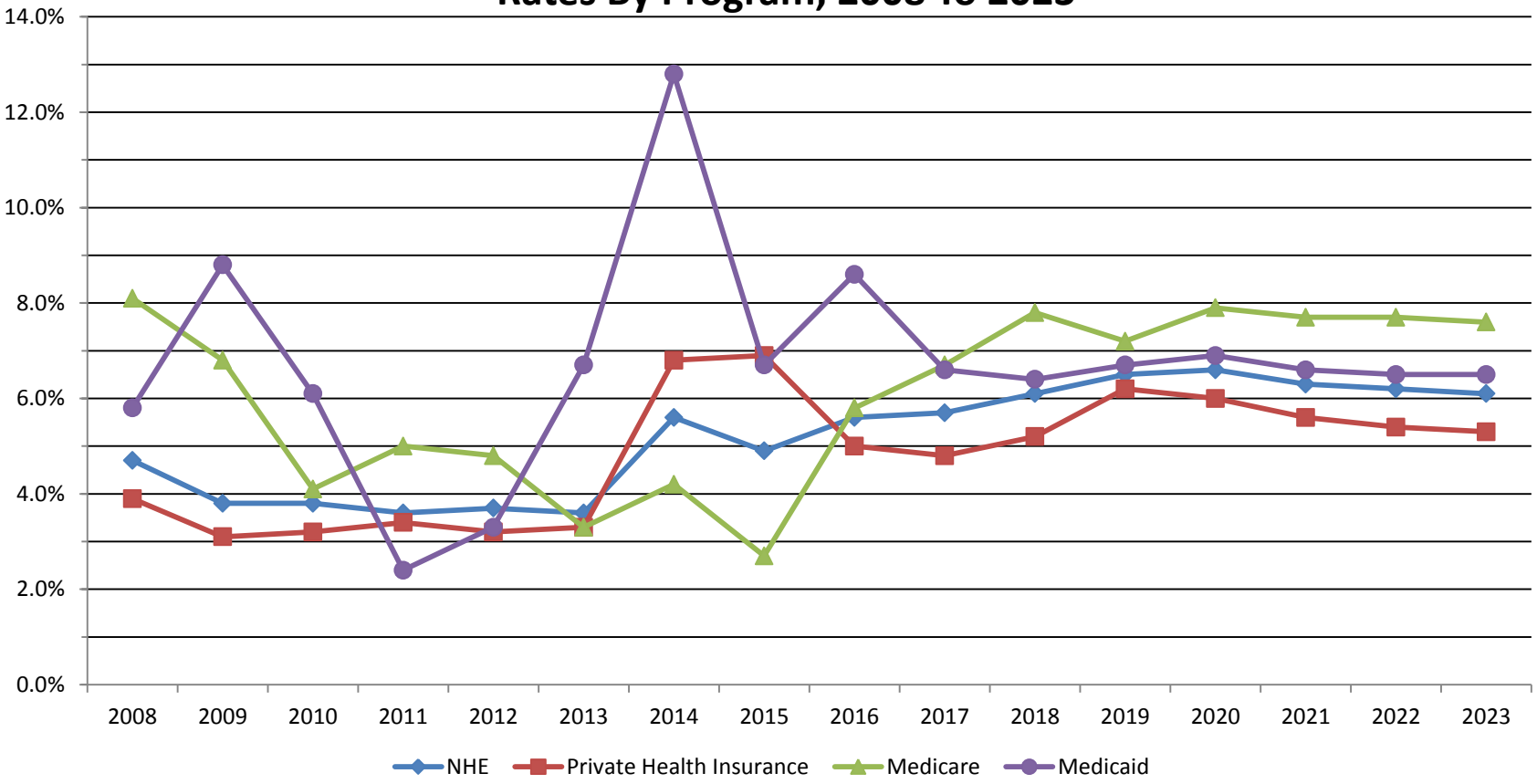
Note: NHE as a percentage of GDP decreased in 1973, 1994, 1997, 2011 and 2012.
Source: Spending shares are available at https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html under Downloads in "NHE summary including share of GDP, CY 1960-2012."

Figure 3. Annual Spending Growth By Type Of Service, 1992 To 2012



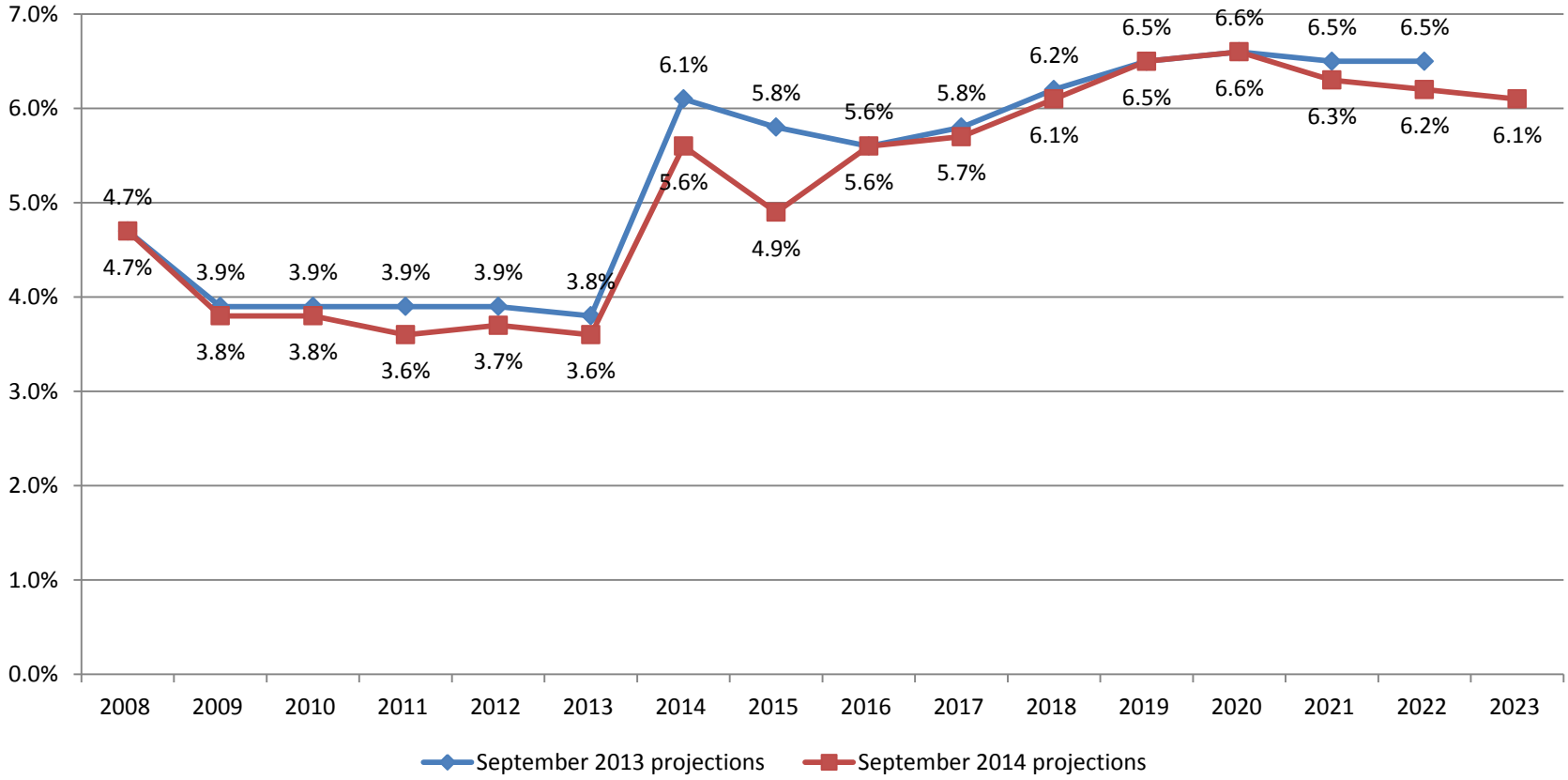
Source: Annual NHE growth rates are calculated based on annual spending data available at https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html under Downloads in "National Health Expenditures by type of service and source of funds, CY 1960-2012."

Figure 4. Historical And Projected Annual Health Spending Growth Rates By Program, 2008 To 2023



Note: Growth rates for 2008 to 2012 are historical. Rates for 2013 to 2023 are projections.
Source: Growth rates are available at https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsProjected.html under Downloads in "NHE Projections 2013-2023 - Tables" (Table 3).

Figure 5. Comparison Of NHE Growth Rates For The 2008 To 2023 Period, September 2013 And September 2014 Data Release



Note: Growth rates from the September 2014 release are available at https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsProjected.htmlprojections under Downloads in "NHE Projections 2013-2023 - Tables" (Table 1). Estimates from the 2013 release are no longer available online. In the 2014 release, estimates for 2013 to 2023 are projections. In the 2013 release, estimates for 2012 to 2022 are projections.

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