



## OFFICE OF THE ACTUARY

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DATE: May 31, 2013

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SUBJECT: Projected Medicare Expenditures under Illustrative Scenarios with  
Alternative Payment Updates to Medicare Providers

In the *2013 Annual Report of the Board of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds*, the Board warns that “actual future Medicare expenditures are likely to exceed the intermediate projections shown in this report, possibly by quite large amounts.” The Trustees Report is necessarily based on current law; as a result of questions regarding the operations of certain Medicare provisions, however, the projections shown in the report under current law are clearly unrealistic with respect to physician expenditures and, in addition, may well understate expenditures for most other categories of health care providers. The purpose of this memorandum is to present a set of Medicare projections under hypothetical alternatives to these provisions to help illustrate and quantify the potential magnitude of the cost understatement under current law.<sup>1</sup>

### Overview

Among the most important factors in projecting Medicare expenditures are the annual payment updates to Medicare providers. The estimates shown in the 2013 Trustees Report are complicated substantially by mandated reductions in these payment updates for most Medicare services. In particular, Medicare payment rates for physician services as determined by the Sustainable Growth Rate (SGR) system are scheduled to be reduced by roughly 25 percent in 2014. For most of the other categories of Medicare providers, the Patient Protection and Affordable Care Act (ACA), as amended, calls for a reduction in payment rate updates equal to the increase in economy-wide multifactor productivity.<sup>2</sup>

As described in more detail below, in our view the scheduled physician payment reduction is implausible, and there is a strong likelihood that the productivity adjustments will not be sustainable in the long range. It is reasonable to expect that Congress would find it necessary to

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<sup>1</sup> The statements, estimates, and other information provided in this memorandum are those of the CMS Office of the Actuary and do not represent an official position of the Medicare Board of Trustees or the Department of Health and Human Services.

<sup>2</sup> The ACA specifies use of the 10-year moving average increase in private nonfarm business multifactor productivity. “Multifactor productivity” is a measure of real output per combined unit of labor and capital, reflecting the contributions of all factors of production.

legislatively override or otherwise modify the reductions in the future to ensure that Medicare beneficiaries continue to have access to health care services. If these payment reductions were moderated or removed, estimated Medicare costs would exceed the thresholds that would require the Independent Payment Advisory Board (IPAB) to develop proposals to reduce the growth rate below the threshold. These reductions would be quite challenging.

Because knowledge of the potential long-range effects of the productivity adjustments, delivery and payment innovations, and certain other aspects of the Affordable Care Act is so limited, an independent panel of expert actuaries and economists was asked to review the assumptions and methods used by the Trustees to make projections of the financial status of the trust funds. In its final report, the 2010-2011 Medicare Technical Review Panel recommended the continued use of this supplemental analysis, for the purpose of illustrating the higher Medicare costs that would result if the reduction in physician payment rates and the productivity adjustments to most other provider payment updates are not fully implemented as required under current law.<sup>3</sup>

Based on the Technical Panel's recommendations, the 2013 Trustees Report includes an appendix incorporating a chart that compares the current-law projections to two illustrative alternative projections. The full alternative includes adjustments to (i) the physician payment reductions resulting from the SGR system, (ii) the reductions in payment updates by the increase in economy-wide productivity for most other provider categories, and (iii) the operations of the IPAB. The chart also includes a scenario addressing only the SGR-based physician payment reductions and the operations of the IPAB. The Office of the Actuary concurred with this recommendation, and it was adopted by the Board of Trustees. This information is contained in appendix V.C of the 2013 Trustees Report.

#### *(1) Physician Payments*

Medicare payments for physicians' services are based on a fee schedule, which reflects the relative level of time and effort required for each service and also its relative complexity. These relative factors per service are translated into dollar payment amounts through a conversion factor, which is updated each calendar year based on the SGR mechanism specified in law. The SGR system compares the accumulated amount of actual physician-related spending to a specified target level. If actual cumulative spending exceeds the cumulative target spending level, then one or more future physician payment updates per service will be reduced so that future actual expenditures will be lower and ultimately reach the target amount allowed under the law. Similarly, if the actual spending is below the target level, then future physician updates will be increased. The update adjustments are subject to limits on both the increase and the decrease.<sup>4</sup> The intent of the SGR system, which was enacted as part of the Balanced Budget Act of 1997, is to limit growth in spending on physician services to a sustainable rate, roughly in line with the rate of overall economic growth.

Because actual physician-related spending has exceeded the target spending levels for 2001 through 2009, physician payment reductions have been scheduled for every year since 2002. An

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<sup>3</sup>The *Review of Assumptions and Methods of the Medicare Trustees' Financial Projections* is available at <http://aspe.hhs.gov/health/reports/2013/MedicareTech/TechnicalPanelReport2010-2011.pdf>

<sup>4</sup>For more information on the sustainable growth rate system, see <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SustainableGRatesConFact/index.html>.

update of -4.8 percent was required and was allowed to take effect in 2002—the only historical year in which a negative physician update was implemented under the SGR. For the next 11 years (2003-2013), scheduled negative updates of at least -5 percent were overridden by new legislation, which provided updates ranging from 0 percent to 2.2 percent. For 2004 through 2006, these legislative acts not only provided replacement updates and increased the actual physician spending but also specified that the target level of spending would not be increased to match.<sup>5</sup> Thus, the actual spending did not decrease, the gap between actual and target spending did not decrease, and the cumulative difference between actual and target spending grew substantially.

Each of the legislative changes to the physician updates for 2007 through 2013 increased both actual and target spending but required that the payment updates for subsequent years be determined as if the updates in the prior years had not been changed. Without these legislative changes, actual spending would have been lowered to be closer to the level of target spending. Instead, actual spending did not decrease and target spending was legislatively increased. Therefore, the gap between actual and target spending was narrowed, but this narrowing was caused by raising the target level of spending rather than by reducing the level of actual spending.

The 2007-13 physician payment update legislation requires payment updates for subsequent years to be determined as if the legislation had not occurred. This requirement has the effect of accumulating the impact of the scheduled payment reductions and applying this accumulated impact in the following year. As a result, the scheduled payment update for 2014 is estimated to be -24.7 percent.<sup>6</sup>

A large negative update is extremely unlikely to occur. As noted, Congress has overridden all of the scheduled reductions from 2003 through 2013. Moreover, the projected -24.7-percent update for 2014 is as large as many of those previously avoided. Despite its improbability, the negative physician update is scheduled to occur under current law and is therefore included in the Part B estimates shown in the 2013 Medicare Trustees Report.<sup>7</sup>

## *(2) Productivity Adjustments*

Most of the services covered by the Medicare fee-for-service program (including inpatient hospital, outpatient hospital, skilled nursing facility, and home health care) receive annual

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<sup>5</sup> For these legislative acts, increasing the actual physician spending, but not changing the target spending, resulted in a lower 10-year cost estimate than would have occurred if target spending had been adjusted to accommodate the higher costs resulting from the higher payment updates. Each such action, however, contributed to a significant increase in the difference between accumulated actual and target spending, requiring additional physician payment reductions in the future under the current-law SGR system.

<sup>6</sup> The cumulative difference between actual and target physician spending has been substantially reduced, as have the resulting negative updates scheduled under the SGR system, as a result of a regulatory change in the definition of “physician services” under the SGR system. Specifically, physician-administered drugs were removed from physician services in the SGR system back to 1996 by the November 2009 final physician rule. This change reduced the estimated total reduction required at that time by the SGR system from roughly 45 percent under the prior rule to 28 percent under the new regulation.

<sup>7</sup> The 2013 Medicare Trustees Report was released on May 31, 2013. It is available at <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/index.html>.

payment increases based on statutory input price indices. These price indices, or “market baskets,” measure the increase in prices that each category of provider must pay for the goods and services they purchase to enable them to care for patients. Such inputs includes wages and other compensation for their employees, medical and other equipment, and overhead expenses such as heating, utilities, and rent. Other Medicare services such as ambulance, ambulatory surgical centers, laboratory services, certain durable medical equipment, and prosthetics have their payments updated annually by the increase in the Consumer Price Index (CPI). The Affordable Care Act specifies that all of these payment updates be reduced by the percentage increase in the 10-year moving average of private nonfarm business multifactor productivity beginning as early as 2011.<sup>8</sup>

The new statutory reductions in Medicare payment updates for most provider categories, based on economy-wide multifactor productivity, are an extension of a recommendation by the Medicare Payment Advisory Commission (MedPAC). The Commission’s goal in making the recommendation was to create a strong incentive for hospitals and other providers to improve their efficiency. It is important to note, however, that their proposed adjustments have been made for one year at a time, with consideration given to other circumstances, as noted in this excerpt from MedPAC’s March 2010 report to Congress:

The Commission begins its deliberations with the expectation that Medicare should benefit from productivity gains in the economy at large... . This factor links Medicare’s expectations for efficiency to the gains achieved by the firms and workers who pay the taxes that fund Medicare. But the Commission may alter that expectation depending on the circumstances of a given set of providers in a given year.<sup>9</sup>

In contrast, the productivity adjustments under the ACA apply automatically to payment updates for all future years. These update reductions cannot be modified or rescinded except through new legislation.

Because most Medicare payment updates, by law, are based on *input* price indices, it makes sense to apply a productivity offset and thereby approximate the increase in *output* prices that providers must charge to maintain a constant margin level. Medicare could reasonably reduce payments by such an adjustment if it were based on attainable health sector productivity gains, and thereby share in the financial benefit achieved through improved productivity. Additionally, to the extent that there is currently excess cost or waste in the health care system, providers should be able to withstand slower payment updates for a period until such excess or waste is eliminated. Medicare can create a strong incentive for the removal of excess and waste by reducing payment updates, as specified in the Affordable Care Act.

In the 2013 Trustees Report, private nonfarm multifactor productivity is estimated to increase by about 1.1 percent per year in the long range, which is roughly its long-run historical average.

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<sup>8</sup> Note that these payment updates affect all of the services covered under Part A and many of the services covered under Part B. The Medicare Part D payments to drug plans and qualifying employers are not affected by the productivity adjustments.

<sup>9</sup> MedPAC, *Report to the Congress: Medicare Payment Policy*, March 2010 ([http://medpac.gov/documents/Mar10\\_EntireReport.pdf](http://medpac.gov/documents/Mar10_EntireReport.pdf)). At their December 2, 2010 meeting, the Commission members debated whether to recommend to Congress that the statutory productivity adjustment be implemented for the 2012 hospital payment update. Ultimately, as shown in their *Report to the Congress: Medicare Payment Policy* for March 2011, MedPAC’s recommended hospital update did not incorporate a reduction for economy-wide productivity ([http://medpac.gov/documents/Mar11\\_EntireReport.pdf](http://medpac.gov/documents/Mar11_EntireReport.pdf)).

This assumption reflects the expectation of continuing relatively high rates of productivity in the manufacturing sector and much lower rates in the service sector, as has occurred historically.<sup>10</sup> The theory of these findings is consistent with “Baumol’s disease,” which suggests that sustained productivity gains in service industries is difficult to achieve as long as the services remain labor-intensive.<sup>11</sup>

For the health sector, measured productivity gains have generally been quite small, given the labor-intensive nature of health services and the individual customization of treatments required in many instances. Hospital productivity has increased in recent years by about 0.4 percent per year (and by negligible levels, on average, over longer periods).<sup>12</sup> For skilled nursing facilities and home health agencies, productivity gains are believed to be close to zero.<sup>13</sup> As noted earlier, some Medicare payment systems (such as payments for ambulatory surgical centers and laboratory tests) are updated by the CPI, which is already an output price index. These updates will also be reduced by economy-wide multifactor productivity gains under the new law, essentially requiring that these providers and suppliers achieve twice the rate of economy-wide multifactor productivity increases to break even.

Based on the historical evidence of health sector productivity gains, the labor-intensive nature of health care services, and presumed limits on the extent of current excess costs and waste that could be removed from the system, actual health provider productivity is very unlikely to achieve improvements equal to the economy as a whole over sustained periods. Despite this conclusion, the payment update reductions are scheduled to occur under current law and are therefore included in the 2013 Medicare Trustees Report. As a result of the update reductions, affected providers will certainly have an even stronger financial incentive to reduce unnecessary aspects of care and to eliminate wasteful costs. Moreover, it is possible that providers will find new ways to take advantage of technology and otherwise improve their productivity to a greater extent than they appear to have been able to do in the past. Finally, the intensive program of research and development for innovative new approaches to health care service delivery and payment, as facilitated by the Affordable Care Act, may lead to more cost-effective care, with the potential to help reduce cost growth to rates compatible with the lower Medicare price updates. These outcomes, while highly desirable, are far from certain. Until such gains can be demonstrated, it is more reasonable to expect that provider costs per service will continue to increase in the long range more in line with long-term past input price growth.

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<sup>10</sup> Service sector productivity—and health sector productivity in particular—is notoriously hard to measure. However, manufacturing multifactor productivity was recently estimated to have increased 1.37 percent per year from 1987 through 2006 compared to a 0.03-percent *decline* for services. Harper, et al., “Nonmanufacturing Industry Contributions to Multifactor Productivity,” *Monthly Labor Review*, June 2010 (<http://stats.bls.gov/opub/mlr/2010/06/art2full.pdf>).

<sup>11</sup> Baumol, William J. (1967) “Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis,” *American Economic Review* 57:3, pp. 415-26.

<sup>12</sup> See Cylus, et al., “Hospital Multifactor Productivity: A Presentation and Analysis of Two Methodologies,” <http://www.cms.gov/Research-Statistics-Data-and-Systems/Research/HealthCareFinancingReview/downloads/07-08Winterpg49.pdf>.

<sup>13</sup> Harper, et al. estimate that multifactor productivity in ambulatory health care services averaged a 0.7-percent decline per year from 1987 through 2006 and that hospitals and nursing and residential care facilities averaged a 0.9-percent decline over the same period. It should be noted that the authors and several others have discussed the difficulties in measuring health sector output, a situation that the Office of the Actuary and many prominent researchers are working to improve.

### *(3) Independent Payment Advisory Board*

The Affordable Care Act calls for the creation of an independent 15-member Independent Payment Advisory Board (IPAB) aimed at slowing Medicare cost growth. Under current law, the IPAB must submit proposals to the President for years in which the projected rate of growth in Medicare spending per beneficiary exceeds specified thresholds. For 2015 through 2019, the threshold rate of growth in Medicare spending per beneficiary is the average of the increases in the CPI for all items and in the CPI for Medical Care. Thereafter, the law requires IPAB proposals if the projected rate of growth in Medicare spending exceeds the estimated increase in the Gross Domestic Product (GDP) plus 1.0 percentage point.

If the growth in Medicare spending exceeds the threshold, the IPAB must develop savings provisions to bring the growth rate down to the threshold (subject to certain maximum reductions). The IPAB's proposals will automatically take effect unless lawmakers enact an alternative measure that achieves the same level of savings. The Board's efforts are complicated by provisions that prohibit increases in beneficiary cost-sharing requirements and that exempt certain categories of Medicare expenditures from consideration. The estimates in the 2013 Medicare Trustees Report result in reductions in Medicare growth rates in 2019, 2023, 2025, 2027, 2029, 2031, 2033, and 2035.

### *(4) Implications of Payment Reductions*

To illustrate the implications of the productivity adjustments and the physician payment reductions, simulated future Medicare price levels under current law were compared to private health insurance and Medicaid. For several categories of service, including inpatient and outpatient hospital services, nursing facility care, clinic services, and laboratory tests, Medicaid payments are subject to certain upper payment limits (UPLs). For these services, total payments for all services in each category by a State Medicaid program cannot exceed what Medicare would have paid for the same care.<sup>14</sup> Medicaid payments for other categories, notably physician services, are not subject to UPLs.<sup>15</sup> The payment rates paid by private health insurers are assumed to be unaffected by the reductions in the Medicare payment rates for this illustration.

For inpatient hospital services, Medicare payment rates in 2009 were about 67 percent, and Medicaid payment rates were about 66 percent, of private health insurance payment rates (including Medicaid disproportionate share hospital, or DSH, payments).<sup>16</sup> As shown in figure 1, Medicaid payment rates equal Medicare payment rates in 2011, and both decline in tandem relative to private health insurance payment rates over the next 75 years. The increasing differential between Medicare and private payment rates is due to the productivity adjustments in 2012 and later for the Medicare payment updates (and, to a lesser degree, to the other, smaller

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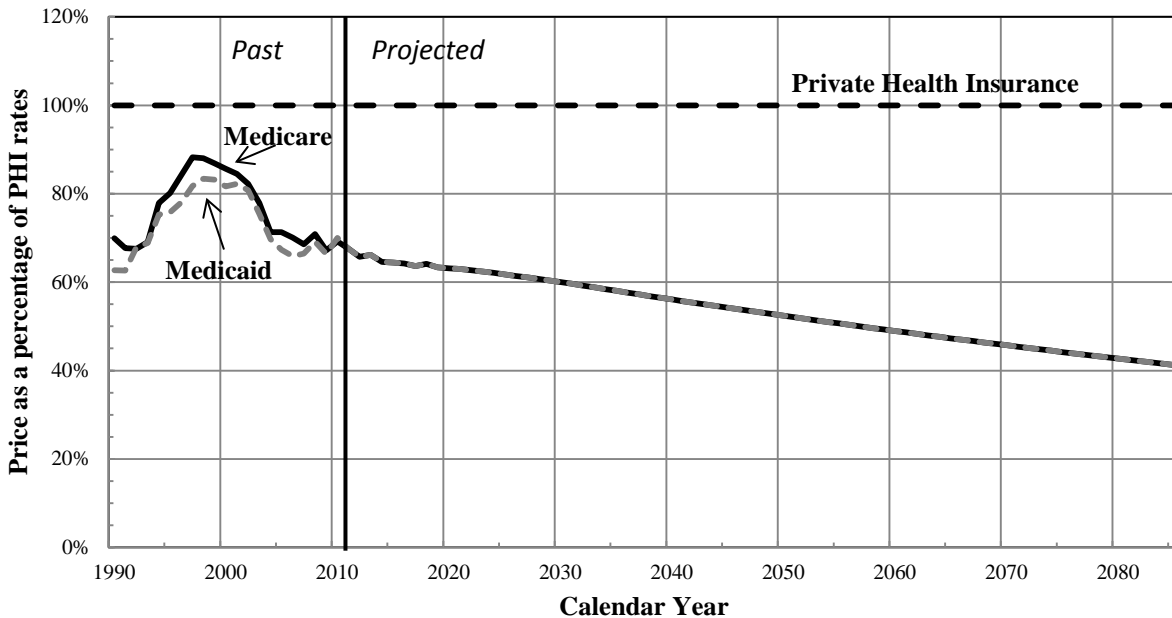
<sup>14</sup> The UPL is set as a reasonable estimate of what Medicare would have paid for those services and is not a precise calculation of exactly what Medicare would have paid for all Medicaid claims. For the purpose of this analysis, we have assumed that (i) UPLs are equal to what Medicare would have paid for Medicaid services, and (ii) Medicaid programs could make total payments that would precisely match UPLs. In actuality, there may be small differences between UPLs and what Medicare would have paid for these services, and between Medicaid payments and UPLs.

<sup>15</sup> There is a physician UPL in Medicaid, but it is not a binding limit, as is the case for the other services listed above.

<sup>16</sup> American Hospital Association, *2011 TrendWatch Chartbook*. For the purpose of this analysis, we have assumed that the relative rates were the same for 2010.

downward adjustments in 2010 through 2019 specified by the ACA in addition to the productivity adjustments). The smaller UPL established by the Medicare rates forces a similar differential for Medicaid payments. By the end of the long-range projection period, Medicare and Medicaid payment rates for inpatient hospital services would both represent roughly 41 percent of the average level for private health insurance.

**Figure 1. Illustrative comparison of relative Medicare, Medicaid, and private health insurance prices for inpatient hospital services under current law**



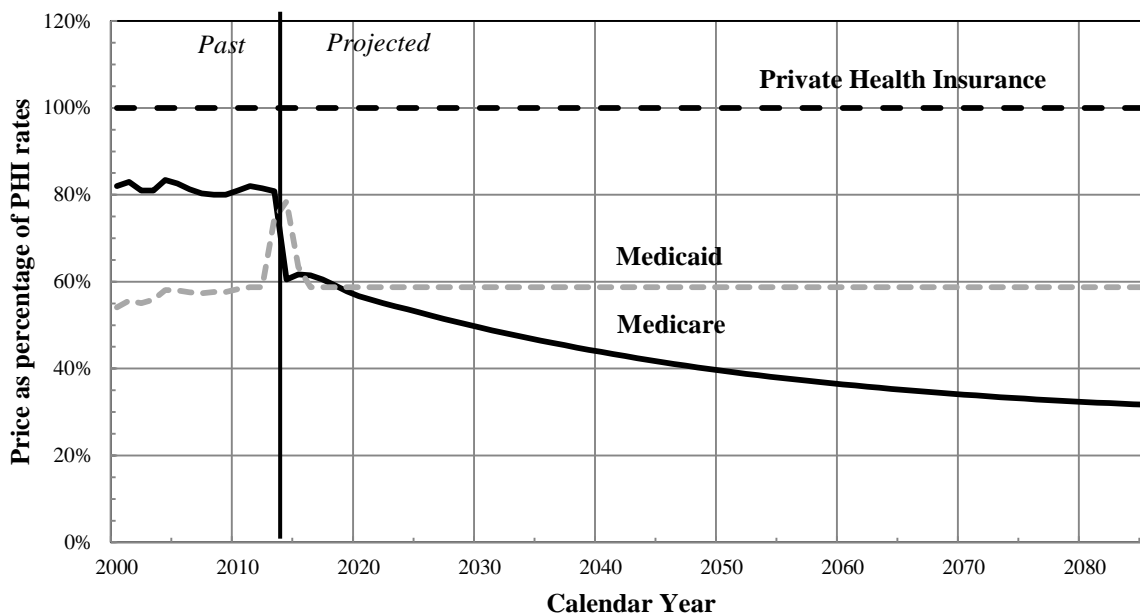
For other services subject to UPLs, future Medicaid payment rate changes would tend to follow a pattern similar to that shown above for inpatient hospital services; however, the initial Medicare and Medicaid payment rates relative to private health insurance rates, and the relative projected updates, would be somewhat different for these other services.

For physician services, Medicare payment rates are updated according to the SGR formula in current law. Medicaid payment rates are not directly related to Medicare physician fees and thus may grow at different rates over time (and can exceed corresponding Medicare payment rates). As before, we have calculated illustrative future Medicare and Medicaid payment levels for physician services relative to private health insurance payment rates. For Medicaid and private health insurance, we have assumed that payment rates would increase annually at the rate of increase of the Medicare Economic Index (MEI).<sup>17</sup> Medicaid payment rates are adjusted in 2013 and 2014 as specified in the Affordable Care Act, which provides for temporary increases in Medicaid payments for primary care physicians.

<sup>17</sup> The MEI is a price index reflecting the weighted-average price change for various inputs needed to furnish physician services, adjusted by the change in economy-wide private nonfarm business multifactor productivity. Medicaid payments for physician services have generally not kept pace with the MEI in recent years. At today's levels, Medicaid payment rates have contributed to problems with access to such services. Because further below-MEI growth would likely exacerbate these problems, especially in the long range, we believe it is reasonable to illustrate future Medicaid physician payment rates based on assumed growth equal to the MEI increase.

Figure 2 shows the resulting comparison of future Medicare and Medicaid payment rates for physician services relative to private health insurance payment rates. Medicare payment levels in 2009 were about 80 percent of private health insurance payment rates, and Medicaid payment rates in 2008 were about 58 percent.<sup>18</sup> In this illustration, Medicaid payment rates increase to 73 percent of private health insurance levels in 2013 and to 77 percent in 2014 and then return to 58 percent. Medicare physician payment rates decline to 61 percent of private health insurance payment rates in 2014, due to the scheduled reduction in the Medicare physician fee schedule of about 25 percent under the SGR formula in current law. (In practice, Congress is very likely to override this reduction, as it has consistently for 2003 through 2013.) Under current law, the Medicare rates would eventually fall to 31 percent of private health insurance levels by 2087 and to less than half of the projected Medicaid rates. The continuing slower growth would occur as a result of negative update adjustment factors caused by growth in the volume and intensity of physician services that exceeds the increase factor specified by the SGR formula.

**Figure 2. Illustrative comparison of relative Medicare, Medicaid, and private health insurance prices for physician services under current law**



In the Office of the Actuary’s April 22, 2010 memorandum on the estimated financial effects of the Affordable Care Act, we noted that by 2019 the update reductions would result in negative total facility margins for about 15 percent of hospitals, skilled nursing facilities, and home health

<sup>18</sup> Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy*, March 2011; S. Zuckerman, et al., “Trends in Medicaid Physician Fees, 2003–2008,” *Health Affairs*, April 2009. Medicaid physician payment rates relative to those of private health insurance are derived by multiplying the ratio of Medicare rates to private health insurance (0.80, MedPAC) by the ratio of Medicaid rates to Medicare (0.72, Zuckerman). Additionally, for the purpose of this analysis, we have assumed that the relative rates in these sources were the same in 2010 as they were in the year in which they were last measured (from 2009 and 2008, respectively). The ratio of Medicaid payment rates to Medicare payment rates is interpolated between 1998 and 2003 (0.64 and 0.69) and between 2003 and 2008 (0.69 and 0.72).



agencies.<sup>19</sup> This estimated percentage would continue to increase, reaching roughly 25 percent in 2030 and 40 percent by 2050. In practice, providers could not sustain continuing negative margins and, absent legislative changes, would have to withdraw from providing services to Medicare beneficiaries, merge with other provider groups, or shift substantial portions of Medicare costs to their non-Medicare, non-Medicaid payers. In practice, Congress would presumably act to adjust Medicare payment rates as necessary before such a situation developed.

To better understand how providers might react to the Medicare update reductions in the long range, we talked informally with several prominent health economists. In response to our questions, all of them believed that the payment reductions were unsustainable in the long range, for reasons similar to those described above.<sup>20</sup> Writing in a *National Journal* blog, Dr. David Cutler, Professor of Applied Economics at Harvard University, stated that “as the actuaries ... note, traditional payment reductions are not a long-term source of financing. Prices can be reduced only so far before they become unreasonably low.” Dr. Joseph Newhouse, Professor of Health Policy and Management at Harvard, wrote in an article for *Health Affairs*, “...it is equally hard to imagine cutting only Medicare spending while spending by the commercially insured under age sixty-five continues to grow at historic rates, which would lead to a marked divergence between what providers are paid for treating the commercially insured relative to what they are paid for Medicare beneficiaries. This gap could jeopardize Medicare beneficiaries’ access to mainstream medical care.”<sup>21</sup> Similarly, in an article for *Foreign Affairs*, former CBO and OMB Director Peter Orszag said, “[One] approach is to simply reduce payments to providers—hospitals, doctors, and pharmaceutical companies. This blunt strategy can work, often quite well, in the short run. It is inherently limited over the medium and long term, however, unless accompanied by other measures to reduce the underlying quantity of services provided. If only Medicare and Medicaid payments were reduced, for example, providers would shift the costs to other patients and also accept fewer Medicare and Medicaid patients.”<sup>22</sup> Moreover, Washington and Lee University law professor Timothy Jost wrote in the

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<sup>19</sup> See Foster, R.S., “Estimated Financial Effects of the ‘Patient Protection and Affordable Care Act’, as Amended,” April 22, 2010 (available at [http://www.cms.gov/Research-Statistics-Data-and-Systems/Research/ActuarialStudies/Downloads/PPACA\\_2010-04-22.pdf](http://www.cms.gov/Research-Statistics-Data-and-Systems/Research/ActuarialStudies/Downloads/PPACA_2010-04-22.pdf)). A “total facility margin” is based on all revenues and costs for a given provider, not just those associated with Medicare. In the Office of the Actuary’s simulation of the effects of the Medicare payment update reductions on provider margins, the lower level of Medicare revenues alone was enough to cause an overall negative profit margin for the proportion of providers indicated.

<sup>20</sup> One of these experts expressed optimism that payment and delivery system innovations could result in significantly slower growth in health care costs for Medicare and other payers. He envisioned that most beneficiaries would transfer out of fee-for-service Medicare, where the payment rates would become wholly inadequate, and into other delivery systems with greater efficiency. (Because of the statutory quality and/or savings requirements, however, cost growth for these other systems could not exceed that for fee-for-service care, as reduced by the productivity offsets.) All other health economists we spoke with were less optimistic and anticipated a serious decline in the availability and/or quality of health services for Medicare beneficiaries if the productivity adjustments continued indefinitely.

<sup>21</sup> Newhouse, Joseph P. (July 22, 2010) “Assessing Health Reform’s Impact on Four Key Groups of Americans,” *Health Affairs* 29:9, pp. 1-11.

<sup>22</sup> Orszag, Peter R. (July/August 2011) “How Health Care Can Save or Sink America,” *Foreign Affairs* 90:4, pp. 42-56.

*New England Journal of Medicine* that “If the gap between private and Medicare rates continues to grow, health care providers may well abandon Medicare.”<sup>23</sup>

It is reasonable to expect that health care providers, while being unable to match economy-wide productivity gains, will make every effort to improve efficiency, eliminate wasteful costs, and take other steps to maintain their viability despite the slower Medicare price updates. Further consolidation by hospitals, physician practices, and other providers can increase their ability to negotiate favorable prices with private health insurance plans. In some instances, substantial improvements in cost effectiveness have been achieved by particular provider groups, such as ThedaCare of Appleton, Wisconsin and the Cleveland Clinic in Ohio.

There is certainly some level of excess cost that can be forced out over time in response to the Medicare payment changes. When the Medicare inpatient hospital prospective payment system (PPS) was introduced in 1984, Congress applied reductions of 0.4 to 3.8 percentage points to the annual payment updates for most of the first 20 years of operation without causing hospital bankruptcies or withdrawal from the Medicare market. Prior to the inpatient PPS, however, hospitals were reimbursed on a reasonable-cost basis, which not only failed to serve as a constraint on cost growth but also encouraged construction, the indiscriminate acquisition of new technology, unreasonable charges for disaggregated items, and other cost-increasing actions. It was relatively straightforward for hospitals to address the very significant levels of inefficiency that existed at that time. Hospitals have been pushing back in recent years against payment reductions aimed at further reducing inefficiency, a signal that much of the achievable gains may have already been made.

The Balanced Budget Act of 1997 decreased the payment updates for inpatient hospital services for 1998 through 2002. Some of these reductions were overridden with subsequent legislation, yet, even with these higher payments, the latest cost report data indicate that nearly two-thirds of hospitals are losing money on Medicare inpatient services and that the average hospital Medicare inpatient margin was -4.7 percent in 2008.<sup>24</sup>

On behalf of the Office of the Actuary and the Medicare Board of Trustees, the 2010-2011 Medicare Technical Review Panel considered the potential effects of sustained slower payment increases on provider participation, beneficiary access to care, quality of services, and other factors. These issues were considered both in the context of the current health care system and in conjunction with possible future changes in payment mechanisms, delivery systems, and other aspects of health care that could arise in response to the ACA-supported innovations research program. The Panel’s final report has an extensive discussion of alternative long-term scenarios with different possible behavioral reactions by providers and with varying implications for the financial viability of providers and the availability and quality of health care services for beneficiaries.

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<sup>23</sup> Jost, Timothy Stoltzfus, J.D. (July 8, 2010) “The Independent Payment Advisory Board,” *New England Journal of Medicine* 363:2, pp. 103-105.

<sup>24</sup> CMS analysis of Medicare Cost Reports and MedPAC, *Report to the Congress: Medicare Payment Policy*, March 2010 ([http://medpac.gov/documents/Mar10\\_EntireReport.pdf](http://medpac.gov/documents/Mar10_EntireReport.pdf)). It should be noted that MedPAC has theorized that one reason for the low Medicare margins is that many hospitals with losses on their Medicare business are not under significant financial pressure to constrain costs. For fiscal year 2011, however, MedPAC recommended that hospitals receive the full market basket update, concurrent with implementation of a quality incentive program.

Based on the available evidence, including the deliberations of the Technical Panel, we continue to believe that the multifactor productivity adjustments to Medicare payment updates are not likely to be viable indefinitely. Accordingly, projections based on the permanent application of this new component of current law are likely to seriously understate actual Medicare costs in the long-range future.

## **Estimation Methodology**

Since the current-law Medicare expenditure projections are based on payment updates that have a strong likelihood of not being feasible, we have prepared a set of alternative projections to illustrate the level of Medicare expenditures that could result if these current-law provisions are not sustained in all future years. The following section describes the methodology used to determine both the current-law projections that are shown in the 2013 Trustees Report and the projections for the alternative scenarios.

### *(1) Current-Law Growth Rate Assumptions*

The long-range Medicare cost growth assumptions under current law were derived in two steps. First, a “baseline” long-range growth rate assumption was developed following the same general approach used for prior Trustees Reports and updated based on recommendations from the 2010-2011 Medicare Technical Review Panel. With one exception, noted below, the baseline Medicare growth rates for the 25th and later years of the projection are the same as those assumed for long-range increases in per capita health expenditures in the U.S. overall. Second, this baseline projection was adjusted for specific provisions of current Medicare law that affect annual increases in Medicare payment rates for most categories of health service providers.

Medicare projections after the first 10 years are made in aggregate for each of HI, SMI Part B, and SMI Part D, rather than preparing estimates for each individual category of service, in part due to the uncertainty of projecting trends at a detailed level for as long as 75 years. The baseline per capita rate of health care cost growth is measured prior to demographic impacts, which vary by group and category of service, and before the application of the current-law Medicare price updates. Use of a common baseline rate of cost growth for all categories of health care recognizes the uncertainty described above and the small likelihood that one category of expense or payer could continue to grow indefinitely at significantly faster or slower rates than do others.

Based on a recommendation by the 2010-2011 Medicare Technical Review Panel, the average baseline increase in Medicare expenditures per beneficiary for the 25th through 75th years of the projection is determined using the “factors contributing to growth”, prior to demographic effects. This methodology produces long-range cost growth rates before application of any payment rate reductions under the SGR formula or the Affordable Care Act. Under the ACA, the annual increase in Medicare prices for most types of health services will be reduced by the 10-year moving average increase in private, nonfarm business multifactor productivity. These gains, which are estimated to average 1.1 percent per year, affect all Part A providers and most non-physician Part B providers. For these provider categories, the long-range cost growth rates for current law are obtained by adjusting the baseline assumptions downward to reflect the slower payment rate updates. In addition, the Technical Panel concluded that the slower payment

updates would have a small, net downward effect on growth in the volume and intensity of services. Based on this conclusion, the growth rates were further reduced by 0.1 percent annually.

A similar process is followed for physician services. Average physician expenditures per beneficiary are increased at approximately the rate of per capita GDP growth, as required (on average) by the SGR formula in current law. For Medicare payments to Part D plans and for the remaining Part B services that are not affected by the productivity adjustments, outlays are increased at the rate of growth for national health expenditures (GDP plus 1 percent).<sup>25</sup> More information on the current-law methodology can be found in our long-term projection assumptions report.<sup>26</sup>

Following prior practice, in between the 10th and 25th years of the projection the current-law growth rates for Parts A, B, and D are assumed to grade smoothly from their level in the 10th year to the adjusted long-range growth rates from the “factors contributing to growth” model in the 25th year.

For the current-law projections, these long-range cost growth rates must be modified to reflect demographic impacts. For example, Part A skilled nursing and home health services are used much more frequently by beneficiaries at ages 80 and above than by younger beneficiaries. As the beneficiary population ages, Part A costs will grow at a faster rate due to increased use of these services. In contrast, the incidence of prescription drug use is more evenly distributed by age, and an increase in the average age of Part D enrollees has relatively less effect on Part D costs.

## *(2) Illustrative Alternative Growth Rate Assumptions*

As described above, the long-range implications of the productivity adjustments mandated by the Affordable Care Act are very uncertain, but they could have serious consequences for the Medicare program if left unchanged. Likewise, the large reductions in Medicare payments rates to physicians would likely have serious implications for beneficiary access to care; utilization, intensity, and quality of services; and other factors. To date, we have estimated only a small savings impact resulting from changes in payment mechanisms, delivery systems, and other aspects of health care that could arise in response to the ACA-directed research activities. It is possible that such changes could ultimately have a much larger impact and result in slower cost growth that would be consistent with the lower rate of Medicare price increases under current law. However, generating this unprecedented level of cost savings remains a very challenging and uncertain prospect.

For these reasons, as noted earlier, the actual future costs for Medicare are likely to exceed those shown by the current-law projections. Accordingly, an illustrative set of alternative projections has been prepared to assess the potential magnitude of this understatement. The first alternative

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<sup>25</sup> The national health expenditure assumption of GDP plus 1 percent, rather than the updated GDP plus 1.4 percent, is used for Part D and the other Part B service categories since payments for these parts of Medicare are generally established through market processes that would reflect achievable provider productivity improvements.

<sup>26</sup> See Heffler, Caldis, and Smith, “The Long-Term Projection Assumptions for Medicare and Aggregate National Health Expenditures” at <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/ProjectionMethodology2012.pdf>.

scenario would address the physician payment reductions resulting from the SGR system. Under this illustration, Medicare payments to physicians would be updated by 0.7 percent annually for the next 10 years, reflecting the average update that has occurred from 2004 through 2013 (the past 10 years of the historical period during which Congress consistently overrode the SGR reduction otherwise required). For 2022 through 2036, the illustration assumes that the Medicare physician spending growth would gradually transition to the per capita increase in health spending in the U.S. overall and then equal that rate for the last 50 years of the projection. On average this long-range growth rate is equal to GDP plus 1 percent.

The current-law baseline also assumes that the productivity adjustments to price updates will occur for all future years. These reductions are far more gradual than the scheduled physician payments reductions; however, it is doubtful that Medicare providers can take steps to keep their cost growth within the bounds imposed by these price limitations, year after year, indefinitely. As a result, we anticipate that over time the Medicare price constraints would become unsustainable and that Congress would probably find it necessary to override or modify them. In addition, the requirements placed on the IPAB to hold down Medicare cost growth would be quite challenging if the productivity adjustments were eliminated or significantly moderated.

The full alternative scenario includes the assumed physician payment updates described above together with a gradual phase-down of the productivity adjustments and the elimination of the IPAB requirements. Specifically, the productivity adjustments of roughly 1.1 percent would be applied fully through 2019 but then would be phased down to 0.4 percent over the 15 years beginning in 2020. In 2034 and later, Medicare Part A and Part B per capita cost growth rates are assumed to equal the growth rates for national health expenditures, which are estimated to average GDP plus 1 percent.

## **Comparison of Results**

This document provides a comparison of the Medicare projections under current law with those under an illustrative alternative to current law. This analysis is for comparison purposes only and should not be interpreted or construed as advocating any particular legislative change. In particular, no endorsement of this alternative by the Office of the Actuary, CMS, or the Medicare Board of Trustees should be inferred. Similarly, our description of the problems that would likely result from the physician payment reductions and/or the long-term application of the productivity adjustments should not be interpreted as a criticism of the statutory policy. Our intent is to help inform Congress and the public at large that an evaluation of the financial status of Medicare, based on the provisions of current law, is likely to portray an unduly optimistic outcome. This paper is also an attempt to promote awareness of these issues, to illustrate and quantify the amount by which the Medicare projections are potentially understated, and to help inform discussions of potential policy reactions to the situation.

The illustrative alternative projections are shown for Parts A and B and for Medicare in total. (As noted previously, the Part D projections under current law are not affected by the payment-update issues and are only negligibly affected by the IPAB requirements.)

(1) Part A

The alternative projection begins phasing down the productivity adjustments prescribed in the Affordable Care Act after the first 8 years of the projections and eliminates the reductions that the IPAB is required to produce. The resulting expenditure projections for Part A are therefore slightly higher than the current-law projections starting in 2020 and ultimately become substantially higher by the end of the 75-year period. Since the impact is relatively modest in the short term, there is only a negligible difference in the expected trust fund exhaustion date. Figure 3 shows projected Part A trust fund assets as a percentage of annual expenditures for the alternative and current-law scenarios. Under both projections, the Part A trust fund is estimated to be exhausted in 2026, although the fund would be depleted slightly earlier in the year under the alternative scenario.

**Figure 3. Projected HI trust fund assets as a percentage of annual expenditures under the illustrative alternative projection compared to current law**

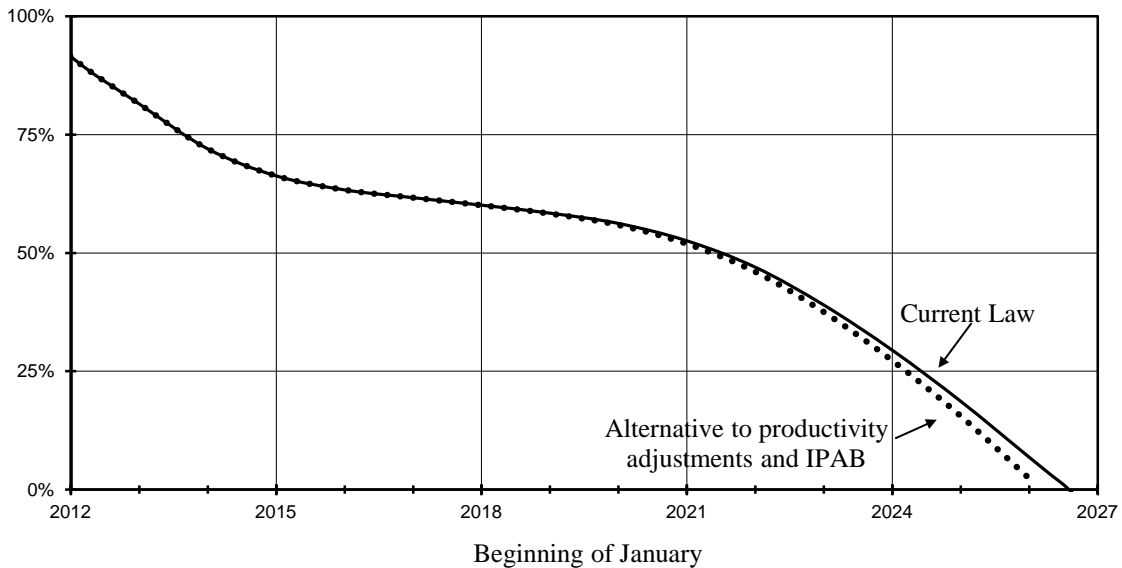


Figure 4 shows the projected HI income and cost rates for the illustrative alternative compared to the results shown in the 2013 Trustees Report under current law. Since the alternative projections are varying only the payment rates to providers, the income rate is the same as current law.

HI expenditures are projected under current law to rise from about 3.8 percent of taxable payroll in 2012 to 5.2 percent in 2040 and to 5.9 percent in 2085. Under the illustrative alternative projection, costs would continue increasing as a percentage of taxable payroll throughout the long-range period, reaching 9.2 percent in 2085—or 3.3 percentage points higher than under current law. This comparison shows the strong impact of the statutory productivity adjustments; as the slower payment rate updates compound over time, their impact on HI costs as a percentage of taxable payroll would offset much of the combined effects of the aging of the beneficiary population, excess medical price inflation, and growth in the volume and intensity of services. As noted, however, there is considerable doubt as to the long-range feasibility of the lower HI payment rates.

**Figure 4. Projected HI income and costs as a percentage of taxable payroll under the illustrative alternative projection compared to current law**

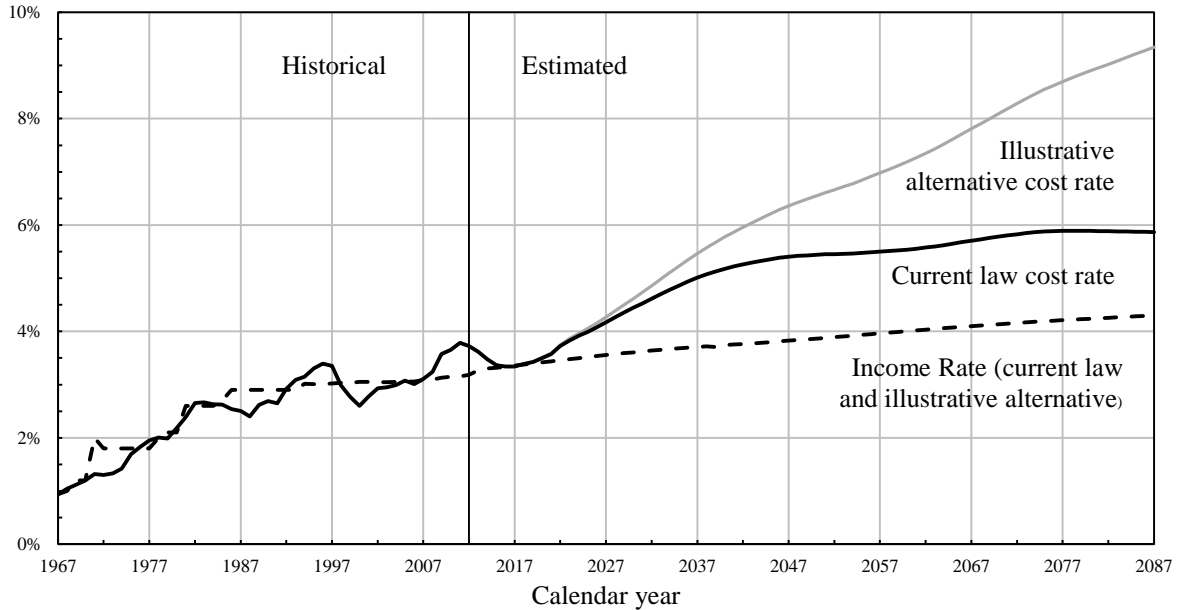


Table 1 shows the HI actuarial balance, for the next 25, 50, and 75 years, from the 2013 Trustees Report under current law and the illustrative alternative. For the 75-year projection period, the HI actuarial deficit is projected to be 1.11 percent of taxable payroll in this year’s report. If the productivity adjustments were gradually phased down starting in 2020, and if the IPAB requirements were rescinded, then the long-range HI deficit would be 2.17 percent of taxable payroll, as indicated by the alternative projection.

**Table 1. HI actuarial balances under the illustrative alternative scenario compared to the 2013 Trustees Report**  
(as a percentage of taxable payroll)

	2013 Report (current law)	Alternative projection
Valuation periods: <sup>1</sup>		
25 years, 2013-2037:		
Summarized income rate	3.62%	3.62%
Summarized cost rate	4.20	4.34
Actuarial balance	-0.58	-0.71
50 years, 2013-2062:		
Summarized income rate	3.73	3.73
Summarized cost rate	4.69	5.25
Actuarial balance	-0.97	-1.53
75 years, 2013-2087:		
Summarized income rate	3.83	3.83
Summarized cost rate	4.94	6.00
Actuarial balance	-1.11	-2.17

<sup>1</sup>Income rates include beginning trust fund balances, and cost rates include the cost of attaining a trust fund balance at the end of the period equal to 100 percent of the following year’s estimated expenditures.

Notes: Totals do not necessarily equal the sums of rounded components.

Another way to compare the expenditures in the alternative projection to the current-law amounts in the 2013 Trustees Report is to examine HI expenditures as a percent of GDP over the next 75 years. Under current law, HI costs are projected to increase to 2.56 percent of GDP in 2080, or roughly 55 percent greater than their 2012 level. Under the illustrative alternative to current law, costs would be 3.87 percent of GDP in 2080, or roughly 135 percent greater than their 2012 level.

**Table 2. Projected HI expenditures as a percentage of Gross Domestic Product (GDP) under the illustrative alternative compared to current law, selected calendar years 2010-2080**

Calendar year	HI expenditures as a percentage of GDP	
	Current law	Alternative projection
2010	1.68%	1.68%
2011	1.68	1.68
2012	1.66	1.66
2020	1.64	1.65
2030	2.06	2.14
2040	2.37	2.64
2050	2.46	2.96
2060	2.47	3.21
2070	2.54	3.56
2080	2.56	3.87

The 2013 Trustees Report notes that HI still fails both the short-range test of financial adequacy and the long-range test of close actuarial balance, indicating a need for further reforms to bring the program into financial balance. As illustrated by the alternative projections, if the annual productivity adjustments were to become unworkable over time and were overridden, the financial challenges would be much more severe.

*(2) Part B*

The full illustrative alternative scenario for Part B assumes that (i) the physician payment update reductions required by the SGR system would be replaced with increases of 0.7 percent annually in 2014 through 2022 and would grade up thereafter until average physician expenditures per beneficiary would increase at the same rate as per capita national health expenditures;<sup>27</sup> (ii) the productivity adjustments for most other Part B providers would be phased down beginning in 2020 until reaching the estimated level of achievable health provider productivity (0.4 percent) in 2034; and (iii) the cost reductions from the IPAB would be eliminated. As recommended by the 2010-2011 Medicare Technical Review Panel, we have also prepared a projection that includes the physician payment adjustments and no IPAB cost reductions.

Table 3 shows projected short-range Part B expenditures and growth rates under current law compared to the full alternative scenario. Under current law, the scheduled 25-percent reduction in physician payment rates for 2014 would result in an estimated 0.8-percent increase in

<sup>27</sup> This illustration effectively assumes that the SGR system would no longer be used to determine physician payments. In practice, many other approaches could be taken. In addition, Congress could legislatively change additional Medicare provisions to help offset the cost of any legislated increase in physician updates.



aggregate Part B expenditures. Replacing this rate reduction with an increase of 0.7 percent would instead lead to overall expenditure growth of about 6.7 percent. Expenditures under the alternative projections would thus be 5.9 percent higher than under current law in 2014 and would maintain a similar difference through 2022. The projected average annual expenditure growth rate over the 9 years 2014-2022 is 7.1 percent under current law versus 7.8 percent for the alternative scenario. Through 2018, these differences reflect only the 0.7-percent physician payment updates; the removal of the IPAB provisions has a small effect starting in 2019, and the productivity adjustments for affected Part B providers are assumed to remain fully in effect through 2019 and to phase down only gradually thereafter. Accordingly, the differences between the current-law and illustrative alternative projections in the short range are mostly attributable to the modifications to the SGR system for physician payments.

**Table 3. Estimated Part B expenditures under the full alternative scenario compared to current law, calendar years 2012-2022**

Calendar year	Current law		Full alternative projection		
	Expenditures (billions)	Growth rate	Expenditures (billions)	Growth rate	Percent of current-law expenditures
2012	\$240.5	6.7%	\$240.5	6.7%	100.0%
2013	251.3	4.5	251.3	4.5	100.0
2014	253.4	0.8	268.2	6.7	105.9
2015	267.9	5.7	283.8	5.8	105.9
2016	287.3	7.2	303.4	6.9	105.6
2017	308.6	7.4	326.1	7.5	105.6
2018	333.9	8.2	353.0	8.3	105.7
2019	360.0	7.8	381.9	8.2	106.1
2020	390.1	8.4	414.0	8.4	106.1
2021	422.2	8.2	448.0	8.2	106.1
2022	464.9	10.1	493.0	10.0	106.0

Part B premiums and general revenues are established annually to cover the following year's expected expenditures. As a result, changes to the level of physician spending would generally translate into corresponding changes in the financing. However, in view of the high probability that legislation will override the scheduled physician payment reductions, a higher-than-normal contingency reserve is needed to ensure that Part B will be adequately financed. Therefore, the estimated premium rates and general revenue transfers shown in the current-law estimates for the 2013 Trustees Report are very similar to those determined under the alternative scenario.

Table 4 shows the long-range Part B expenditure projections from the 2013 Trustees Report under current law and under the full and physician illustrative alternatives. It is customary to express long-range Part B costs as a percentage of GDP to facilitate interpretation and comparison of costs over such distant periods. As shown in table 4, under current law Part B spending is projected to increase from 1.48 percent of GDP in 2010 to 1.65 percent by 2020 and to 2.56 percent of GDP by 2080. For the alternative physician projection, Part B grows to 1.75 percent of GDP in 2020 and to 3.21 percent of GDP by 2080. In the full alternative scenario, Part B is expected to increase more rapidly—reaching 4.09 percent of GDP by 2080. The Part B cost in 2080 would be nearly 60 percent larger than the current law projection, under the illustrative alternative to current law, reflecting both the larger payment rate updates for all

providers and the absence of the nearly 25-percent reduction in physician payment rates in 2014 under the current-law SGR formula.

**Table 4. Projected Part B expenditures as a percentage of Gross Domestic Product (GDP) under current law and the illustrative alternatives, selected years 2010-2080**

Calendar year	Part B expenditures as a percentage of GDP		
	Current law	Alternative physician projection	Full alternative projection
2010	1.48%	1.48%	1.48%
2011	1.50	1.50	1.50
2012	1.54	1.54	1.54
2020	1.65	1.75	1.75
2030	2.25	2.42	2.46
2040	2.45	2.72	2.91
2050	2.45	2.83	3.17
2060	2.50	2.97	3.49
2070	2.56	3.13	3.83
2080	2.56	3.21	4.09

*(3) Total Medicare*

Total Medicare spending under the full illustrative alternative projection includes the higher costs for Parts A and B resulting from the phase-down of the productivity adjustments and the elimination of the IPAB reductions, as well as the increased Part B costs caused by the elimination of the SGR. The Medicare payments to Part D plans and qualifying employers are not affected by the productivity adjustments (and only negligibly affected by the IPAB requirements) and are therefore nearly equal to the current-law projections in the 2013 Medicare Trustees Report. An additional illustration is shown that includes only the revision of the physician payment rates.

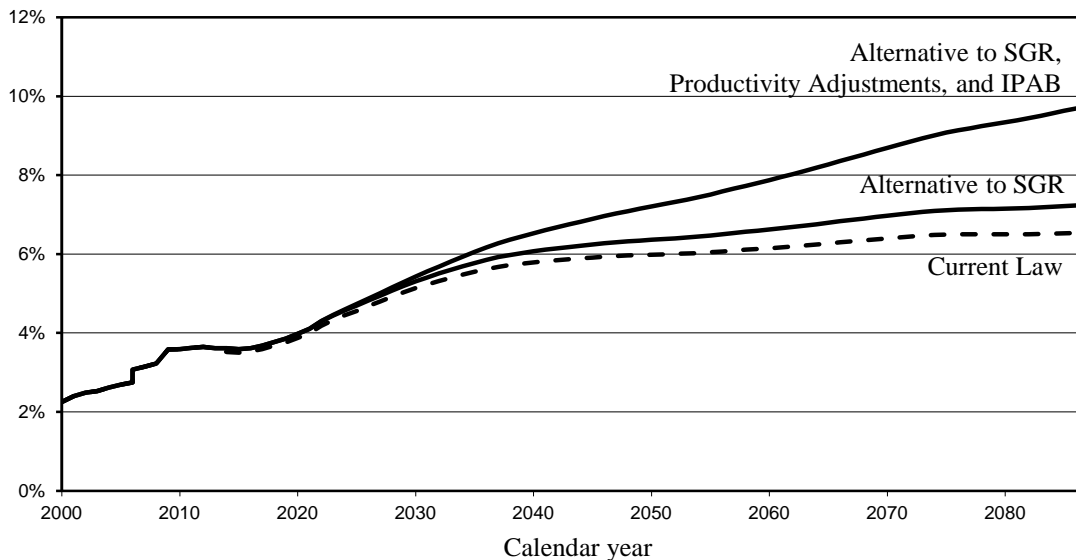
Table 5 indicates the magnitude of the difference relative to the current-law projections by showing total Medicare expenditures as a percent of GDP. Under the alternative physician projection, Medicare spending is projected to be 3.98 percent of GDP in 2020 and to grow to 7.15 percent by 2080, while expenditures increase to 9.34 percent of GDP in the full alternative projection. These results compare to 3.88 percent of GDP in 2020 under current law, increasing to only 6.50 percent in 2080. In other words, if these elements of current law are not sustained in all future years, then Medicare expenditures in 2080 could be about 45 percent greater than projected under current law.

**Table 5. Projected total Medicare expenditures as a percentage of Gross Domestic Product (GDP) under current law and the illustrative alternatives, selected years 2010-2080**

Total Medicare expenditures as a percentage of GDP			
Calendar year	Current law	Alternative physician projection	Full alternative projection
2010	3.59%	3.59%	3.59%
2011	3.62	3.62	3.62
2012	3.65	3.65	3.65
2020	3.88	3.98	3.98
2030	5.14	5.31	5.43
2040	5.79	6.07	6.53
2050	5.98	6.36	7.20
2060	6.15	6.62	7.87
2070	6.40	6.97	8.69
2080	6.50	7.15	9.34

Figure 5 illustrates the very large impact on Medicare expenditures in the long range from the steadily compounding effect of the current-law productivity adjustments to most provider payment updates. The comparison of the current-law and illustrative alternative projections reflects this substantial difference in Medicare provider prices. This comparison is also affected by the assumed 0.7-percent updates for physician payments in 2014 through 2022 under the illustration, compared to the nearly 25-percent reduction required in 2014 and the subsequent physician payment update reductions under the current-law SGR system.

**Figure 5. Medicare expenditures as a percentage of Gross Domestic Product (GDP) under current law and the illustrative alternatives**



Under current law, Medicare expenditures as a percentage of GDP would increase rapidly as the baby boom generation reaches eligibility age. After about 2040, however, the effects of the productivity adjustments (and, to a lesser degree, the impact of the SGR) would largely offset the growth that would otherwise occur due to the aging of the beneficiary population, excess medical price inflation, and increases in the volume and intensity of Medicare services. In the absence of

these reductions in payment rate updates, Medicare costs would continue to grow steadily as a percentage of GDP throughout the long-range period.

## **Conclusion**

The immediate physician fee reductions required under current law are clearly unworkable and are almost certain to be overridden by Congress. The productivity adjustments will affect other Medicare price levels much more gradually, but a strong likelihood exists that, without very substantial and transformational changes in health care practices, payment rates would become inadequate in the long range. As a result, actual Medicare expenditures are likely to exceed the projections shown in the 2013 Trustees Report for current law, possibly by considerable amounts.

In practice, of course, lawmakers may enact any number of changes to the Medicare program in coming years. While some of these are likely to address the adequacy of provider payment rates, others may be designed to reduce expenditure levels or growth rates in other ways that may be more sustainable over time. In view of the very substantial uncertainty associated with possible changes to Medicare, readers should interpret the current-law Medicare projections cautiously. For example, the 2012 Trustees Report showed estimated Part B expenditures of \$238.8 billion for 2013. The actual amount is now expected to be \$251.3 billion, which is \$12.4 billion or 5 percent higher than last year's estimate, principally because Congress overrode the 26.5-percent reduction in physician payment rates that would otherwise have taken effect for 2013 under the SGR formula. The possibility of changes to the productivity adjustments for other provider payment updates is both less certain and more distant—but the impact of these changes could ultimately be much larger than the effect of continuing SGR overrides.

Thus, the current-law projections should not be interpreted as the most likely expectation of actual Medicare financial operations in the future but rather as illustrations of the very favorable impact of permanently slower growth in health care costs, if such slower growth can be achieved. The illustrative alternative projections shown here help to quantify and underscore the likely understatement of the current-law projections in the 2013 Trustees Report.

While the substantial improvements in Medicare's financial outlook under the Affordable Care Act are welcome and encouraging, expectations must be tempered by awareness of the difficult challenges that lie ahead in improving the quality of care and making health care far more cost efficient. The sizable differences in projected Medicare cost levels between current law and the illustrative alternative scenarios highlight the critical importance of finding ways to bring Medicare costs—and health care costs in the U.S. generally—more in line with society's ability to afford them.

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