



## **Office of the Actuary**

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**DATE:** August 5, 2010

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**SUBJECT:** Projected Medicare Expenditures under an Illustrative Scenario with  
Alternative Payment Updates to Medicare Providers

In the 2010 Annual Report of the Board of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds, the Board warns that “the actual future costs for Medicare are likely to exceed those shown by the current-law projections.” 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 do not represent the “best estimate” of actual future Medicare expenditures. The purpose of this memorandum is to present an alternative scenario 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 2010 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 30 percent over the next 3 years. For most of the other categories of Medicare providers, the recently enacted 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 (and that of the independent outside experts we consulted), neither of these update reductions is sustainable in the long range, and Congress is very likely to legislatively override or otherwise modify the reductions in the future to ensure that Medicare beneficiaries continue to have access to health care services.

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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 non-farm 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.

### *(1) Physician Payments*

Medicare payments for physician 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 extent to which the updates may be increased or decreased is subject to limits.<sup>3</sup> The purpose 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 by progressively larger annual amounts since 2001, physician payment reductions have been scheduled for every year since 2002. An 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 7 years (2003-2009), scheduled negative updates of at least -5 percent were overridden by new legislation, which provided updates ranging from 0 percent to 1.7 percent. For 2004 through 2006, these legislative acts not only provided replacement updates and increased the actual physician spending, they also specified that the target level of spending would not be increased to match.<sup>4</sup> Thus, the cumulative difference between actual and target spending has increased substantially. The legislative changes to the physician updates for 2007, 2008, and 2009 increased both actual and target spending but required that the 2010 update be determined as if the updates for 2007, 2008, and 2009 had not been changed.

For 2010, a series of legislative actions has delayed the payment rate reduction until December 1. On that date, the scheduled payment update would be -23.0 percent. Physician payments per service are projected to further decline under current law by an additional 6.5 percent in January 2011, followed by a decrease of 2.9 percent in 2012.<sup>5</sup>

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<sup>3</sup> For more information on the sustainable growth rate system, see [http://www.cms.hhs.gov/SustainableGRatesConFact/01\\_Overview.asp](http://www.cms.hhs.gov/SustainableGRatesConFact/01_Overview.asp).

<sup>4</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>5</sup> The cumulative difference between actual and target physician spending and the resulting scheduled negative updates have been substantially reduced 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.

Multiple consecutive years of large negative updates are extremely unlikely to occur. In fact, Congress has overridden all of the scheduled reductions from 2003 through November 2010. Moreover, the scheduled –23.0-percent update for December 2010 is four times the size of most of those previously avoided. Despite their improbability, the negative physician updates are scheduled to occur under current law and are therefore included in the Part B estimates shown in the 2010 Medicare Trustees Report.<sup>6</sup>

## (2) *Productivity Adjustments*

Most of the services covered by the Medicare fee-for-service program (including inpatient hospital, outpatient hospital, skilled nursing facilities, and home health agencies) receive annual payment increases based on statutory input price indices. These price indices, or “market baskets,” measure the increase in prices that providers must pay for the goods and services they purchase to enable them to care for patients. Such inputs include wages and other compensation for their employees, medical and other equipment, and overhead expenses like 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 will be reduced by the percentage increase in the 10-year moving average of private non-farm business multifactor productivity beginning as early as 2011.<sup>7</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 would be implemented 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>8</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

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<sup>6</sup> The 2010 Medicare Trustees Report was released on August 5, 2010. It is available at [http://www.cms.hhs.gov/ReportsTrustFunds/01\\_Overview.asp](http://www.cms.hhs.gov/ReportsTrustFunds/01_Overview.asp)

<sup>7</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>8</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))

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 share in the financial benefit achieved through improved productivity (along with other payers). 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 2010 Trustees Report it is estimated that private non-farm multifactor productivity will increase by about 1.1 percent per year in the long range, which is roughly its long-run historical average. This assumption reflects the expectation of continuing relatively higher rates of productivity growth in the manufacturing sector and typically lower rates of growth in the service sector, as has occurred historically.<sup>9</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>10</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>11</sup> For skilled nursing facilities and home health agencies, productivity gains are believed to be close to zero.<sup>12</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, and consequently these providers and suppliers will essentially be required to 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 2010 Medicare Trustees Report. As a result of the update reductions, affected providers will certainly have an even stronger financial incentive to reduce unnecessary or inefficient aspects of care and to eliminate wasteful costs. Moreover, it is possible that

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<sup>9</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 1987-2006 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>10</sup> Baumol, William J. (1967) “Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis,” *American Economic Review*, Vol 57, No. 3, pp. 415-26.

<sup>11</sup> See Cylus, et. al., “Hospital Multifactor Productivity: A Presentation and Analysis of Two Methodologies,” <http://www.cms.hhs.gov/HealthCareFinancingReview/downloads/07-08Winterpg49.pdf>

<sup>12</sup> Harper, et. al. estimate that multifactor productivity growth in ambulatory health care services averaged a 0.7-percent decline per year from 1987-2006 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.

providers will find new ways to take advantage of technology and otherwise improve their productivity to a greater degree 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 will continue to increase in the long range more in line with long-term past input price growth.

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

Figure 1 shows the results of simulated future Medicare price levels under current law compared to current levels for private health insurance and Medicaid. The relative Medicare prices incorporate both the gradual effects of the economy-wide productivity offsets under current law and the immediate and long-term impacts of the SGR payment mechanism for physician services. Additionally, it was assumed that expected attainable health sector productivity gains would be 0.1 percent per year based on historically measured increases. The relative prices for private health insurance and Medicaid are shown at today's levels for comparison purposes.<sup>13</sup>

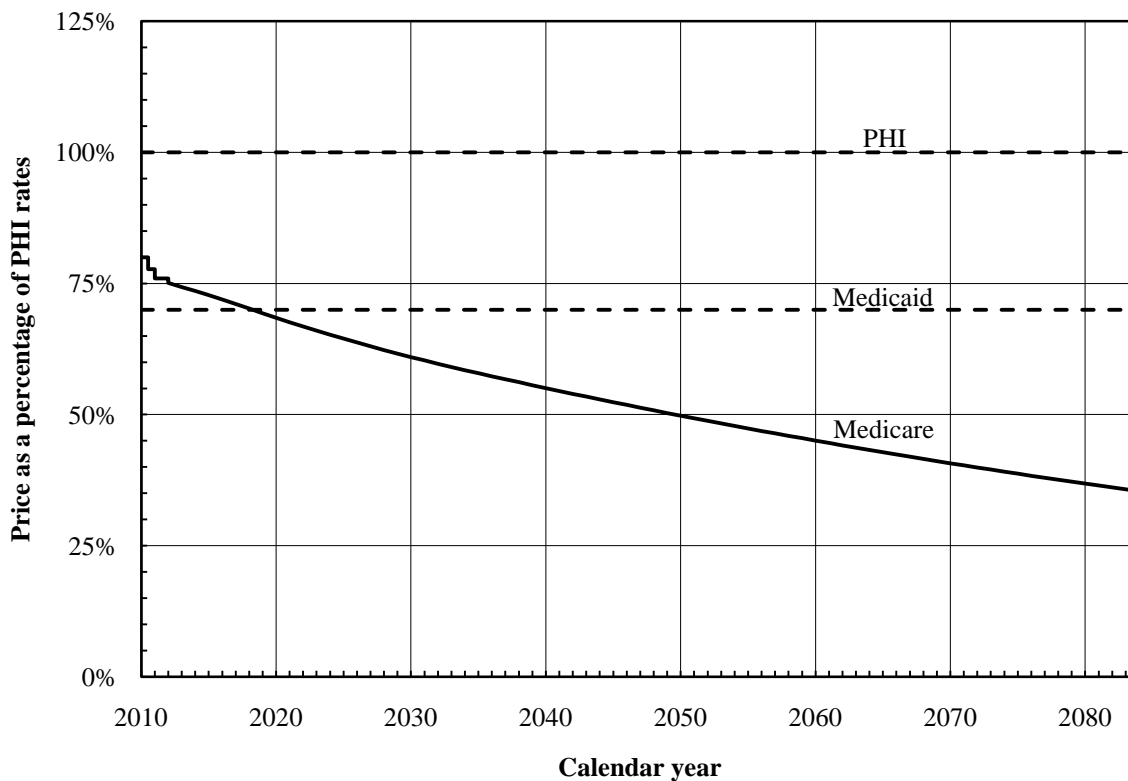
As indicated, current Medicare payment levels, on average, are significantly below those for private health insurance but somewhat above Medicaid rates. Under current law, the SGR system would require a reduction in the physician fee schedule of 23.0 percent in December 2010 (and further reductions in 2011 and 2012). After 2012, the Medicare update reductions and the SGR system would slow price growth by roughly 1 percent per year. By 2019 in the simulation, Medicare rates would be relatively lower than those currently paid for Medicaid, and by the end of the 75-year period, Medicare payments would be only one-third of the relative current private health insurance prices and half of those for Medicaid. If such payment differentials were allowed to occur, Medicare beneficiaries would almost certainly face increasingly severe problems with access to care.<sup>14</sup>

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<sup>13</sup> For purposes of the illustration, we ignored certain existing rules that require Medicaid payments for some provider services to be no more than the equivalent Medicare payments. In addition, we assumed that payment rates paid by private health insurers would not be affected by the reductions in the Medicare payment rates. In practice, it is possible that these rates could decrease in an attempt to mirror the Medicare reductions, or they could increase as a result of cost-shifting by providers. However, it would not be sustainable to force all payers to have payment rates that were below their costs.

<sup>14</sup> At today's levels, Medicaid payment rates have already contributed to well-documented problems with access to physician services. For example, a 2006 survey by the Center for Studying Health System Change found that 14.6 percent of physicians had no Medicaid patients and that 21.0 percent were not accepting new Medicaid patients. (By comparison, only 4 percent of physicians were not accepting new privately insured patients.) Anecdotal evidence also suggests access problems for other services, including hospital emergency rooms. The simulation ignores the temporary increase in Medicaid payment rates for primary care providers in 2013-2014.

**Figure 1. Simulated comparison of relative Medicare, Medicaid, and private health insurance prices 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 agencies.<sup>15</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, for reasons similar to those described above. Writing in a *National Journal* blog, Dr. David Cutler, the Otto Eckstein Professor of Applied Economics at Harvard University, stated that “as the

<sup>15</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/ActuarialStudies/Downloads/PPACA\\_2010-04-22.pdf](http://www.cms.gov/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 OACT’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.

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.” Similarly, Dr. Joseph Newhouse 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>16</sup> The other experts we spoke with also foresaw that the Medicare payment limitations would become unworkable.<sup>17</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 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.

More recently, 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>18</sup>

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<sup>16</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>17</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.) The other health economists we spoke with were considerably 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>18</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



For these reasons, we believe that the multifactor productivity adjustments to Medicare payment updates are very unlikely to be viable indefinitely. Accordingly, projections based on the permanent application of this new component of current law are very 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 an illustrative alternative scenario to present a more plausible outcome for future spending. This section describes the methodology used to determine both the current-law projections that are shown in the 2010 Trustees Report and the projections for the alternative scenario.

### *(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 in a manner consistent with methods used in prior reports. Second, this baseline projection was adjusted for specific ACA provisions affecting 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 individual categories of service, in part due to the uncertainty of projecting trends at a detailed level for as long as 75 years. Moreover, starting with the 25th year of the projection, the baseline per capita rate of health care cost growth is assumed to be the same for each part of Medicare, as well as for total national health expenditures generally. It is measured prior to demographic impacts, which vary by group and category of service, and before the application of the productivity adjustments to Medicare price updates, as required by the Affordable Care Act. 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 for others.

Based on a recommendation by the 2000 Medicare Technical Review Panel, the baseline increase in average expenditures per beneficiary for the 25th through 75th years of the projection is initially assumed to equal the growth in per capita GDP plus 1 percentage point, prior to demographic effects. These growth rates are then refined to provide a smoother and more realistic transition from current Medicare cost growth rates, which have been significantly above the level of GDP growth, to the ultimate assumed level of GDP plus zero percent for the indefinite future (2085 and later). The year-by-year baseline growth patterns are based on a stylized economic model that makes assumptions about (i) continuing improvements in medical technology; (ii) the extent to which new medical technology either increases health care costs or

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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.



reduces them; and (iii) society's relative preference for improved health versus consumption of other goods and services. The model is based on a computable general equilibrium (CGE) methodology and uses a single agent to represent demand for medical care at the national level. It does not directly project Medicare spending.<sup>19</sup>

Following prior practice, between the 10th and 25th years of the projection the baseline growth rates for Parts A, B, and D are assumed to grade smoothly from their level in the 10th year to the long-range growth rates from the economic model.

For the current-law projections, the baseline long-range cost growth rates must be modified to reflect demographic impacts and the price-update adjustments for Medicare Parts A and B under the Affordable Care Act. 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, prescription drug use is more evenly distributed by age, and an increase in the average age of Part D enrollees has relatively little effect on Part D costs.

Under the Affordable Care Act, the annual increase in Medicare prices for most types of health services will be reduced by the 10-year moving average increase in private non-farm 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. They are not relevant for Part D, where drug plan premiums are set through a competitive bidding process.

The current-law Part A growth rate assumptions after 2019 are set equal to the baseline rates, as described above, minus the full amount of the 10-year average productivity increase. For most of the projection period, this process yields a net Part A per capita growth rate (before demographics) that is less than the increase in per capita GDP.

A similar process is followed for Part B, except that the productivity reduction is applied only to the provider categories affected by this adjustment—for example, outpatient hospitals, ambulatory surgical centers, diagnostic laboratories, and most other non-physician services. Average physician expenditures per beneficiary are increased at the rate of per capita GDP growth, as required (on average) by the sustainable growth rate formula in current law. All other outlays, which constitute about 17 percent of total Part B expenditures in 2019, are increased at the baseline rate of growth.

As mentioned above, the Medicare payments to Part D plans and qualifying employers are not affected by the productivity adjustments. Accordingly, Part D costs per enrollee are assumed to increase by the full baseline cost growth rates in 2020 and later.

It is important to note that the current-law estimates shown in the 2010 Medicare Trustees Report comprise only the direct impacts of the current-law payment reductions. Not included are possible secondary impacts, such as reduced beneficiary access to Medicare services, reduced quality of care, and/or increased morbidity or mortality rates. For example, the negative physician payment updates could potentially result in physicians reducing the number of traditional fee-for-service Medicare patients that they see each day (reduced access). In other

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<sup>19</sup>See Caldis, "The Long-Term Projection Assumptions for Medicare and Aggregate National Health Expenditures," May 12, 2009 (available at <http://www.cms.gov/ReportsTrustFunds/downloads/projectionmethodology.pdf> .)

words, the cost estimates include the reduction in the price paid per service but not behavioral or healthcare system responses to these payment reductions.<sup>20</sup>

Regardless of which combination of these secondary impacts might be assumed to occur, including them in the current-law baseline would lead to an increasingly improbable result and only reduce the usefulness of the estimates. However, by excluding the potential secondary impacts of the reduced updates, the current-law baseline does not reflect the full scope of what could occur in the absence of legislative changes. In this respect, the current-law projections do not represent the “best estimates” of Medicare expenditures; due to the speculative nature and extremely low likelihood of such an outcome in practice, a “best estimate” of current law that incorporated all plausible consequences would not be especially useful.

## *(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 payment rates to physicians would likely have serious implications for beneficiary access to care; utilization, intensity, and quality of services; and other factors. The basis for the current-law Medicare cost growth rate assumptions has been chosen primarily to incorporate the ACA provisions in a simple, straightforward manner, in part due to consideration of this uncertainty and in part due to the difficulty of modeling such consequences. The potential changes in payment mechanisms, delivery systems, and other aspects of health care that could arise in response to the payment limitations and the ACA-directed research activities are not modeled. It is possible that such changes could result in slower cost growth that would be consistent with the lower rate of Medicare price increases under current law. Until such changes can be designed, tested, and evaluated, however, their financial effects cannot be estimated.

As noted earlier, the actual future costs for Medicare are likely to exceed those shown by the current-law projections. For this reason, an illustrative alternative projection has been prepared to assess the potential magnitude of this understatement. This projection makes two significant changes to the assumptions used for the current-law projection. Specifically, Medicare payments to physicians under the alternative scenario are assumed to be updated annually by the increase in the Medicare Economic Index in all future years, in effect eliminating the SGR system.<sup>21</sup> Additionally, it assumes that the productivity adjustments would be applied fully through 2019 but then phased out 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 pre-ACA “baseline” growth rates, as determined by the CGE growth model.

As recommended by both the 2000 and 2004 Medicare Technical Review Panels, the Trustees and their staffs are continuing to pursue research into the factors affecting long-range growth in Medicare and total national health expenditures. To help determine the most appropriate long-

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<sup>20</sup> A physician volume-and-intensity growth response to price changes is assumed through 2011. See Codespote, et. al., “Estimated Volume-and-Intensity Response to a Price Change for Physicians’ Services,” August 13, 1998 (available at <http://www.cms.gov/ActuarialStudies/downloads/PhysicianResponse.pdf>.)

<sup>21</sup> The Medicare Economic Index is a statutory measure of the annual increase in prices for the goods and services that physician practices purchase to enable the treatment of patients, adjusted to account for estimated improvement in physician productivity.

range Medicare growth assumptions for future reports, the Trustees will convene an independent panel of expert actuaries and economists to study the effects of the new payment rules and recommend optimal methods for establishing long-range assumptions.

## **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 possible policy reactions to the situation. The results 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.)

### *(1) Part A*

The alternative projection scenario begins phasing out the productivity adjustments prescribed in the Affordable Care Act after the first 10 years of the projections. The resulting expenditure projections for Part A, or HI, are therefore slightly higher than the current-law projections starting in 2020 and ultimately become significantly higher by the end of the 75-year period. Since the impact is relatively modest in the short term, there is only a minor difference in the expected trust fund exhaustion date. As shown in figure 2, for the alternative projection the Part A trust fund is estimated to be exhausted in 2028, or 1 year earlier than the current-law projection. Both projections indicate a significant improvement from last year when the trust fund was estimated to be exhausted in 2017. The improvement shown by the illustrative scenario primarily reflects the lower payments to private Medicare Advantage health plans, the full effect of the productivity adjustments through 2019 (and a gradually reduced impact thereafter), lower “disproportionate share” (DSH) payments to providers, and additional HI payroll tax revenues from the 0.9-percent HI payroll tax on earnings above \$200,000 (for single workers) or \$250,000 (for married couples filing jointly).

**Figure 2. Projected HI trust fund assets as a percentage of annual expenditures under the Illustrative Alternative Scenario compared to the 2009 and 2010 Trustees Reports**

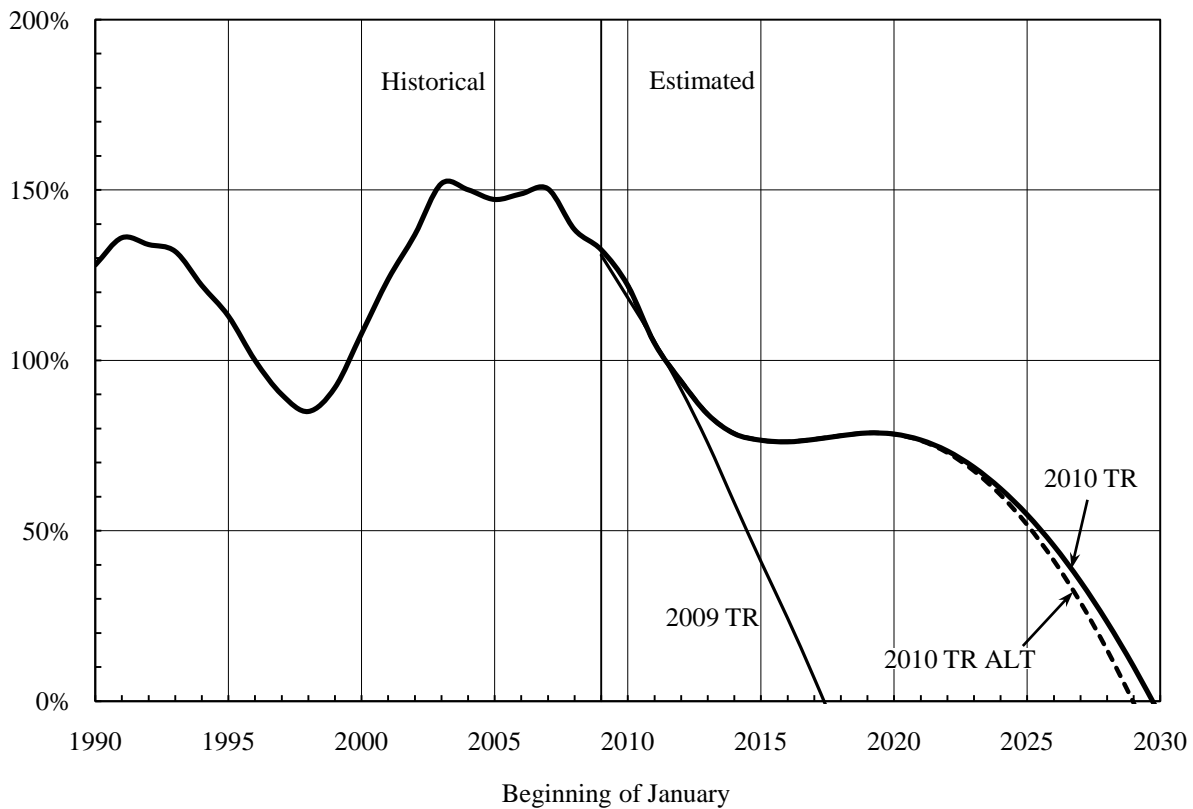
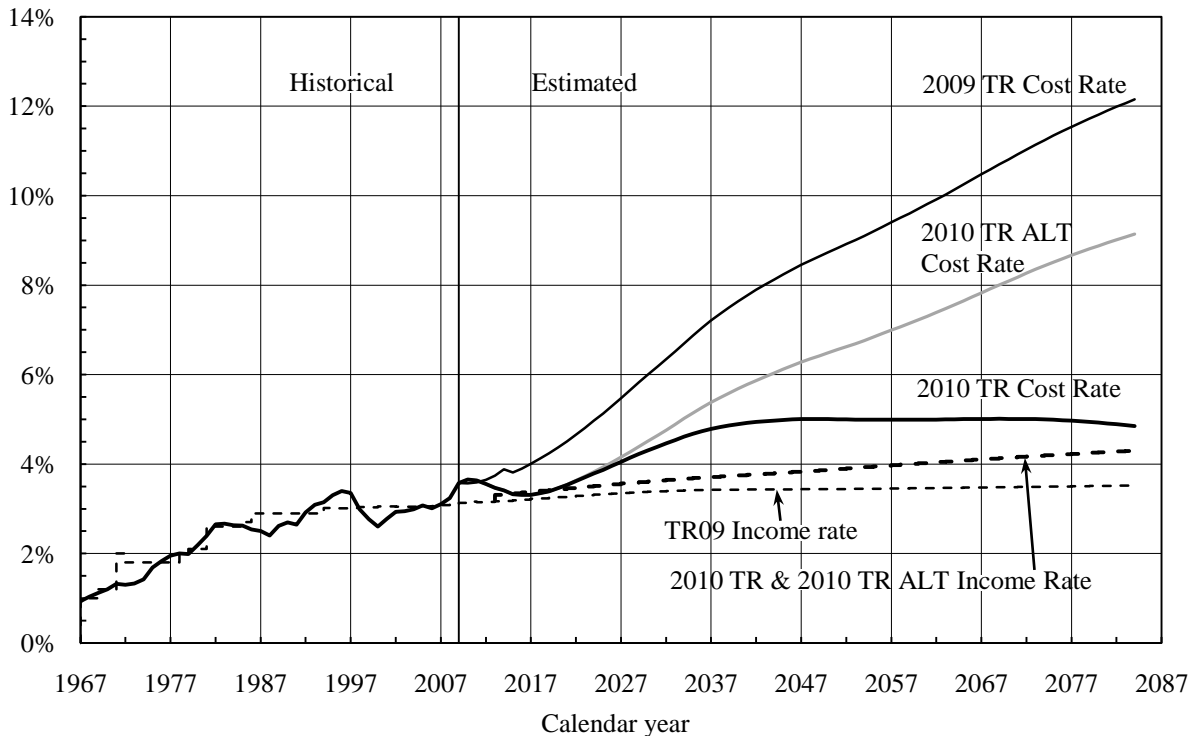


Figure 3 shows the projected HI income and cost rates for the illustrative alternative scenario compared to the results shown in the 2010 Trustees Report under current law and in the 2009 Trustees Report. Since the alternative projections are varying only the payment rates to providers, the income rate is the same as that for current law. It is higher than last year because of the additional 0.9-percent tax rate for workers with high earnings in 2013 and later.

HI expenditures are projected to be far lower in the long range under current law than projected last year due to the enactment of the Affordable Care Act. However, the alternative projections indicate that the extremely large reduction in the cost rate should be viewed with caution. In the likely event that the productivity adjustments are eventually overridden, the cost rate would be significantly higher than under current law. Even so, the alternative scenario projections would represent a marked improvement over the estimates in the 2009 report.

**Figure 3. Projected HI income and costs as a percentage of taxable payroll under the Illustrative Alternative Scenario compared to the 2009 and 2010 Trustees Reports**



The year-by-year comparison shows more pronounced differences, due to the compounding effect of the 1.1-percent price adjustments under current law, which accumulate exponentially over time. At the end of the long-range projection period, HI costs under current law are only 5 percent of taxable payroll, or just two-fifths of the level projected in the 2009 report. If the productivity adjustments were to become impracticable, however, and were phased out during 2020-2034, then the HI cost rate in 2084 would be about 9.2 percent.

Table 1 shows the HI actuarial balance, for the next 25, 50, and 75 years, from the 2009 Trustees Report, the 2010 Trustees Report under current law, and the illustrative alternative scenario. For the 75-year projection period, the HI actuarial deficit decreased from 3.88 percent of taxable payroll in the 2009 report to 0.66 percent of taxable payroll in this year's report. The vast majority, or 3.16 percentage points, of this reduction is due to the Affordable Care Act. However, this improvement depends significantly on the long-range feasibility of the productivity adjustments to the payment rates for HI providers. If the productivity adjustments were gradually phased out after the first 10 years, the long-range HI deficit would be 1.91 percent of taxable payroll, as indicated by the alternative projection.

**Table 1. HI Actuarial Balances under the Illustrative Alternative Scenario compared to the 2009 and 2010 Trustees Reports**

	2009 Report (old law)	2010 Report (current law)	Alternative Projection
Valuation periods: <sup>1</sup>			
25 years, 2010-2034:			
Summarized income rate	3.47%	3.64%	3.64%
Summarized cost rate	4.88	3.94	4.04
Actuarial balance	-1.40	-0.30	-0.40
50 years, 2010-2059:			
Summarized income rate	3.46	3.72	3.72
Summarized cost rate	6.29	4.35	4.97
Actuarial balance	-2.83	-0.63	-1.25
75 years, 2010-2084:			
Summarized income rate	3.46	3.83	3.83
Summarized cost rate	7.34	4.49	5.74
Actuarial balance	-3.88	-0.66	-1.91

<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 2010 Trustees Report is to examine HI expenditures as a percent of GDP over the next 75 years. Again, both the current-law and the alternative projection show clear improvement over last year. In the 2009 report, HI expenditures were estimated to grow to 4.96 percent of GDP by 2080. For the 2010 report, costs are projected to be only 2.17 percent of GDP in 2080, but under the alternative scenario, costs would be 3.87 percent of GDP by that time.

**Table 2. Projected HI expenditures as a percentage of Gross Domestic Product (GDP) under the Illustrative Alternative Scenario compared to the 2009 and 2010 Trustees Reports, selected calendar years 2009-2080**

Calendar year	HI expenditures as a percentage of GDP		
	2009 Report (old law)	2010 Report (current law)	Alternative Projection
2009	1.71%	1.67%	1.67%
2010	1.71	1.66	1.66
2020	2.05	1.63	1.63
2030	2.75	1.99	2.09
2040	3.43	2.24	2.62
2050	3.85	2.27	2.94
2060	4.21	2.23	3.23
2070	4.61	2.21	3.57
2080	4.96	2.17	3.87

The 2010 Trustees Report notes that the outlook for the HI trust fund is significantly improved since last year's report, as a result of the changes implemented by the Affordable Care Act. Despite these very substantial improvements in the financial status of the program, HI still fails both the short-range and long-range tests of financial adequacy, indicating a need for further reforms to bring the program into financial balance. As illustrated by the alternative projections, should the annual productivity adjustments become unworkable over time and be overridden, the financial challenges would be much more severe.

(2) Part B

The illustrative alternative scenario for Part B is based on short- and long-range changes to the physician payment reductions required under the current-law SGR formula and on long-range changes to the productivity adjustments for most other Part B providers. Physician payment rate updates are assumed to equal the increase in the Medicare Economic Index (MEI), which is estimated to be roughly 2 percent per year.<sup>22</sup> This scenario effectively assumes that the SGR system would no longer be used to determine physician payments. Table 3 shows projected short-range Part B expenditures and growth rates under current law compared to the alternative scenario. Expenditures under the alternative projections would be just slightly higher than under current law in 2010, since only December expenditures would be affected, but would be 21.8 percent higher by 2019. The projected average annual expenditure growth rate over the 10 years is 5.9 percent under current law versus 8.0 percent for the MEI scenario. These differences reflect only the MEI payment updates for physicians; the productivity adjustments for most other Part B providers are assumed to remain fully in effect through 2019.

**Table 3. Estimated Part B expenditures under the Illustrative Alternative Scenario compared to current law, calendar years 2009-2018**

Calendar year	Current law		MEI physician payment updates		
	Expenditures (billions)	Growth rate	Expenditures (billions)	Growth rate	Percent of current-law expenditures
2009	\$204.2	7.9%	\$204.2	7.9%	100.0%
2010	217.3	6.4	218.2	6.9	100.4
2011	211.8	-2.5	231.5	6.1	109.3
2012	223.7	5.6	257.4	11.2	115.1
2013	240.0	7.3	277.0	7.6	115.4
2014	257.8	7.4	299.0	7.9	116.0
2015	273.4	6.1	318.7	6.6	116.6
2016	290.5	6.3	341.5	7.2	117.5
2017	311.1	7.1	369.4	8.2	118.7
2018	334.9	7.6	402.3	8.9	120.1
2019	361.4	7.9	440.4	9.5	121.8

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 2010 Trustees Report are essentially the same amounts as determined under the alternative scenario.

Table 4 shows long-range Part B expenditure projections from the 2009 Trustees Report, the 2010 Trustees Report under current law, and the illustrative alternative scenario. It is customary to express long-range Part B costs as a percentage of GDP to facilitate the interpretation and comparison of costs over such distant periods. As shown in table 4, under current law Part B

<sup>22</sup> In practice, many other approaches could be taken. Moreover, Congress could legislatively change additional Medicare provisions to help offset the cost of any legislated increase in physician updates.



spending is projected to increase from 1.45 percent of GDP in 2009 to 1.61 percent by 2020 and to 2.47 percent of GDP by 2080. For the alternative scenario, Part B is expected to increase more rapidly—reaching, by 2020, 1.98 percent of GDP, and 5.07 percent of GDP by 2080.

**Table 4. Projected Part B expenditures as a percentage of Gross Domestic Product (GDP) under the Illustrative Alternative Scenario compared to the 2009 and 2010 Trustees Reports, selected years 2009-2080**

Calendar year	Part B expenditures as a percentage of GDP		
	2009 Report (old law)	2010 Report (current law)	Alternative Projection
2009	1.44%	1.45%	1.45%
2010	1.38	1.49	1.50
2020	1.76	1.61	1.98
2030	2.30	2.10	2.91
2040	3.15	2.30	3.52
2050	3.47	2.33	3.89
2060	3.82	2.39	4.30
2070	4.16	2.45	4.73
2080	4.43	2.47	5.07

*(3) Total Medicare*

Total Medicare spending under the illustrative alternative scenario includes both the higher costs for Parts A and B resulting from the phase-out of the productivity adjustments and 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 are therefore equal to the current-law baseline projections in the 2010 Medicare Trustees Report.

Table 5 indicates the magnitude of the difference relative to the current-law projections by examining total Medicare expenditures as a percent of GDP. Under the alternative scenario, Medicare spending is projected to be 4.28 percent of GDP in 2020 and to grow to 10.70 percent by 2080. These results compare to 3.91 percent of GDP in 2020 under current law, increasing to only 6.37 percent in 2080.

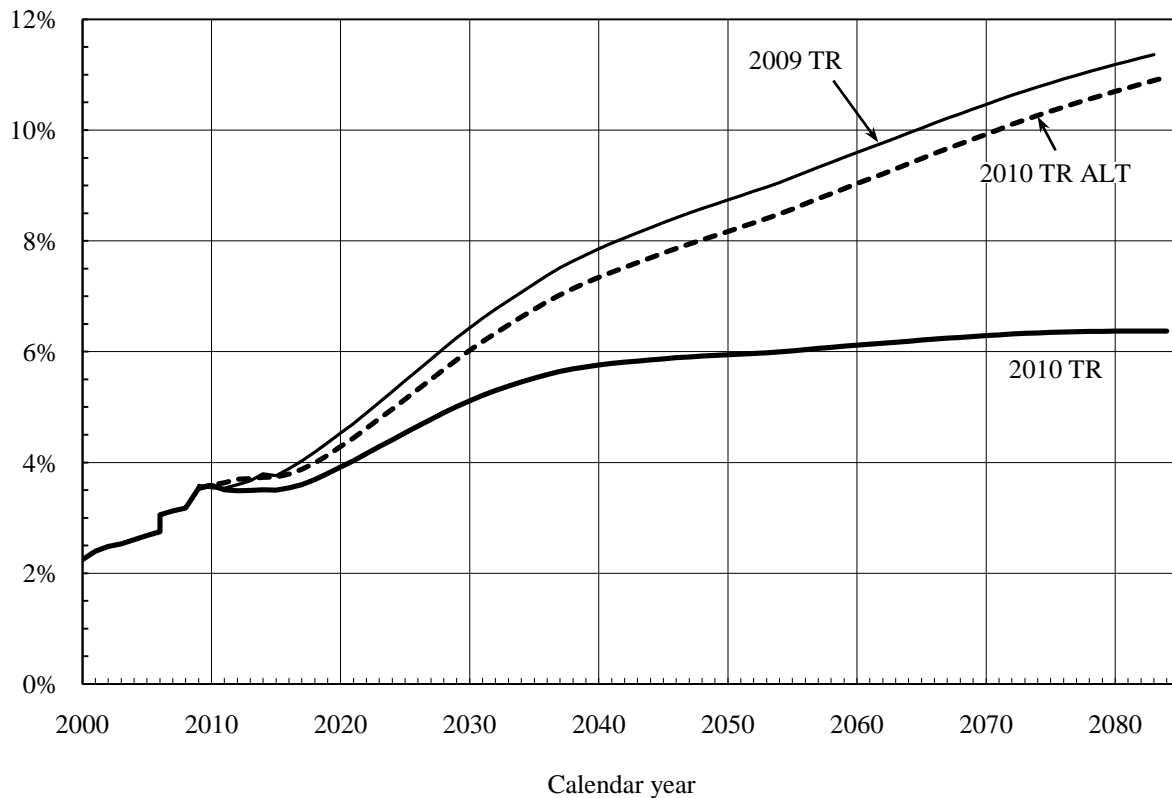
**Table 5. Projected total Medicare expenditures as a percentage of Gross Domestic Product (GDP) under the Illustrative Alternative Scenario compared to the 2009 and 2010 Trustees Reports, selected years 2008-2080**

Calendar year	Medicare expenditures as a percentage of GDP		
	2009 Report (old law)	2010 Report (current law)	Alternative Projection
2008	3.24%	3.18%	3.18%
2009	3.59	3.53	3.53
2010	3.54	3.59	3.59
2020	4.53	3.91	4.28
2030	6.43	5.11	6.02
2040	7.96	5.76	7.34
2050	8.74	5.94	8.17
2060	9.60	6.12	9.03
2070	10.46	6.29	9.93
2080	11.18	6.37	10.70

While both the current-law and alternative scenarios represent improvements over the estimates in last year's report, the difference represents the substantial impact that the productivity adjustments and the physician payment reductions have on total Medicare outlays. Figure 4 indicates that most of the significant change in the projected level of Medicare expenditures between the 2010 Trustees Report and last year's report would go away under the alternative projections. This result illustrates that the largest impact of the Affordable Care Act in the long range would be due to the steadily compounding effect of the productivity adjustments to most provider payment updates. After 30 years of such adjustments, payment rates would be 28 percent lower than they would have been under the prior law. After 75 years, the reduction would be 56 percent.

The comparison of the current-law and illustrative alternative projections reflects this substantial difference in Medicare provider prices. It also is affected by the assumed MEI updates for physician payments in the illustration, compared to the 30-percent reduction required under the current-law SGR system, followed by increases that would approximately equal the increase in per capita GDP growth.

**Figure 4. Medicare expenditures as a percent of GDP under the Alternative Scenario compared to the 2009 and 2010 Trustees Reports**



## 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 there is a strong likelihood that, without very substantial and transformational changes in health care practices, payment rates would become inadequate in the long range. As a result, the projections shown in the 2010 Trustees Report for current law should not be interpreted as our best 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 presented here help to quantify and underscore the likely understatement of the current-law projections shown in the 2010 Trustees Report.

While the significant 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 scenario 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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