



Office of the Actuary

DATE: May 13, 2011

FROM: John D. Shatto
M. Kent Clemens

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

In the 2011 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 under current law 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.¹

Overview

One of the most important factors in projecting Medicare expenditures are the annual payment updates to Medicare providers. The estimates shown in the 2011 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 in 2012. 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.² 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 legislatively override or otherwise modify the reductions in the future to ensure that Medicare beneficiaries continue to have access to health care services.

¹ 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.

² 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.

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 interim report, the panel recommended the continued use of this supplemental analysis, similar to the illustrative alternative projection that accompanied the 2010 Trustees Report, 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.³

(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.⁴ 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 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 9 years (2003-2011), 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, they also specified that the target level of spending would not be increased to match.⁵ Thus, the cumulative difference between actual and target spending has increased substantially. Each of the legislative changes to the physician updates for 2007 through 2011 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.

³The *Interim Report of the Technical Review Panel on the Medicare Trustees Report* is available at <http://aspe.hhs.gov/health/medpanel/2010/interim1103.shtml>.

⁴ For more information on the sustainable growth rate system, see http://www.cms.hhs.gov/SustainableGRatesConFact/01_Overview.asp.

⁵ 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.

Reflecting the accumulated impact of the 2007 through 2011 payment reduction overrides, and the requirement that future payment updates must be determined as if these overrides had not occurred, for 2012 the scheduled payment update is estimated to be –29.4 percent. Physician payments per service are projected to further decline under current law by an additional 0.3 percent in 2013.⁶

A large negative update is extremely unlikely to occur. In fact, Congress has overridden all of the scheduled reductions from 2003 through 2011. Moreover, the projected –29.4-percent update for 2012 is more than five 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 2011 Medicare Trustees Report.⁷

(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 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 will be reduced by the percentage increase in the 10-year moving average of private nonfarm business multifactor productivity beginning as early as 2011.⁸

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:

⁶ The cumulative difference between actual and target physician spending, and the resulting negative updates scheduled under the SGR system, has 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.

⁷ The 2011 Medicare Trustees Report was released on May 13, 2011. It is available at http://www.cms.hhs.gov/ReportsTrustFunds/01_Overview.asp

⁸ 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.

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.⁹

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 2011 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 high rates of productivity in the manufacturing sector and much lower rates in the service sector, as has occurred historically.¹⁰ 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.¹¹

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).¹² For skilled nursing facilities

⁹ MedPAC, “Report to the Congress: Medicare Payment Policy” March 2010 (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).

¹⁰ Service sector productivity, and health sector productivity in particular, are 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>).

¹¹ Baumol, William J. (1967) “Macroeconomics of Unbalanced Growth: The anatomy of Urban Crisis,” *American Economic Review*, Vol57, No. 3, pp. 415-26.

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

and home health agencies, productivity gains are believed to be close to zero.¹³ As noted earlier, some Medicare payment systems (such as payments for ambulatory surgical centers and lab 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 2011 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 healthcare 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.

(3) 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.¹⁴ Medicaid payments for other categories, notably physician services, are not subject to UPLs.¹⁵ The payment rates paid by private health insurers are assumed to be unaffected by the reductions in the Medicare payment rates for this illustration.

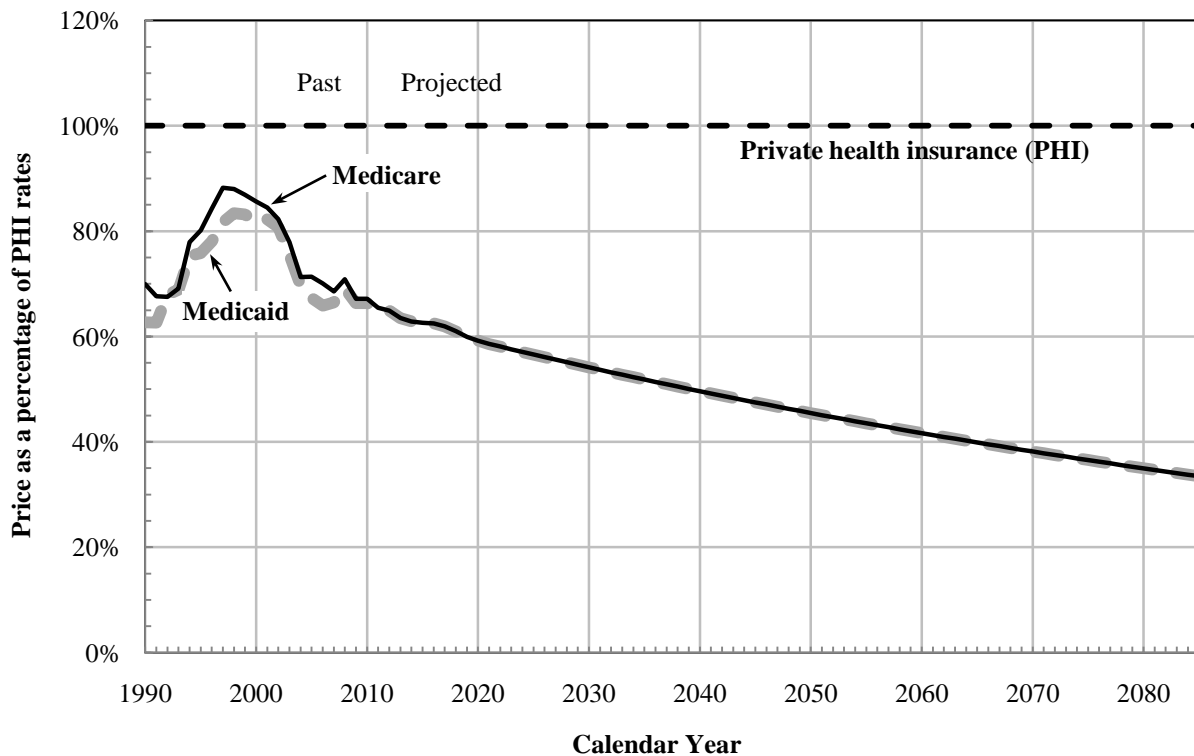
¹³ Harper, et. al. estimate that multifactor productivity in ambulatory health care services averaged a 0.7 percent decline per year from 1987-2006 and that hospitals and nursing and residential care facilities averaged a 0.9 percent decline over the same period. It should be noted that the authors and 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.

¹⁴ 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 both between UPLs and what Medicare would have paid for these services, and between Medicaid payments and UPLs.

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

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).¹⁶ In this comparison, 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 downward adjustments in 2010-2019 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 33 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 similar pattern as 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

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

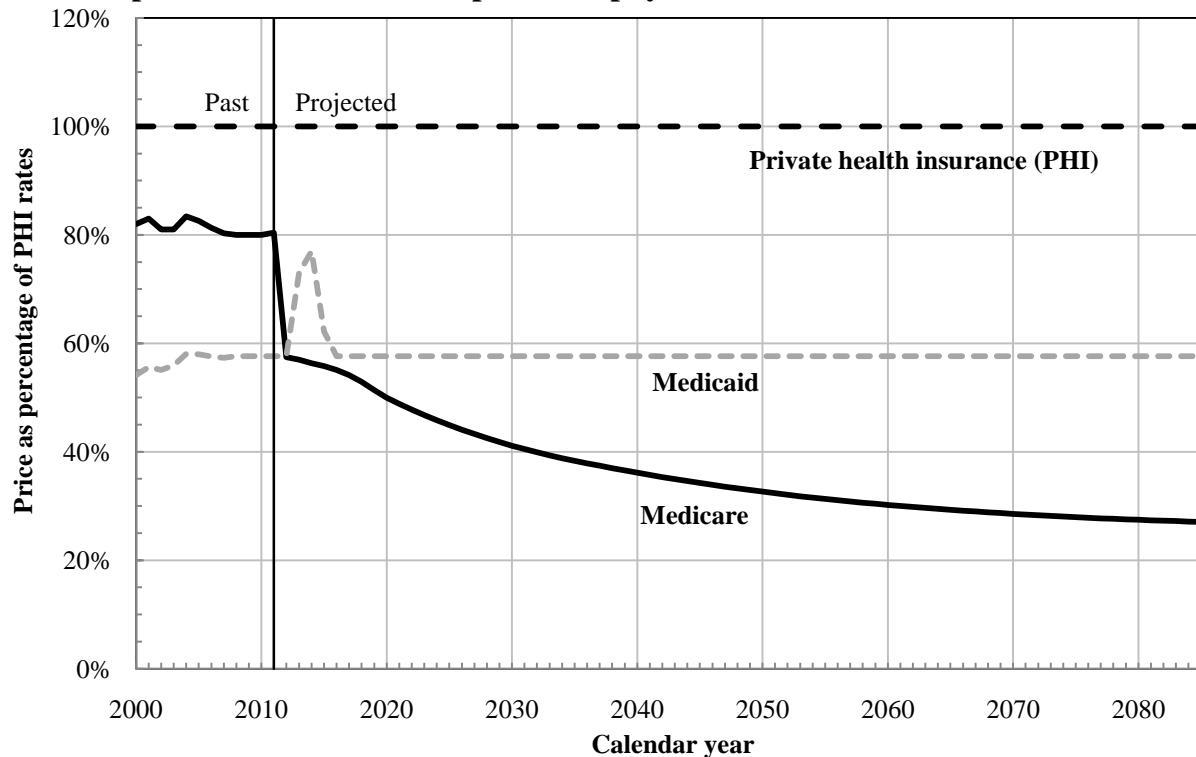
may grow at different rates over time (and can exceed corresponding Medicare payment rates). As before, we have calculated illustrative future Medicare and Medicaid payment levels for physician services relative to private health insurance payment rates. For Medicaid and private health insurance, we have assumed that payment rates would increase annually at the rate of increase of the Medicare Economic Index (MEI).¹⁷ 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.

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.¹⁸ In this illustration, Medicaid payment rates increase to 73 percent of private health insurance levels in 2013 and 77 percent in 2014 and then return to 58 percent. Medicare physician payment rates decline to 57 percent of private health insurance payment rates in 2012, due to the scheduled reduction in the Medicare physician fee schedule of nearly 30 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 2011.) Under current law, the Medicare rates would eventually fall to 27 percent of private health insurance levels by 2085 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.

¹⁷ The MEI is a price index reflecting the weighted-average price change for various inputs needed to furnish physicians' 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 physician 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.

¹⁸ 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 are interpolated between 1998 and 2003 (0.64 and 0.69), and between 2003 and 2008 (0.69 and 0.72).

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 agencies.¹⁹ 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 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

¹⁹ 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). 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.

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."²⁰ The other experts we spoke with also foresaw that the Medicare payment limitations would become unworkable.²¹

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, it 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

²⁰ Newhouse, Joseph P., (July 22, 2010) "Assessing Health Reform's Impact on Four Key Groups of Americans," *Health Affairs*, 29:9, pp. 1-11.

²¹ 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 substantially 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.

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 2008.²²

For these reasons, we 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 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. The following section describes the methodology used to determine both the current-law projections that are shown in the 2011 Trustees Report as well as 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 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 each individual category 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

²² CMS analysis of Medicare Cost Reports and MedPAC, “Report to the Congress: Medicare Payment Policy” March 2010 (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.

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 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. The model does not directly project Medicare spending.²³

Following prior practice, in 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 increase 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.

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 2020 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 are estimated to constitute about 12 percent of total Part B expenditures in 2020, are increased at the baseline rate of growth.

As noted 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 2021 and later.

²³See 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> .)

It is important to note that the current-law estimates shown in the 2011 Medicare Trustees Report include 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 statutory reduction in physician payment rates has the potential to result in physicians reducing the number of traditional fee-for-service Medicare patients that they would see each day (reduced access). In other words, the cost estimates only include the reduction in the price paid per service, but not behavioral or healthcare system responses to these payment reductions.²⁴

To date, there is no reliable basis for determining what these secondary impacts would be in the future, assuming that Congress did not act to address the problem of inadequate payment rates. Regardless of which combination of these secondary impacts might be assumed to occur, including them in the current-law projections 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 projections do 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 payments 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, described above, 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 possible 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, it is not possible to estimate their financial effects.

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

²⁴ 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>.)

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.²⁵

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 likely override or modify them. Accordingly, the illustrative alternative scenario assumes that the productivity adjustments would be applied fully through 2019 but then phased out over the 16 years beginning in 2020. In 2035 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.

To help determine the most appropriate long-range Medicare growth assumptions for future reports, the Medicare Board of Trustees convened 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. In its interim report, the panel found that the long-range Medicare growth rate assumptions used in the 2010 report for the current-law projections were not unreasonable in light of the provisions of the Affordable Care Act. The panel recommended the continued use of an illustrative alternative projection 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.

The panel members noted the extreme difficulty involved in developing long-range Medicare cost growth assumptions, due to the many uncertainties that surround not only the long-term evolution of the U.S. health care system but also the system’s interaction with the provisions of the Affordable Care Act. The Trustees will continue their efforts, with the assistance of the technical panel, to develop possible improvements to the cost growth assumptions underlying the 2011 Medicare Trustees Report.

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

²⁵ 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.

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 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 nine years of the projections. 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 minor difference in the expected trust fund exhaustion date. Figure 3 shows the projected exhaustion date for the alternative scenario and the current-law scenario. Under both projections, the Part A trust fund is estimated to be exhausted in 2024, 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 Scenario compared to the 2011 Trustees Report

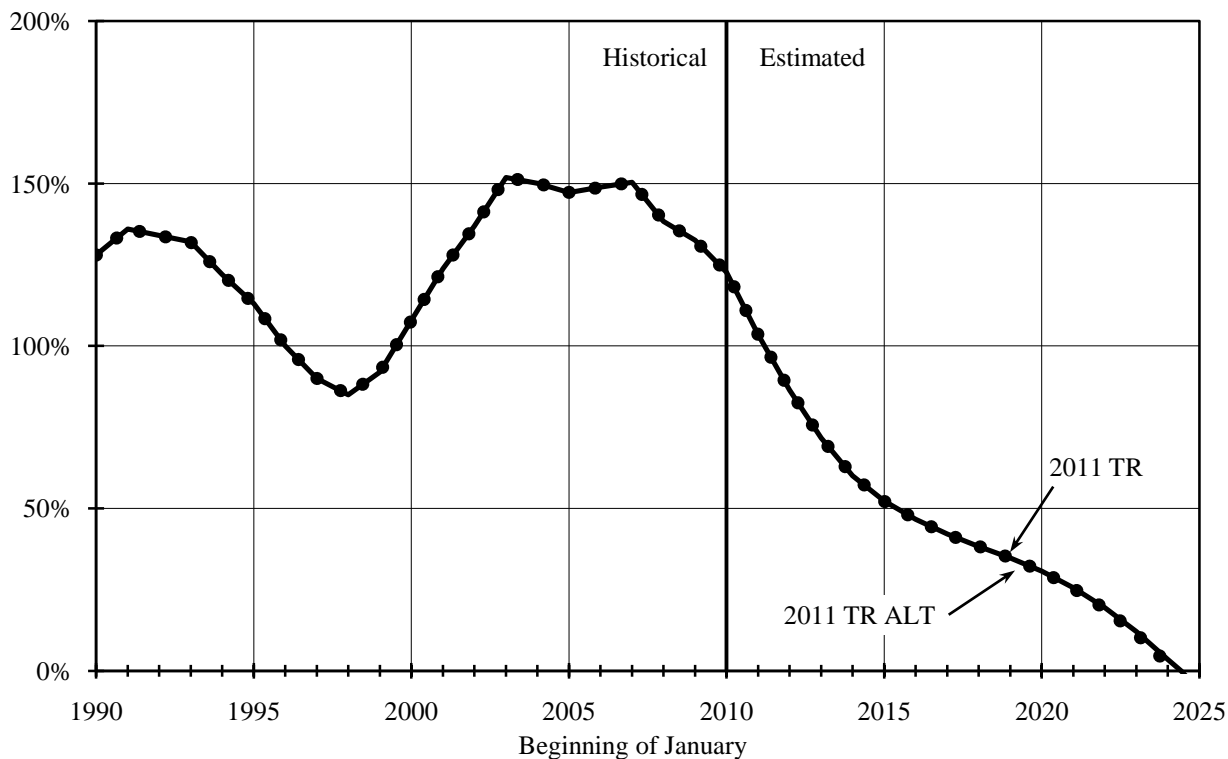


Figure 4 shows the projected HI income and cost rates for the illustrative alternative scenario compared to the results shown in the 2011 Trustees Report under current law. Since the alternative projections are only varying the payment rates to providers, the income rate is the same as current law.

HI expenditures are projected under current law to rise from about 3.7 percent of taxable payroll currently to 5 percent in 2040 and to remain at about that level thereafter. Under the illustrative alternative scenario, costs would continue increasing as a percentage of taxable payroll throughout the projection period, reaching 9.4 percent in 2085—or more than twice the level projected 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 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 Scenario compared to the 2011 Trustees Reports

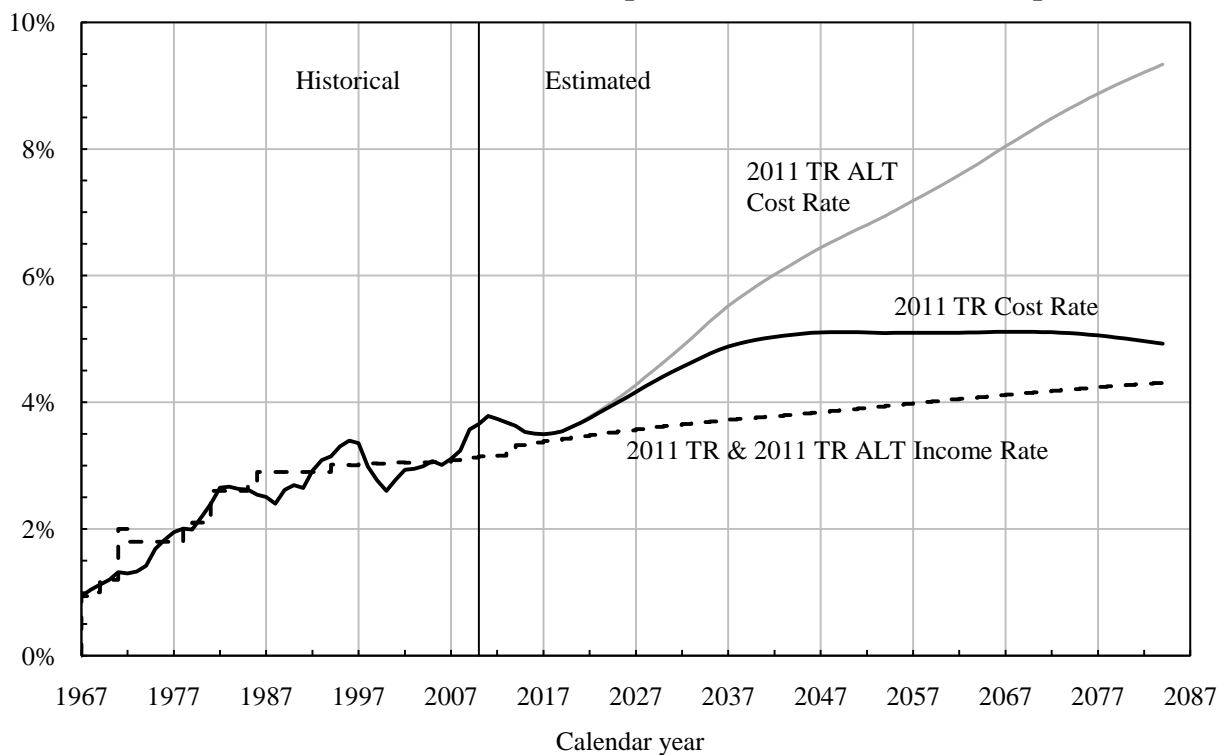


Table 1 shows the HI actuarial balance, for the next 25, 50, and 75 years, from the 2011 Trustees Report under current law and the illustrative alternative scenario. For the 75-year projection period, the HI actuarial deficit is projected to be 0.79 percent of taxable payroll in this year’s report. If the productivity adjustments were gradually phased out after the first 10 years, the long-range HI deficit would be 2.15 percent of taxable payroll, as indicated by the alternative projection.

Table 1. HI Actuarial Balances under the Illustrative Alternative Scenario compared to the 2011 Trustees Report

	2011 Report (current law)	Alternative Projection
Valuation periods: ¹		
25 years, 2010-2034:		
Summarized income rate	3.64%	3.64%
Summarized cost rate	4.14	4.26
Actuarial balance	-0.50	-0.62
50 years, 2010-2059:		
Summarized income rate	3.74	3.74
Summarized cost rate	4.51	5.21
Actuarial balance	-0.78	-1.47
75 years, 2010-2084:		
Summarized income rate	3.84	3.84
Summarized cost rate	4.63	5.99
Actuarial balance	-0.79	-2.15

¹Income 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 2011 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 2.16 percent of GDP in 2080, or roughly one-fourth greater than their current level. Under the alternative scenario, costs would be 3.92 percent of GDP in 2080, or nearly twice the level in 2010.

Table 2. Projected HI expenditures as a percentage of Gross Domestic Product (GDP) under the Illustrative Alternative Scenario compared to the 2011 Trustees Report, selected calendar years 2009-2080

Calendar year	HI expenditures as a percentage of GDP	
	Current Law	Alternative Projection
2009	1.67%	1.67%
2010	1.69	1.69
2020	1.70	1.70
2030	2.03	2.14
2040	2.27	2.66
2050	2.30	3.00
2060	2.26	3.29
2070	2.24	3.63
2080	2.16	3.92

The 2011 Trustees Report notes that 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, if the annual productivity adjustments become unworkable over time and are 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.²⁶ This illustration 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 12.6 percent higher than under current law in 2012. The difference would grow to be 19.3 percent higher by 2019. The projected average annual expenditure growth rate over the 8 years is 5.4 percent under current law versus 7.8 percent for the MEI scenario. These differences reflect only the MEI payment updates for physicians; the productivity adjustments for affected 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	\$205.8	12.0%	\$205.8	12.0%	100.0%
2010	214.2	4.1	214.2	4.1	100.0
2011	228.7	6.8	228.7	6.8	100.0
2012	220.3	-3.7	248.2	8.5	112.6
2013	235.3	6.8	266.3	7.3	113.2
2014	253.8	7.9	287.8	8.1	113.4
2015	269.5	6.2	307.3	6.8	114.0
2016	285.9	6.1	328.7	7.0	115.0
2017	305.0	6.7	354.5	7.8	116.2
2018	326.0	6.9	383.7	8.2	117.7
2019	349.1	7.1	416.5	8.6	119.3

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 2011 Trustees Report are essentially the same amounts as determined under the alternative scenario.

Table 4 shows the long-range Part B expenditure projections from 2011 Trustees Report under current law, and the illustrative alternative scenario. It is customary to express long-range Part B costs as a percentage of the GDP to facilitate interpretation and comparison of costs over such

²⁶ 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.

distant periods. As shown in Table 4, under current law Part B spending is projected to increase from 1.46 percent of GDP in 2010 to 1.63 percent by 2020, and to 2.43 percent of GDP by 2080. For the alternative scenario, Part B is expected to increase more rapidly—reaching, by 2020, 1.95 percent of GDP, and 4.78 percent of GDP by 2080. The Part B cost in 2080 would be more than three times its current level under the illustrative alternative scenario, reflecting both the full payment rate updates for all providers and the absence of the 29-percent reduction in physician payment rates under the current-law SGR formula.

Table 4. Projected Part B expenditures as a percentage of Gross Domestic Product (GDP) under the Illustrative Alternative Scenario compared to the 2011 Trustees Report, selected years 2009-2080

Calendar year	Part B expenditures as a percentage of GDP	
	Current Law	Alternative Projection
2009	1.46%	1.46%
2010	1.46	1.46
2020	1.63	1.95
2030	2.15	2.77
2040	2.34	3.33
2050	2.36	3.68
2060	2.40	4.08
2070	2.44	4.47
2080	2.43	4.78

(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 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 are therefore equal to the current-law projections in the 2011 Medicare Trustees Report.

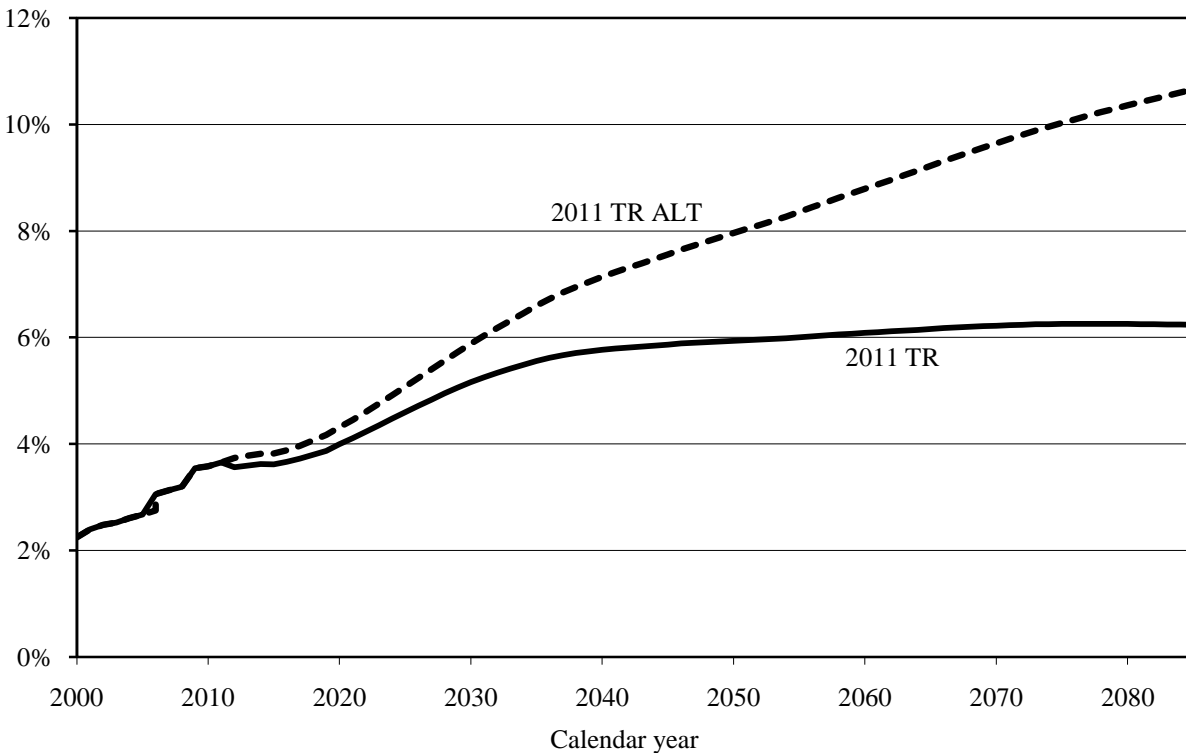
Table 5 indicates the magnitude of the difference relative to the current-law projections by examining total Medicare expenditures as a percent of GDP. Under the alternative scenario, Medicare spending is projected to be 4.31 percent of GDP in 2020 and to grow to 10.36 percent by 2080. These results compare to 3.99 percent of GDP in 2020 under current law, growing to only 6.25 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 2011 Trustees Report, selected years 2009-2080

Calendar year	Total Medicare expenditures as a percentage of GDP	
	Current Law	Alternative Projection
2009	3.54%	3.54%
2010	3.58	3.58
2020	3.99	4.31
2030	5.16	5.88
2040	5.77	7.14
2050	5.94	7.96
2060	6.09	8.79
2070	6.22	9.65
2080	6.25	10.36

Figure 5 indicates 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. The comparison of the current-law and illustrative alternative projections reflects this substantial difference in Medicare provider prices. It is also 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.

Figure 5. Medicare expenditures as a percent of GDP under the Alternative Scenario compared to the 2011 Trustees Report



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, the projections shown in the 2011 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 shown here help to quantify and underscore the likely understatement of the current-law projections shown in the 2011 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 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.

John D. Shatto, FSA
Director, Medicare and
Medicaid Cost Estimates Group

M. Kent Clemens, FSA
Actuary