ABSTRACT: When the Congressional Budget Office (CBO) “scores” legislation, or assesses the likely cost impact, it requires substantial evidence that a cost-saving initiative has historically achieved savings. The agency has difficulty addressing the impact of multiple changes made simultaneously without historical precedent where there is an interaction effect among proposed changes. This study examines CBO scoring of major reform legislation enacted during each of the past three decades, including the prospective payment system for hospitals in the 1980s, the Balanced Budget Act of the 1990s, and the Medicare Modernization Act of 2003. In contrasting actual spending with predicted spending, CBO, in all three cases, substantially underestimated savings from these reform measures.

Overview
In the first term of his administration, President Obama seeks to achieve universal health insurance coverage, a goal that eluded Presidents Truman, Nixon, Carter, and Clinton. With limited resources to finance expanded coverage, it is imperative that the health care sector achieve savings through the reorganization of the delivery and financing of care. The responsibility for “scoring” the cost of the legislation, including likely savings from programs aimed at improving the efficiency of the health care sector, rests with the highly respected, nonpartisan Congressional Budget Office (CBO). CBO scoring may ultimately determine the shape of specific reforms included in the law as modified, and whether the bill passes.

CBO rules require substantial evidence that a cost-saving initiative has historically achieved savings. Hence, when few historical antecedents exist—be they demonstrations or natural experiments—CBO is likely to score an initiative as yielding no savings. In other words, “don’t know” becomes “zero.” CBO has particular difficulty addressing the impact of multiple, simultaneous changes that produce a synergistic effect. In testimony before Congress in March 2009, CBO
director Douglas Elmendorf outlined the limitations of CBO’s methodology:

In some cases, estimating the budgetary effects of a proposal is hampered by limited evidence. Studies generally examine the effects of discrete policy changes but typically do not address what would happen if several changes were made at the same time. Those interactions could mean that the savings from combining two or more initiatives will be greater than or less than the sum of their individual effects.\(^1\)

This study examines three major changes that have been made to health care financing in recent decades to see how CBO scored the expected changes in spending and what the actual outcomes of the policy changes were. The three changes represent the major legislation passed in health care financing in the 1980s, 1990s, and 2000s, during the presidencies of Ronald Reagan, Bill Clinton, and George W. Bush. Each of the initiatives required CBO to estimate how health care providers and consumers would respond to altered financial incentives. The three major legislative initiatives were:

1. The change made in 1983 to the way Medicare pays hospitals under the prospective payment system and diagnosis-related groups.


3. The Medicare Modernization Act of 2003, which, among other things, made prescription drug coverage available to Medicare beneficiaries.

The intent of the review is not to evaluate whether these initiatives were in the public interest. Rather, it is to determine: 1) what outcomes CBO predicted and how it arrived at its predictions; 2) what actually occurred as a result of the legislation; and 3) what led CBO to underestimate cost savings.

### Exhibit 1. Congressional Budget Office Estimates of Major Health Legislation Compared with Actual Impact on Federal Outlays

<table>
<thead>
<tr>
<th>Health Provision</th>
<th>CBO Projection</th>
<th>Actual Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced Budget Act of 1997: skilled nursing facilities; home health; and fraud, waste, and abuse reduction</td>
<td>$112 billion savings total, 1998–2002</td>
<td>Actual savings 50% greater in 1998 and 113% greater in 1999 than CBO projections</td>
</tr>
<tr>
<td>Medicare Modernization Act of 2003: Medicare Part D</td>
<td>$206 billion additional spending</td>
<td>Actual spending 40% lower than CBO projection</td>
</tr>
</tbody>
</table>

HOW THE STUDY WAS CONDUCTED

A review was undertaken of all documents available on the CBO Web site that pertain to the prospective payment system for hospitals, the Balanced Budget Act, and the Medicare Modernization Act. These documents include studies and reports, letters, briefs, testimony, presentations, interviews, and working and technical papers.

To evaluate the impact of the three pieces of legislation, selected documents from the Government Accountability Office, the Centers for Medicare and Medicaid Services (CMS), and other federal Web sites also were reviewed. In addition, the author researched the peer-reviewed literature for studies of the impact of the legislation, including articles in the following journals: Health Affairs, Health Care Financing Review, Health Services Research, Inquiry, Journal of the American Medical Association, Medical Care, Medical Care Research and Review, Milbank Memorial Fund Quarterly, and New England Journal of Medicine.

FINDINGS

Prospective Payment of Hospitals

From 1975 to 1982, Medicare spending for Part A (which covers hospitalizations and brief stays at skilled nursing facilities) increased at an annual rate of 18 percent a year, 8 percent more than overall inflation. With the Congressional Budget Office projecting growth in spending of 13.2 percent a year and the impending insolvency of the Hospital Insurance Trust Fund in 1987, Congress passed the Tax Equity and Fiscal Responsibility Act (TEFRA) in 1982, which ended Medicare’s cost reimbursement for hospitals.

In the TEFRA legislation, Congress directed the U.S. Department of Health and Human Services to prepare a “budget-neutral” plan for the prospective payment of hospitals for inpatient services. When it was implemented in October 1983, the prospective payment system (PPS) was described as “the most sweeping change in payment for hospital services”—a system of per-case payment for each admission to the hospital, to be determined by a patient’s classification into one of 468 diagnosis-related groups (DRGs). By severing the link between provision and payment for services, PPS reversed the set of incentives hospitals face. Per-case payment encouraged shorter lengths of stay, fewer diagnostic services, the adoption of cost-reducing technology, and reductions in administrative and delivery costs.

CBO had projected that TEFRA/PPS would reduce Medicare Part A spending by $10 billion from 1983 to 1986, with savings of $2 billion in 1984, $3.9 billion in 1985, and $3.1 billion in 1986. CBO projected spending of $60 billion in 1986, a savings of 8 percent. Actual spending in 1986, however, was $49 billion: the savings achieved in 1986 alone exceeded the three-year projected savings.

By 1986, more than 380 studies were under way or completed analyzing the consequences of PPS. The studies demonstrate the rapid and substantial response of the health care sector, particularly hospitals, to the system—a response underestimated by CBO and others. A major forecasting error was the projection that PPS would increase hospital admissions. Conventional wisdom held that hospitals’ profit-maximizing strategy was to admit less severely ill patients and discharge these patients quickly. Admissions, which had increased every year since the inception of Medicare, (and risen 4.4 percent per year from 1979 to 1983) declined 3.5 percent per enrollee in the first year of PPS, and 15.9 percent per enrollee by the third year. Length of stay, which had declined by 1 percent to 2 percent annually for Medicare patients, decreased 9 percent in the first year and 17 percent in the first three years. During the first year of PPS, hospitals, which had weathered every postwar recession without reducing employment, cut their workforces by 2.3 percent. Those hospitals placed under the greatest financial pressure by PPS changed the way they delivered care more than hospitals under less pressure did; they did so by reducing admissions, length of stay, and hospital expenses.

Why did admissions decline, contrary to expectations? The most apparent explanation is that the Health Care Financing Administration, or HCFA (as CMS was then known) launched a new peer-review program for reviewing admissions. HCFA warned
hospitals that if Medicare admissions increased, declining payments were a real possibility. At the same time, hospitals and physicians were subject to financial scrutiny by per-admission payment of PPS, which may have changed the way providers practiced. It is also possible that under cost-based reimbursement, all admissions were profitable, whereas under the DRG system, some admissions were now money-losers.

Prospective payment not only reduced Medicare spending, it also led to a growth in hospital profitability. TEFRA payment rates were based initially on unaudited cost reports, which stated costs above their actual level. Together with reductions in hospital expenses, hospitals enjoyed average margins on Medicare business of 14 percent to 16 percent during the first year of PPS. Hospitals’ healthier financial status enabled further reduction in the updates for Medicare payment rates in 1986 and 1987. Savings from PPS, along with stronger economic growth, changed the projection of financial insolvency for the Hospital Insurance Trust Fund from five years in 1982 to 17 years by 1988.

The Balanced Budget Act of 1997
Testifying for CBO before the Senate Finance Committee’s Subcommittee on Health Care in February 1997, Joseph Antos projected continued annual growth of Medicare outlays of 8.4 percent per year, increasing the cost of the program from $212 billion in fiscal year 1997 to $317 billion in 2002 and $469 billion in 2007. CBO forecast that the Hospital Insurance Trust Fund would be depleted in 2001 and that the fund would have a negative balance by 2007 of $450 billion.

In August 1997, President Clinton signed into law the Balanced Budget Act of 1997 (BBA), a compromise between a Republican-controlled Congress and a Democratic administration that was designed to reduce spending for the Medicare program by $112 billion over the five-year period 1998–2002, a 9.1 percent reduction in total program spending. The law aimed to limit annual growth of Medicare spending from 8.8 percent to 5.6 percent per year. Unlike its assessment of PPS, CBO saw BBA savings resulting from multiple types of services provided to beneficiaries: inpatient hospital services, home health care, skilled nursing facilities, Medicare+Choice managed care plans (a precursor to Medicare Advantage), and payment for physician services. Hospital inpatient services accounted for nearly $31 billion in spending reductions, largely through reduction in annual payment updates for hospitals. Skilled nursing facilities were to move to prospective payment, a change that was to save $9 billion. CBO estimated reductions in payments to Medicare+Choice would save nearly $22 billion by reducing updates in payment rates. About $34 billion in savings were to be realized by limiting increases in Part B payments (which cover physician and other outpatient medical services) to the percentage increase in gross domestic product. Most importantly, CBO forecast about $27 billion in savings for home health care services, as the Medicare program changed its payment method from a cost-based one to prospective payment. Increased oversight to counter fraud and abuse, meanwhile, was to save just $100 million.

Testifying for the CBO before the Senate Finance Committee in June 1999, Paul Van de Water began noting, “After many years of rapid increases, the growth of Medicare spending has slowed sharply in the past two years.” He attributed the increase in outlays of 1.5 percent for fiscal year 1998 and an expected decline in 1999 spending to three factors: 1) the effectiveness of increased fraud and abuse activities; 2) the unanticipated response of home health care agencies; and 3) a slowing of payment of claims because of preparations for “Y2K.” With total outlays increasing from 1997 to 2000 by 1.2 percent per year, CBO in September 1999 recalculated total savings from BBA to be 50 percent greater in 1998 and 113 percent greater in 1999 than originally forecast.

For which components of Medicare did CBO seriously underestimate BBA savings? Hospital inpatient spending fell by an estimated 2.5 percent in the first year after the BBA, and 1.5 percent in the second year. This fall was attributable not only to reductions in
the payment update for inpatient care, but more importantly, to a decline in utilization associated with fraud and abuse as a result of increased oversight activities. CBO estimated that less-aggressive billing by hospitals alone reduced overall spending by Medicare by 1 percent. CBO had projected that the BBA would save about $1.4 billion in the first two years, as skilled nursing facilities were paid prospectively rather than retrospectively. Skilled nursing facilities spending, which had increased annually by an average of 38 percent from 1988 to 1997, did not increase in the first two years of the program. However, the most significant change in the trajectory of spending was for home health care services.

From 1988 to 1997, under a cost-reimbursement system, spending for home health care services increased an average of 25 percent per year. The BBA required Medicare to pay for home health services prospectively by 2001. CMS instituted an interim payment system in 1998 that limited home health agencies to an aggregate payment per beneficiary. Agencies could receive payment for individual patients who exceeded the aggregate figure. At the same time, CMS increased its fraud and abuse investigations of home health care agencies. In the first two years of BBA, overall spending for home health care services fell 52 percent. The number of users of these services declined 21 percent, the number of visits per user declined 41 percent, and payments per user declined 37 percent. The response of for-profit agencies was much more pronounced than that for nonprofit hospital–sponsored agencies, as many of the former exited the market place. Areas of the country with the highest historical use of services also experienced a sharper decline.

The BBA cut Medicare spending so dramatically that Congress increased payment levels to hospitals and other providers and health plans in 1999 and 2000. In 2001, the trustees of Medicare’s Part A fund saw revenues exceeding expenses until 2016, a far cry from the insolvency predicted in 1997 in four years.

The Medicare Modernization Act of 2003

The Medicare Modernization Act of 2003 (MMA) made a number of changes to the Medicare program, but it is best remembered for adding a prescription drug benefit to Medicare coverage—commonly referred to as the Part D benefit. Congress had debated adding a drug benefit to the Medicare program for some time.

CBO published two relevant reports on how it planned to, and did, estimate the costs of the new Medicare drug benefit. The first report was released in October 2002, more than a year prior to passage of the MMA. CBO argued that Medicare beneficiaries’ participation rate in a voluntary program would depend directly on the portion of the total premium paid for by the federal government. Further, CBO assumed that prices would increase as more patients demanded drugs and that such increases would depend on the fraction of drug spending covered by the benefit. Finally, CBO discounted the drug prices by what it calls a cost-management factor, which incorporates the savings produced by “price discounts and rebates, utilization controls, and other tools that a pharmacy benefit manager (PBM) might use to hold down spending.” The size of the discount factor, in turn, depends somewhat on the intensity of the competition for enrollees and the amount of insurance risk assumed by drug plans, as opposed to the government.

The second CBO report was released following enactment of the MMA in July 2004. Using methodology consistent with that employed for the 2002 study, CBO provided an in-depth review of the estimates it used for the MMA. Many of the estimates’ crucial variables were related to altered financial incentives for beneficiaries, insurers, and drug manufacturers. In the first three fiscal years of the program, CBO estimated spending for drug benefits at $206 billion, with “income offsets,” such as beneficiary premiums. (Income offsets pertain to the increased revenue from nondirect sources.) Over 10 years, CBO estimated the cost to the federal budget at $395 billion. Because in subsequent CBO budget documents it is difficult
to track budget offsets, we focus instead on actual spending for prescription drug benefits under Part D.

Actual spending for drug benefits was 40 percent less than CBO projected. Why did the CBO overestimate the cost of the program by so much? Seniors proved much more willing to buy lower-cost generic drugs than projected, as evidenced by the 20-percentage-point-increase in such purchases, to about 70 percent by year 3 of Part D. Participation in the program, meanwhile, was lower than projected, and the benefits of competition reduced premiums more than expected. CBO had projected double-digit annual increases in spending, but actual spending declined from fiscal year 2007 to 2008. Lastly, few new blockbuster drugs came on the market, so prescription drug prices and spending moderated.

**DISCUSSION**

Faced with the challenge of estimating cost savings for three major pieces of health care financing legislation, the Congressional Budget Office has substantially underestimated savings and thereby overestimated the cost of Medicare to the federal budget. The three reforms reviewed here represent the major legislative changes to Medicare in the past three decades. These were not Democratic programs; MMA, for one, was clearly a Republican initiative. Therefore, it is not ideology but rather the shortcomings of CBO’s conservative scoring that lead to serious underestimation of savings.

CBO relies on analysis of historical precedent. When proposed legislative changes are substantial—such as those involving a dramatic change in financial incentives for providers of care—the agency has little basis for estimating savings. Too often, a lack of information is taken to mean zero savings, but zero is not a logical estimate.

CBO is particularly ill-equipped to estimate savings when multiple changes in financing occur simultaneously. Here again, there may be no historical antecedent. As illustrated by the experience of home health care post-BBA, major savings may be achieved not just from the independent effect of changing from cost reimbursement to a per capita–based payment, or the independent effect of increased efforts to combat fraud and abuse. Major savings may be the result of the interaction of the two.

If doctors, hospitals and home health care agencies were insensitive to financial incentives, there would have been no major reductions in length of stay after the prospective payment system was established, and no reversal in cost trends following the BBA for home health agencies. But, clearly, providers are acutely sensitized to such incentives. The services patients receive are not just a function of their need for care, but they also reflect the financial incentives hospitals and doctors face. Moreover, despite the sharp reduction in use of services resulting from PPS and BBA, the consensus was that neither had a negative effect on the quality of care.

Current health care reform proposals offer potentially major changes to health care delivery and financing. These include:

- changing the way Medicare pays providers of care;
- use of comparative effectiveness studies;
- changes in the tax status of the employer’s contribution for health insurance;
- use of information technology; and
- use of health insurance exchanges.

Increased fraud and abuse oversight should combine with payment reforms to further control spending. If history is our guide, the combined effects of these shifts will be far greater than the sum of the independent effect of each change. With PPS and BBA as our references, providers will change practice patterns more substantially than analysts have projected. The MMA experience indicates patients will change their patterns of health care purchasing more than analysts have predicted, and competition will reduce premiums more than expected.

CBO’s cautious methods yield unintended consequences. The cost of health care reform is likely
greatly overestimated. Because the CBO does not give due credit to unpopular changes in financing that affect providers or households, Congress underinvests in cost-saving initiatives and turns to taxes, making it politically more difficult to pass legislation. Without major changes to the incentives facing providers and households, it will be more difficult to “bend the cost curve” and more difficult to sustain universal health insurance coverage over time.

The problem lies not with the competence or integrity of CBO, but with its cautious methods. Few organizations in Washington command more widespread respect for the integrity and quality of its professionals. But when an organization significantly overestimates the cost of reform three times out of three, it is time to change methods.

NOTES


Ibid.


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