



# Congressional Budget Office

## Testimony

**Statement of  
Douglas W. Elmendorf  
Director**

### **Options for Controlling the Cost and Increasing the Efficiency of Health Care**

**before the  
Subcommittee on Health  
Committee on Energy and Commerce  
U.S. House of Representatives**

**March 10, 2009**

*This document is embargoed until it is delivered at 10:00 a.m. (EDT) on Tuesday, March 10, 2009. The contents may not be published, transmitted, or otherwise communicated by any print, broadcast, or electronic media before that time.*



Chairman Pallone, Ranking Member Deal, and Members of the Subcommittee, thank you for inviting me to testify this morning about the opportunities and challenges that the Congress faces in trying to make the health care system more efficient—so that it can continue to improve Americans’ health but at a lower cost. Policymakers could seek to improve efficiency by changing the ways that public programs pay for health care services or by encouraging such changes in private health plans; in both sectors, those changes could in turn exert a strong influence on the delivery of care.

In designing proposals to control costs and improve the efficiency of health care, policymakers must take into account a number of important factors:

- Spending on health care has generally grown much faster than the economy as a whole, and that trend has continued for decades. Studies attribute the bulk of that cost growth to the development and diffusion of new treatments and other forms of medical technology. That expansion in the capabilities of medical care has conferred tremendous benefits by extending and improving lives, but it has also absorbed a rising share of the nation’s resources.
- The cost of health care is imposing an increasing burden on the federal government, as well as on state governments and the private sector. According to the Congressional Budget Office’s (CBO’s) projections, under current policies federal spending on Medicare and Medicaid will increase from about 5 percent of gross domestic product (GDP) in 2009 to more than 6 percent in 2019 and about 12 percent by 2050. Most of that increase will result from growth in per capita costs rather than from the aging of the population. In the private sector, the escalation of health care costs has contributed to slow growth in wages because workers must give up other forms of compensation to offset the rising costs of employment-based insurance.
- Rapidly rising costs for health care have generated rapid increases in the price of health insurance—an important factor behind the ongoing increase in the number of uninsured people. As health insurance premiums rise faster than workers’ productivity and total compensation, people need to give up more of other goods and services to obtain insurance, and the rates at which people obtain insurance fall.
- The available evidence suggests that a substantial share of spending on health care contributes little if anything to the overall health of the nation, but finding ways to reduce such spending without also affecting services that improve health will be difficult. In many cases, the current system does not create incentives for doctors, hospitals, and other providers of health care—or their patients—to control costs. Significantly reducing the level or slowing the growth of health care spending below current projections will require substantial changes in those incentives.

- Given the central role of medical technology in the growth of health care spending, reducing or slowing that spending over the long term will probably require decreasing the pace of adopting new treatments and procedures or limiting the breadth of their application. Such changes need not involve explicit rationing but could occur as a result of market mechanisms or policy changes that affect the incentives to develop and adopt more costly treatments.

Controlling costs and improving efficiency present many challenges, but there are a number of approaches about which many analysts would probably concur:

- Many analysts would agree that payment systems should move away from a fee-for-service design—which tends to encourage the delivery of more services—and should instead provide stronger incentives to control costs, reward value, or both. A number of alternative approaches could be considered—including fixed payments per patient, bonuses based on performance, or penalties for substandard care—but their precise effects on spending and health are uncertain. Policymakers may thus want to test various options (for example, using demonstration programs in Medicare) to see whether they work as intended or to determine which design features work best. Almost inevitably, though, reducing the amount that is spent on health care will involve some cutbacks or constraints on the number and types of services provided relative to the currently projected levels.
- Many analysts would agree that the current tax exclusion for employment-based health insurance—which exempts most payments for such insurance from both income and payroll taxes—dampens incentives for cost control because it is open-ended. Those incentives could be changed by replacing the tax exclusion or restructuring it to encourage workers to join health plans with lower premiums (reflecting some combination of higher cost-sharing requirements and tighter management of benefits).
- Many analysts would agree that more information is needed about which treatments work best for which patients and about what quality of care different doctors, hospitals, and other providers deliver. The broad benefits that such information provides suggest a role for the government in funding research on the comparative effectiveness of treatments, in generating measures of quality, and in disseminating the results to doctors and patients. Wider adoption of health information technology (IT) would facilitate all of those efforts. But absent stronger incentives to control costs and improve efficiency, the effect of information alone on spending will generally be limited.
- Many analysts would agree that controlling federal costs over the long term will be very difficult without addressing the underlying forces that are also causing private costs for health care to rise. Private insurers generally have more flexibility than Medicare’s administrators to adapt to changing circumstances, but changes made in the Medicare program can also stimulate broader improvements in the health sector.

Many of the steps that analysts would recommend might not yield substantial budgetary savings or reductions in national spending on health care within a 10-year window—and others might increase federal costs or total spending—for several reasons:

- In some cases, savings may materialize slowly because an initiative is phased in. For example, Medicare could save money by reducing payments to hospitals that have a high rate of avoidable readmissions (for complications following a discharge) but would have to gather information about readmission rates and notify hospitals before such reductions could be implemented. More generally, the process of converting innovative ideas into successful programmatic changes could take several years. Of course, for proposals that would increase the budget deficit, phasing them in would reduce the amount of the increase that is within a 10-year budget window.
- Even if they generate some offsetting savings, initiatives are not costless to implement. For example, expanding the use of disease management services can improve health and may well be cost-effective—that is, the value of the benefits could exceed the costs. But those efforts may still fail to generate net reductions in spending on health care because the number of people receiving the services is generally much larger than the number who would avoid expensive treatments as a result. In other cases, most of the initial costs would be incurred in the first 10 years, but little of the savings would accrue in that period.
- Moreover, the effect on the federal budget of a policy proposal to encourage certain activities often differs from the impact of those activities on total spending for health care. For example, a preventive service could be cost-reducing overall, but if the government began providing that service for free, federal costs would probably increase—largely because many of the payments would cover costs for care that would have been received anyway.
- In some cases, additional steps beyond a proposal are needed for the federal government to capture savings generated by an initiative. For example, getting hospitals to adopt electronic health records would lower their costs for treating Medicare patients, but the program's payment rates would have to be reduced in order for much of those savings to accrue to the federal government.
- Savings from some initiatives may not materialize because incentives to reduce costs are lacking. For example, proposals to establish a “medical home” might have little impact on spending if the primary care physicians who would coordinate care were not given financial incentives to economize on their patients' use of services. Those proposals could increase costs if they simply raised payments to those primary care physicians.

- 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.

On a broad level, many analysts agree about the direction in which policies would have to go in order to make the health care system more cost-effective: Patients and providers both need stronger incentives to control costs as well as more information about the quality and value of the care that is provided. But much less of a consensus exists about crucial details regarding how those changes are made (and similar disagreements arise about how to expand insurance coverage). In part, those disagreements reflect different values or different assessments of the existing evidence, but often they reflect a lack of evidence about the likely impact of making significant changes to the complex system of health insurance and health care.

Those difficulties notwithstanding, CBO recently analyzed the budgetary and other effects of numerous proposals designed to increase the efficiency of public health insurance programs or of the health sector more broadly—and identified a number of options that would probably reduce federal spending and would seem likely to enhance the quality of care. To provide a context for those options, my testimony first discusses some evidence about the inefficiency of the current health care system and then briefly reviews the incentives created by different payment methods and their implications for health care delivery and costs. Finally, I consider in more detail two commonly cited approaches for improving the system’s performance: expanding the use of health IT and investing in research that compares the effectiveness of medical treatments. Those examples illustrate the important role of incentives in determining the effects of enhanced information on health care spending.

## **Background on Health Care Spending and Inefficiency**

Spending on health care and related activities will account for nearly 18 percent of GDP in 2009—an expected total of \$2.5 trillion—and under current policies, that share is projected to exceed 20 percent in 2018.<sup>1</sup> Annual health expenditures per capita are projected to rise from about \$8,000 to about \$13,000 over that period. Federal spending accounts for roughly one-third of those totals, and federal outlays for the Medicare and Medicaid programs are projected to grow from about \$720 billion in 2009 to about \$1.4 trillion in 2019. Over the longer term, rising costs for health care represent the single greatest challenge to balancing the federal budget.<sup>2</sup>

- 
1. See Andrea Sisko and others, “Health Spending Projections Through 2018: Recession Effects Add Uncertainty to the Outlook,” *Health Affairs*, Web Exclusive (February 24, 2009), pp. w346–w357. Spending on related activities includes the administrative costs of public and private insurance plans, funding for medical research, and the costs of constructing medical facilities.
  2. For additional discussion, see Congressional Budget Office, *The Long-Term Outlook for Health Care Spending* (November 2007).

Concerns about the level and growth of health care spending in this country might be less prominent if it was clear that the spending was producing commensurately good and improving health, but substantial evidence suggests that more spending does not always mean better care. Although many treatments undoubtedly save lives and improve patients' health, much spending is not cost-effective and in many cases does not even improve health. Indeed, despite spending more per capita than other nations, the United States lags behind lower-spending nations on several metrics, including life expectancy and infant mortality.<sup>3</sup> Statistics on health can be affected by a number of factors outside the scope of the health care system, but one recent study found that, compared with other industrialized countries, the United States also had higher mortality rates for conditions that are considered amenable to medical care.<sup>4</sup>

Recent studies have highlighted three types of shortcomings in the quality of care that people receive, each of which may constitute a form of inefficiency:

- **Overuse.** Overuse occurs when a service is provided even though its risk of harm exceeds its likely benefit—that is, when it is not warranted on medical grounds. A more expansive definition would include cases in which the added costs of a more expensive service did not exceed the added benefits it was expected to provide. A number of studies have found, on the basis of after-the-fact reviews by independent panels of doctors, that a sizable share of certain surgeries were performed despite their being clinically inappropriate or of equivocal value; those findings held true under various types of insurance plans.<sup>5</sup>
  
- **Underuse.** At the same time that some services are overused, others do not get provided even though they would have been medically beneficial. One recent study found that Medicare enrollees frequently did not receive care that was recommended or deemed appropriate; another study, which examined a broader population, found that patients typically received about half of recommended services, whether for preventive care, treatment of acute conditions, or treatment of chronic conditions.<sup>6</sup>

---

3. See, for example, Gerard F. Anderson and Bianca K. Frogner, "Health Spending in OECD Countries: Obtaining Value per Dollar," *Health Affairs*, vol. 27, no. 6 (November/December 2008), pp. 1718–1727.

4. Cathy Schoen and others, "U.S. Health System Performance: A National Scorecard," *Health Affairs*, Web Exclusive (September 20, 2006), pp. w457–w475.

5. See Elizabeth A. McGlynn, "Assessing the Appropriateness of Care: How Much Is Too Much?" RAND Research Brief (Santa Monica, Calif.: RAND, 1998).

6. See Stephen F. Jencks, Edwin D. Huff, and Timothy Cuerdon, "Change in the Quality of Care Delivered to Medicare Beneficiaries, 1998–1999 to 2000–2001," *Journal of the American Medical Association*, vol. 289, no. 3 (January 15, 2003), pp. 305–312; and Elizabeth A. McGlynn and others, "The Quality of Health Care Delivered to Adults in the United States," *New England Journal of Medicine*, vol. 348, no. 26 (June 26, 2003), pp. 2635–2645.

- **Misuse.** That term includes incorrect diagnoses as well as medical errors and other sources of avoidable complications (such as infections that patients acquire during a hospital stay). Over the past decade, the Institute of Medicine has issued several reports documenting the extent of medical errors and their consequences. Recently, Medicare has stopped paying for what are termed “never events”—mistakes such as operating on the wrong body part. The range of avoidable errors is undoubtedly much larger, but other types may be more difficult for an insurer to identify.

## Geographic Variation in Spending for Health Care

Perhaps the most compelling evidence suggesting inefficiency in the health sector is that per capita health care spending varies widely within the Medicare program, and yet that variation is not correlated with available measures of the quality of care or of health outcomes overall. In 2004, for example, Medicare spending per beneficiary ranged from about \$5,600 in South Dakota to about \$8,700 in Louisiana. Yet a comparison of composite quality scores for medical centers and average Medicare spending per beneficiary shows that facilities in states with high average costs are no more likely to provide recommended care for some common health problems than are facilities in states with lower costs (see Figure 1). For the country generally, health care spending per capita also varies widely, ranging from roughly \$4,000 in Utah to \$6,700 in Massachusetts in 2004, but the connection between that variation and health outcomes has not been examined as closely. In addition, Medicaid spending per enrollee varies considerably among states for many reasons.

The observed variations in Medicare spending per enrollee are even greater when examined using smaller geographic areas that reflect where enrollees get their hospital care—but a link between higher spending and better health is still hard to discern. In 2005, average costs ranged from about \$5,200 in the areas with the lowest spending to nearly \$14,000 in the areas with the highest spending (those averages were adjusted to account for differences in the age, sex, and race of Medicare beneficiaries in the various areas). According to one study, higher-spending regions did not have lower mortality rates than lower-spending regions, even after adjustments were made to control for different rates of illness among patients and in various regions.<sup>7</sup> That study also found that higher spending did not slow the rate at which the elderly developed functional limitations (reflecting their difficulties in taking care of themselves).

Other studies of spending variation reach somewhat different conclusions, but they also suggest opportunities to improve the efficiency of the health sector. For example, some research suggests that health overall might not suffer in the process of changing medical practice to match that of lower-cost regions but that patients who would benefit most from more expensive treatments might be made worse off as a result, while

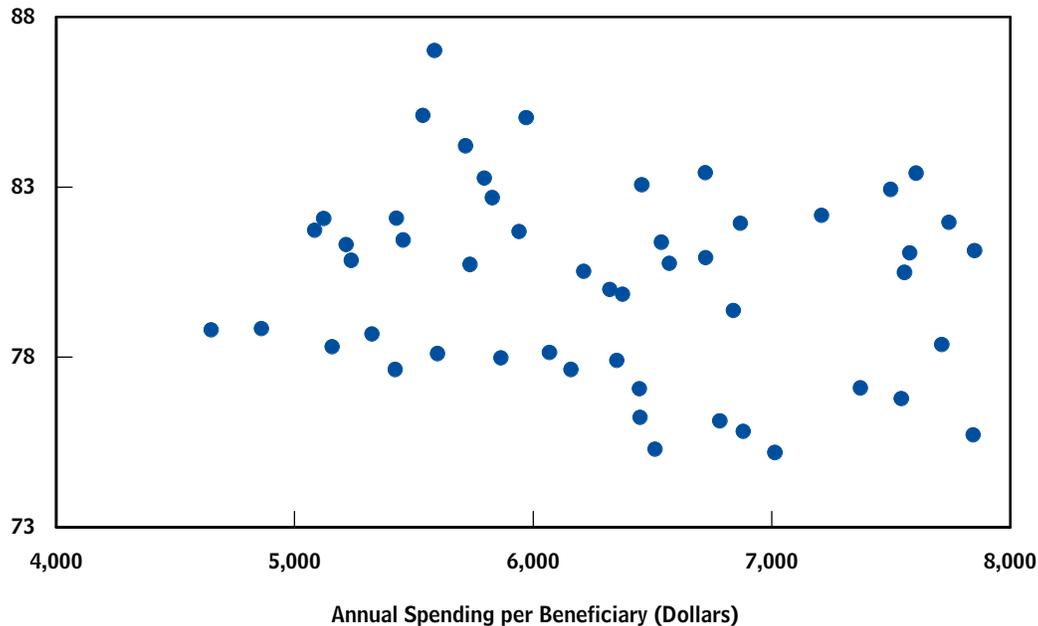
---

7. Elliott S. Fisher and others, “The Implications of Regional Variations in Medicare Spending, Part 2: Health Outcomes and Satisfaction with Care,” *Annals of Internal Medicine*, vol. 138, no. 4 (February 18, 2003), pp. 288–298. The study divided the country into about 300 “hospital referral regions” by determining where Medicare enrollees were most likely to get their hospital care.

**Figure 1.**

## The Relationship Between Medicare Spending and Quality of Care, by State, 2004

(Composite measure of quality of care)



Source: Congressional Budget Office based on data from Department of Health and Human Services, Agency for Healthcare Research and Quality, *National Healthcare Quality Report, 2005* (December 2005), Data Tables Appendix, available at [www.ahrq.gov/qual/nhqr05/index.html](http://www.ahrq.gov/qual/nhqr05/index.html), and data from the Centers for Medicare and Medicaid Services' Continuous Medicare History Sample.

Notes: The composite measure of the quality of care, based on Medicare beneficiaries in the fee-for-service program who were hospitalized in 2004, conveys the percentage who received recommended care for myocardial infarction, heart failure, or pneumonia.

Spending figures convey average amounts by state.

patients who would do better with less expensive treatments would gain.<sup>8</sup> Other, older, studies of geographic variation indicate that there may be room to reduce spending without harming health in both high-use and low-use areas of the country, because—in both types of regions—a large share of certain surgeries were found to be clinically inappropriate or of equivocal value.

8. See Amitabh Chandra and Douglas Staiger, "Productivity Spillovers in Health Care: Evidence from the Treatment of Heart Attacks," *Journal of Political Economy*, vol. 115, no. 1 (2007), pp. 103–140; and Mary Beth Landrum and others, "Is Spending More Always Wasteful: The Appropriateness of Care and Outcomes Among Colorectal Cancer Patients," *Health Affairs*, vol. 27, no. 1 (January/February 2008), pp. 159–168.

What factors contribute to geographic variation? Some of the differences in spending reflect varying rates of illness as well as differences in the prices that Medicare pays for the same service (which are adjusted on the basis of local costs for labor and equipment in the health sector). But according to researchers at Dartmouth, differences in illness rates account for less than 30 percent of the variation in spending among areas, and differences in prices can explain another 10 percent—indicating that more than 60 percent of the variation is due to other factors.<sup>9</sup> Differences in income or the stated preferences of individuals for specific types of care also appear to explain little of the variation in spending, although unmeasured differences in the demand for care could be important.

Some evidence suggests that the degree of geographic variation in treatment patterns is greater when less of a consensus exists within the medical community about the best treatment to use. For example, patients who have fractured their hip clearly need to be hospitalized, and there is relatively little variation in admission rates for Medicare beneficiaries with that diagnosis. For hip replacements and for knee replacements, however, more discretion is involved, and the surgery rates vary more widely. There appears to be even more variation in the rates of back surgery—a treatment whose benefits have been the subject of substantial questions.<sup>10</sup>

A significant part of the variation in medical practice appears to be attributable to regional differences in the supply of medical resources and the use of those resources. For example, lower-cost areas tend to have a lower ratio of specialists to primary care physicians. Analysis by the Dartmouth researchers that focused on spending in the last 6 months of Medicare patients' lives and on patients with similar medical conditions also found substantial differences between high-cost and low-cost areas in the number of visits to the doctor, the number of tests conducted, and number of days spent in the hospital.<sup>11</sup> Overall, patterns of treatment in high-spending areas tend to be more intensive than those in low-spending areas. That is, in high-spending areas, a broader array of patients will receive costly treatments.<sup>12</sup>

---

9. See John E. Wennberg, Elliott S. Fisher, and Jonathan S. Skinner, "Geography and the Debate Over Medicare Reform," *Health Affairs*, Web Exclusive (February 13, 2002), pp. w96–w97.

10. See Dartmouth Atlas Project, *The Dartmouth Atlas of Health Care*. Determining what share of any geographic variation in the use of specific procedures is attributable to differences in the treatments that doctors recommend and what share is attributable to differences in the prevalence or intensity of the underlying illness is challenging, so the comparison of procedures may be sensitive to the manner in which differences in illness rates are estimated.

11. Elliott S. Fisher and others, "The Implications of Regional Variations in Medicare Spending, Part 1: The Content, Quality, and Accessibility of Care," *Annals of Internal Medicine*, vol. 138, no. 4 (February 18, 2003), pp. 273–287. The study did not find substantial differences among areas in the number of hospital admissions or the types of surgeries performed.

12. For further discussion, see Congressional Budget Office, *Geographic Variation in Health Care Spending* (February 2008).

## Payment Methods and Providers' Incentives

Before turning to specific options for encouraging efficiency, it is useful to consider the broad range of payment methods that are currently in use and the incentives that they create for doctors and hospitals. Most care provided by physicians in the United States is paid for on a fee-for-service basis, meaning that a separate payment is made for each procedure, each office visit, and each ancillary service (such as a laboratory test). Hospitals are often paid a fixed amount per admission (a bundled payment to cover all of the services that the hospital provides during a stay) or an amount per day. Such payments may encourage doctors and hospitals to limit their own costs when delivering a given service or bundle, but they can also create an incentive to provide more services or bundles that are more expensive if the additional payments exceed the added costs.

Other arrangements, such as salaries for doctors or periodic capitation payments (fixed amounts per patient), do not provide financial incentives to deliver additional services. One study randomly assigned enrollees to different health plans and found that those in an integrated plan (which owns the hospitals used by enrollees and pays providers a salary) used 30 percent fewer services than enrollees in a fee-for-service plan, but whether those results could be replicated more broadly is unclear. Moreover, those approaches raise concerns about providers' incentives to stint on care or avoid treating sicker patients. A number of intermediate options exist that would provide fewer incentives to limit services, including episode-based payments (fixed amounts for all services related to treating a given health problem) or partial capitation (a blend of a smaller fixed payment per patient and reduced fees per service).

Proposals could seek to change payment methods either indirectly or directly. They could change the payment methods used by private health plans indirectly by encouraging shifts in enrollment toward plans that have lower-cost payment systems. In particular, modifying the current tax preference for employer-sponsored health care—so that it did not encourage workers to purchase more expensive plans than they would otherwise choose—could make lower-cost, integrated health plans more attractive. For public programs, such as Medicare and Medicaid, policymakers could directly change payment methods. Depending on the extent of the changes that were made, implementing them could prove to be very challenging, both because the government would have to determine the appropriate level and structure of the new payments and because providers might have to alter decades-long practices about how they organize and deliver health care.

The financial incentives created by different payment systems—and the spending amounts they yield—also depend on the level at which payment rates, or prices, are set. Those rates depend partly on the methods that are used to set them. Private-sector payment rates are set by negotiation, reflecting the underlying costs of the services and the relative bargaining power of providers and health plans; in turn, bargaining power depends on factors such as the number of competing providers or provider groups within a local market area. Fee-for-service payment rates in Medicare and Medicaid

are generally set administratively (with any bargaining generally taking place through the legislative process of determining or modifying statutory rate-setting formulas). Administered pricing poses a number of challenges, particularly in deciding how to determine providers' costs for services that require substantial training or that become cheaper to provide when they are performed more frequently. Additional issues include how to account for the quality of those services and their value to patients, and what impact rate setting might have on the development of new medical technology.<sup>13</sup>

## **CBO's Analysis of Budget Options**

Addressing the strong interest of policymakers in health care financing and health care issues, CBO recently released *Budget Options, Volume 1: Health Care*.<sup>14</sup> That December 2008 report comprises 115 discrete options to alter federal programs, affect the private health insurance market, or both. It includes many options that would reduce the federal budget deficit and some that would increase it. Although similar to CBO's previous reports on budget options, that volume reflects an extensive and concerted effort to substantially expand the range of topics and types of proposals considered and includes estimates of many approaches that the agency had not previously analyzed.

The options stem from a variety of sources, including discussions with Congressional staff; reviews of legislative proposals, past versions of the President's budget, and academic literature; and analyses conducted by CBO staff, other government agencies such as the Medicare Payment Advisory Commission, and private groups. Although the number of health-related policy options is significantly greater than in previous volumes, it is not an exhaustive list. CBO's estimates are sensitive to the precise specifications of each option and could change in the future for a variety of reasons, including changes in economic conditions or other factors that affect projections of baseline spending or the availability of new evidence about an option's likely effects. It should also be noted that the options' effects may not be additive; that is, there could be important interactive effects among options that make their cumulative impact larger or smaller than the sum of the estimates. Some of the options that are particularly complex may be candidates for demonstration projects or pilot programs, which could reduce the uncertainty about their effects.

Chapter 5 of CBO's *Budget Options* volume examines a number of policies that could change the way that providers are paid—and thus the incentives they have—in ways that are designed to enhance the quality and efficiency of health care. Most of those options focus on Medicare, but others address Medicaid or the larger health care system. Some options would involve relatively modest changes in payment

---

13. For additional discussion of payment methods and rate-setting techniques, see Congressional Budget Office, *Key Issues in Analyzing Major Health Insurance Proposals* (December 2008), pp. 102–108.

14. Another volume, containing budget options that are not related to health care, is forthcoming.

methods, but others would make more dramatic changes to those methods and thus to incentives for providers. (Chapter 6 describes several options for reducing the geographic variation in spending for Medicare, primarily by cutting payment rates in high-spending areas, but the effects of those options on care quality are less clear.)

Option 38 provides one example of how Medicare could move away from fee-for-service payments to physicians toward a blend of capitated and per-service payments. That option would require the Centers for Medicare and Medicaid Services to assign each beneficiary who participates in the traditional Medicare program to a primary care physician. Those physicians would receive approximately three-fourths of their Medicare payments on a per-service basis and approximately one-fourth under a capitated arrangement; they would also receive bonuses or face penalties, depending on the total spending for all Medicare services incurred by their panel of beneficiaries. In response to the incentives created by that payment approach, physicians would probably try to reduce spending among their panel of patients in several ways—for example, by limiting referrals to specialists, increasing their prescribing of generic medications, and reducing hospitalizations for discretionary procedures. According to CBO’s estimates, this option would increase payments to physicians and decrease payments to all other Medicare providers, with a net federal savings of about \$5 billion between 2010 and 2019.

Option 30 focuses instead on Medicare’s payments for hospital and post-acute care, which would be bundled together. Under the specifications of that option, federal spending would be reduced by about \$19 billion over the 2010–2019 period, CBO estimates. That approach would constitute a significant change in the way Medicare pays for post-acute care (which includes services provided by skilled nursing facilities and home health agencies). Medicare would no longer make separate payments for post-acute care services following an acute care inpatient hospital stay. Instead, the unit of payment for acute care provided in hospitals would be redefined and expanded to include post-acute care provided both there and in nonhospital settings. Hospitals would have incentives to reduce the cost of post-acute care for Medicare beneficiaries by lessening its volume and intensity or by contracting with lower-cost providers.

Chapters 7 and 8 examine a much wider range of ways in which payment rates for medical services and supplies could be changed under both the Medicare and Medicaid programs. For example, Option 55 would reduce (by 1 percentage point) the annual update factor under Medicare for inpatient hospital services; by CBO’s estimates, that change would yield \$93 billion in savings over 10 years. Option 59 includes several alternatives for increasing payment rates for physicians under Medicare, which (under current law) are scheduled to fall by about 21 percent in 2010 and by about 5 percent annually for several years thereafter. The 10-year cost of those alternatives ranges from \$318 billion to \$556 billion.

Chapters 3 and 9 examine several options that could improve the efficiency of the health sector by changing incentives about how much insurance to purchase and how much care to demand. For example, Option 11 would replace the current tax exclu-

sion for employment-based health insurance with a refundable but more limited tax credit. In addition to encouraging workers to choose less expensive health insurance plans, that option would increase federal revenues by \$606 billion through 2018 (as estimated by the staff of the Joint Committee on Taxation). Option 83 would change the Medicare program's cost-sharing requirements and restrict supplemental insurance coverage of those requirements (known as medigap plans) in ways that would reduce federal costs by \$73 billion over the 2010–2019 period. That approach would encourage enrollees to be more prudent in their use of Medicare services.

## **The Potential and Limits of Health Information Technology**

Health information technology has the potential to significantly increase the efficiency of the health sector by helping providers manage information. In particular, electronic health records—comprising electronic documentation of providers' medical notes, electronic viewing of laboratory and radiological results, electronic prescribing of medications, and an interoperable connection among providers of health care—could have a significant impact on medical practice.<sup>15</sup> When used effectively, electronic health records could reduce the duplication of diagnostic tests; remind physicians about appropriate preventive care; identify harmful drug interactions or possible allergic reactions to prescribed medicines; and help physicians manage the care of patients with complex chronic conditions. Such steps could yield significant health benefits for patients, but research indicates that the extent to which health IT also generates reductions in health care spending depends largely on the incentives facing providers who have adopted it. By itself, the adoption of more health IT is generally not sufficient to produce substantial savings because the incentives for many providers to use that technology in ways that control costs are not strong.

### **Factors Affecting Adoption of Health IT**

The most auspicious examples of health IT have tended to involve relatively integrated health care systems. Such systems typically involve a hospital network or a health plan that owns the hospitals that provide most care to enrollees, with doctors and other providers who work exclusively for the organization (either for a salary or under contract). In such systems, most savings generated by health IT care are captured by the hospital or the health plan—thus providing incentives to adopt health IT and use it effectively. A number of integrated delivery systems, including Kaiser Permanente, Intermountain Healthcare, Geisinger Health System, and Partners HealthCare—as well as the Department of Veterans Affairs—have implemented electronic health records either across their organizations or in some regions, and officials of those systems believe that both the efficiency and quality of the care they provide have improved as a result.

---

15. Definitions of what constitutes a health IT system vary, which can affect the measured adoption rates. Capabilities that are sometimes considered separate from an electronic health record include computerized physician order entry (for ordering tests and medications within a hospital) and computer-based decision support systems.

For providers and hospitals that are not part of integrated systems, however, the financial benefits of health IT are not as easy to capture. Correspondingly, those physicians and facilities have adopted electronic health records at a much slower rate. Office-based physicians in particular may see no benefit if they purchase and install such a product—and may even suffer financial harm. Even though the use of health IT could reduce costs for the health system as a whole so as to offset the start-up and operating costs involved, many physicians might not be able to reduce their own office expenses or increase their own revenue sufficiently to pay for it. The health benefits deriving from health IT are probably lower in unintegrated settings, but whether that tendency reflects the lack of financial incentives for effective use of health IT in such settings or stems from other limitations of a more fragmented system of care is not clear.

All in all, despite the potential gains from health IT, relatively few providers have adopted it—about 12 percent of physicians and 11 percent of hospitals as of 2006.<sup>16</sup>

### **Effects of Recent Legislation Regarding Health IT**

The recently enacted American Recovery and Reinvestment Act establishes payment incentives in the Medicare and Medicaid programs to encourage providers to adopt health IT. Although the direct effect of those provisions involves participation in those programs, providers would use the newly purchased IT systems for all of their patients. Thus, both public and private health care delivery will benefit from the increased use of health IT. Consequently, CBO expects, the adoption of health IT brought about by the law will modestly reduce total spending on health care services by diminishing the number of inappropriate tests and procedures, reducing paperwork and administrative overhead, and decreasing the number of adverse events resulting from medical errors. Before the new law, CBO had assumed that nearly all doctors and hospitals would adopt health IT eventually, but that process would probably take about 25 years. As a result of the law's provisions, about 90 percent of doctors and 70 percent of hospitals will adopt health IT by 2019, CBO estimates.

Although the use of health care services in Medicare and Medicaid is projected to decline as a result of the increased adoption of health IT, the net effect of the Reinvestment and Recovery Act's provisions for health IT is to increase federal spending in the near term, because those programs bear the full cost of the incentive payments. Specifically, CBO estimates that the law's payment incentives will increase spending for the Medicare and Medicaid programs by about \$33 billion over the 2009–2019 period. The expanded use of health IT will reduce direct federal spending for benefits by Medicare and Medicaid (and by the Federal Employees Health Benefits program) by about \$13 billion over the same period. Taking into account about \$1 billion in funding for administering the payment-incentive provisions, CBO estimates that those provisions will increase direct spending on net by about \$21 billion over the

---

16. For further discussion, see Congressional Budget Office, *Evidence on the Costs and Benefits of Health Information Technology* (May 2008).

2009–2019 period. Because accelerating the adoption and use of health IT will lower health care costs for private payers, the law will also yield lower health insurance premiums in the private sector. Consequently, private employers will pay less of their employees' compensation in the form of tax-advantaged health insurance premiums and more in the form of taxable wages and salaries—so federal tax revenues will, by CBO's estimates, increase by about \$3 billion between 2009 and 2019.

## **Comparing the Effectiveness of Medical Treatments**

Patients with a given disease or medical condition often have several treatment options available to them, but rigorous evaluation of the relative effectiveness of those options is rarely available to them or their doctors. Drugs and medical devices must be certified as safe and effective before they can be marketed, but with limited exceptions the regulatory process for approving those products does not evaluate them relative to alternatives. Meanwhile, medical procedures—which account for a much larger share of total health care spending—can be in widespread use without a systematic review of their impact. Appraisals of the current situation vary widely, but some experts believe that less than half of all medical care is based on adequate evidence about its effectiveness—a gap that may never close entirely but that remains troubling.

Consequently, many analysts recommend conducting additional research that compares the effectiveness of different treatments—and reflecting that view, the Recovery and Reinvestment Act provided \$1.1 billion in federal funding for such research. Studies of comparative effectiveness may examine similar treatments, such as competing drugs, or they may analyze very different approaches, such as surgery and drug therapy. The analysis may focus only on the relative clinical benefits and risks of each option, or it may go on to weigh both the costs and the benefits of those options. In some cases, a given treatment may be found more effective for all types of patients, but more commonly a key issue is determining which specific types would benefit most from it. Assessing cost-effectiveness as well as clinical effectiveness would probably yield a somewhat larger effect on health care spending than would research focused only on clinical effectiveness, because it would help highlight cases in which the additional benefits of a more costly treatment are relatively small.

By itself, however, generating additional information is likely to have a very limited effect on spending for health care.<sup>17</sup> To affect medical treatment and reduce health care spending, the results of comparative effectiveness analyses would ultimately have to change the behavior of doctors and patients—that is, to get them to use fewer services or less intensive and less expensive services than are currently projected. Bringing about those changes would probably require action by public and private insurers to incorporate the results into their coverage and payment policies in order to affect the incentives for doctors and patients. Making such changes to the Medicare program would require legislative action; private insurers would not face the same constraint but might be reluctant to take such steps if Medicare did not do so.<sup>18</sup>

---

17. For further discussion, see Option 45 in CBO's *Budget Options* volume.

18. For further discussion, see Congressional Budget Office, *Research on the Comparative Effectiveness of Medical Treatments: Issues and Options for an Expanded Federal Role* (December 2007).

